

Low-Slope Roofing Materials Guide



1999 LOW-SLOPE ROOFING MATERIALS GUIDE

The information source on low-slope membranes, insulation boards, roof coatings and cements, roof fastener products and membrane warranties for the commercial roof designer, specifier, installer, manufacture and user.



10255 West Higgins Road, Suite 600
Rosemont, IL 60018-5607
847/299-9070
FAX: 847/299-1183
E-mail: nrca@nrca.net; Internet: www.nrca.net

Table of Contents

Introduction

- 5 *Low-Slope Roofing Materials Guide*
- 6 Technical Information in the *Low-Slope Guide*

Section 1: Roof Membranes

- 15 Information on Low-Slope Roof Membrane Products
- 27 Index to Listed Membranes and Cements and Coatings
- 36 Built-up Roofing
- 70 Modified Bitumen Part 1: General Information
- 120 Modified Bitumen Part 2: Test Results
- 206 Modified Bitumen Part 3: Specifications
- 228 PVC Part 1: General Information
- 234 PVC Part 2: Test Results
- 240 EPDM Part 1: General Information
- 252 EPDM Part 2: Test Results
- 258 CSPE Part 1: General Information
- 260 CSPE Part 2: Test Results
- 262 PIB Part 1: General Information
- 264 PIB Part 2: Test Results
- 266 Other Prefabricated Sheet-applied Membranes Part 1: General Information
- 272 Other Prefabricated Sheet-applied Membranes Part 2: Test Results
- 282 Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings
- 302 Spray Polyurethane Foam-Based Systems Part 2: Insulation
- 306 Metal Roof Panels
- 358 Appendix, Roof Membranes

Section 2: Roof Cements and Coatings

- 367 Information on Roof Cements and Coatings
- 370 Part 1: General Information
- 426 Part 2: Technical Data
- 460 Appendix, Roof Cements and Coatings

Section 3: Roof Membrane Warranties

- 463 Introduction
- 464 Understanding the Warranty Listing
- 470 Roof Membrane Warranties

Table of Contents

Section 4: Roof Insulation Board

589	Information on Roof Insulation Board
592	Index to Listed Roof Insulation Boards
596	Expanded Polystyrene
598	Extruded Polystyrene
604	Glass Fiber/Mineral Fiber
606	Cellular Glass
608	Fiberboard
612	Perlite
614	Polyisocyanurate Part 1: General Information
618	Polyisocyanurate Part 2: Test Results
626	Composite
631	Appendix, Roof Insulation Board

Section 5: Roof Fasteners

641	Information on Roof Fasteners
643	Index to Listed Roof Fasteners
646	Roof Fasteners: Steel Decks
672	Roof Fasteners: Wood Decks
704	Roof Fasteners: Concrete Decks
722	Roof Fasteners: Lightweight Concrete, Gypsum, and Cementitious Wood Fiber Decks
743	Appendix, Roof Fasteners

Low-Slope Roofing Materials Guide

Introduction

The 1999 *Low-Slope Roofing Materials Guide* is a comprehensive report on commercial, industrial, and institutional low-slope roof membranes, insulation boards, and fastener products currently on the market, as well as the warranties offered for most membrane roof systems. It also provides pertinent information on the manufacturers and suppliers of these products.

The *Guide* is published by the National Roofing Contractors Association (NRCA) as a service to the roofing industry. Its objective is to provide information on listed products that will be helpful to users in determining which generic and specific products will serve their particular needs. It is of special value to those associated with the design, specification, application, and use of low-slope roof systems.

The first edition of this publication was published in 1983. From its inception until 1992 it was named simply the *Roofing Materials Guide*. The 1993 edition of this publication was the first one to bear the title *Commercial Low-Slope Roofing Materials Guide*. The words *commercial low-slope* distinguished it from a companion publication—the *Residential Steep-Slope Roofing Materials Guide*—the first edition of which was published by NRCA in November 1992. The *Residential Steep-Slope Guide* provided product information on asphalt shingles, shingle warranties, fiber-cement roof components, clay and cement tile, metal roof components, slate, and synthetic roof components.

When applied to the roofing market, the terms *commercial low-slope* and *residential steep-slope* are by no means definitive. Low-slope roofing materials are commonly used on non-residential buildings (e.g., commercial, industrial, and institutional buildings) and are sometimes used on residential buildings (e.g., single family homes, townhouses). Conversely, steep-slope roofing materials are commonly used on residential buildings and are sometimes used on non-residential buildings.

Beginning in 1999, the titles of the *Guides* have changed to the *Low-Slope Roofing Materials Guide* and the *Steep-Slope Roofing Materials Guide*. The reason for this division of product categories, as well as the titles, is for consistency with NRCA's other publications, including *The NRCA Roofing and Waterproofing Manual*.

Low-slope roofing materials are defined as those primarily intended for roofs with slopes of 3:12 (25%) or less. Built-up, polymer modified bitumen, single-ply, spray polyurethane foam-based, and some metal

panel roof systems fit this category.

Steep-slope roofing materials are defined as those primarily intended for roofs with slopes greater than 3:12 (25%). Asphalt shingle, fiber-cement, clay and concrete tile, wood shake and shingle, slate and some metal panel roof systems fit this category.

In publishing the *Low-Slope Roofing Materials Guide*, NRCA maintains a policy of total objectivity in its reporting of data. Nothing is required from listing manufacturers or suppliers other than adherence to a prescribed reporting format. Any manufacturer or supplier of products included in the *Guide* can participate by submitting information on their company and products in accordance with procedures developed for this purpose. Companies involved only in the distribution of other companies' brand-name roofing products are not included in this publication. For further information, write: National Roofing Contractors Association, Attention: Roofing Materials Guide, 10255 W. Higgins Road, Suite 600, Rosemont, Illinois 60018-5607.

NRCA exercises due care in accurately reporting the data as supplied by manufacturers and suppliers but does not audit test procedures used to arrive at the reported data, nor does NRCA assume responsibility for the accuracy or completeness of the data submitted. The presence or absence of a listing of a product, manufacturer, or supplier in the *Guide* does not imply NRCA approval or disapproval of the product or company, nor does NRCA recommend that any specific materials be used or not.

NRCA does not develop standards but instead works toward and supports the improvement of existing standards and the development of new ones by those organizations responsible for standards development. The fact that materials listed in the *Guide* do or do not meet all of the values of the reference standards, documents, recommendations, or criteria does not necessarily imply that they will or will not produce acceptable roof systems. For listing purposes, it is not mandatory that test results be provided for each of the test methods specified in the reference standard; however, manufacturers and suppliers are encouraged to furnish complete test results so that the *Guide* users have access to this information.

How the *Guide* is Organized

The *Low-Slope roofing Materials Guide* is divided into five major sections:

- Roof membranes
- Roof cements and coatings
- Roof membrane warranties
- Roof board insulation
- Roof fasteners.

There is an index for each section, except the one for the membrane section also serves as an index to the roof cements and coatings section and the membrane warranties section. There is also an introduction to product information for each section. The membrane section introduction encompasses built-up roofing, modified bitumen and single-ply products, spray polyurethane foam-based roof systems, and metal roof panels. The roof cements and coatings section and the warranties sections have their own introductions, as do the insulation and fastener sections. Finally, there is a separate appendix for the membrane, roof cements and coatings, insulation, and fasteners sections.

The purpose of the appendixes is to provide for manufacturer-supplied information that expands on or is in addition to data listed in the category section itself. Appendix information can be found for a product when an X appears in the space at the end of the listing entitled "See Appendix if Checked." In reviewing the data in the *Guide*, the user should keep in mind that the format is designed to facilitate the side-by-side comparison of products. For this reason, listing companies can only respond to existing items of requested information; they cannot add their own. Nor is footnoting permitted in *Guide* listings; companies instead may expand on or clarify an item of information by providing copy for the appendix.

Roof membrane product information is presented in up to three parts, depending on its category. Part 2 is generally reserved for technical information, although, for spray polyurethane foam-based roof systems, Part 2 contains data on a second component of the system—the insulation. There are three parts for modified bitumens, the third containing information on specifications.

In reviewing the data in the *Guide*, users should keep in mind that the format is designed to facilitate the side-by-side comparison of products. For this reason, listing companies can only respond to existing items of requested information; they cannot add their own. Nor is footnoting permitted in *Guide* listings; listing companies instead may expand on or clarify an item of information by providing copy for the Appendix.

Technical Information in the *Guide*

There are two categories of technical information for which data is requested in the *Low-Slope Roofing Materials Guide*: (1) fire and wind ratings, according to Underwriters Laboratories (UL) and/or Factory Mutual (FM) test methods; (2) ASTM performance-related standard specifications and/or standard test methods. In the insulation and fastener sections, there are provisions for information on UL design numbers and code approvals; see the introductions to these sections for details.

Although information is requested concerning wind uplift or fire ratings in the sections on metal roof panels and spray polyurethane foam-based roof systems, space limitations do not permit the listing of specific roof assembly components and attachment methods that have been used to secure UL and FM fire and/or wind uplift ratings. Therefore, such data is not included for any roof membrane. Readers should refer to UL's *Fire Resistance Directory* and *Building Materials & Systems Directory* and FM's *Approval Guide* to determine ratings that have been granted for these roofing materials. In the majority of cases, the technical data requested is for specific ratings or standards that are generally regarded in the industry as appropriate to the particular product category to which they apply. In a few cases—for example in the other prefabricated sheet-applied membranes section—manufacturers may provide test results according to whatever methods are deemed appropriate for the product being listed. This is because the category encompasses a variety of disparate products that are not generally measured according to the same criteria.

It should be pointed out that the development of standard specifications and test methods is a continuous process; many are under consideration by standard-setting bodies, such as ASTM, at any given point in time. The fact that a draft standard is being evaluated or exists in a proposed form does not make it useable by the *Guide*. Proposed standards or proposed revisions of existing standards are just that—proposed—and their use as a reference is often contrary to the policy of standard-setting bodies. For this reason, only standards that have undergone all formal approval procedures by the organizations identified with them are used in this publication.

The reader should note that the abbreviation *NA* is used throughout the *Guide* to indicate "not applicable." The use of *NA* is limited to those cases in which a standard does not, by its nature, apply to the particular product. For example, it would be appropriate for a manufacturer of a reinforced PVC membrane sheet to enter *NA* next to ASTM D 4434-95 "Elongation at Break, Type I, Type II, Grade 1," because the value in this test only applies to unrein-

forced PVC membrane sheets. It is inappropriate for a Listing company to indicate *NA* for any other reason, e.g., the manufacturer doesn't believe that a test method is valid and therefore shouldn't apply to his product. In such cases, the editors of the *Guide* will delete the *NA*, and no response will appear. Although the reader cannot know whether the space was left blank by the Listing company or was rendered blank editorially, the net effect is the same.

Fire and Wind Ratings

The reference standards or tests for fire and wind ratings in the *Guide* are:

- ANSI/UL Standard 790 *Tests for Fire Resistance of Roof Covering Materials*
- UL Standard 580 *Tests for Uplift Resistance of Roof Assemblies*
- UL Standard 1897 *Uplift Tests for Roof Covering Systems*
- FM Approval Standard 4450 *Class I Insulated Steel Deck Roofs*
- FM Approval Standard 4470 *Class I Roof Covers*
- FM Approval Standard 4471 *Class I Panel Roofs*

UL Standards: The performance criteria for roof covering materials and ratings of individual products are published in UL's *Roofing Materials and Systems Directory*. The ratings are based upon tests performed by UL on products provided for this purpose. The fire-resistance ratings Class A, B, or C are based on tests conducted under UL 790 and, additionally, Class 15, 30, 60, or 90 under the wind-resistance tests found in UL 580. Class-A products are defined as those "roof coverings...effective against severe fire exposures ...[that] under such exposures are not readily flammable...; offer a fairly high degree of fire protection to the roof deck; do not slip from position; possess no flying brand hazard; and do not require frequent repairs to maintain...fire-resistance properties." Under UL 580 the classification "15, 30, 60, or 90" depends on an evaluation of the comparative resistance to negative and positive pressures simulating the effects of varying wind velocities.

FM Standards: FM standards recommend design criteria for consideration by the building owner's architect or engineer. To confirm that a product or building assembly will perform satisfactorily under actual fire, wind, or other conditions, Factory Mutual

develops performance standards that test the product under simulated field conditions. FM standards for building products are written for a specific end-use in mind. They involve the owner and the installer, both of whom rely on a product's behavior under a variety of use conditions. The FM performance ratings are published in the *FM Approval Guide* and its three supplements, which are prepared at four-month intervals before the subsequent annual edition of the *Approval Guide* is printed.

Roof Cover Standard 4470 contains requirements that test products, as follows:

- Fire spread below the roof deck A Class-I fire rating means that the building owner is not required to install automatic sprinklers below the deck for its protection because the heat-release rate of the roof system is within allowable FM limits. The Class-I fire rating involves the most severe testing for any building assembly.
- Fire spread across the roof cover The FM rating for fire spread across the cover and insulation can be IA, IB, or IC depending on the length of spread under ASTM E 108 fire testing. The insulation beneath the cover is a part of the rating, both as it pertains to fire resistance and wind blow-off.

Windstorm rating (1-60, 1-75, 1-90, 1-105) The "1" in the windstorm rating refers to the Class I fire rating possessed by the roof assembly; the number 60, 75, 90, or 105 refers to the wind uplift classification as follows:

<u>Wind Uplift Classification</u>	<u>Max. Velocity Pressure in field of roof (PSF)</u>
1-60	# 30
1-75	30 # 37.5
1-90	37.5 # 45
1-105	45 # 52.5

Hail, leakage, weathering, and corrosion FM 4470 incorporates performance tests for each of the potential problems listed above, but the tests are made on the entire system, not individual components.

Performance-Related and Test Method Standards

The following performance-related and test method standards are referenced in the *Low-Slope Roofing Materials Guide* as a basis for reporting technical data.

Product Category

1. Built-up roofing specifications
2. Unreinforced and fabric-reinforced EPDM sheets
3. Unreinforced and fabric-reinforced Neoprene (Polychloroprene) sheets
4. Modified bitumen prefabricated sheets

Reference Document

National Bureau of Standards, Building Science Series #55 *Preliminary Criteria for Bituminous Membrane Roofing*, 1974

ASTM D 4637-96 *Specification for Vulcanized Rubber Sheet Used in Single-Ply Roof Membrane*

ASTM D 4637-96 *Specification for Vulcanized Rubber Sheet Used in Single-Ply Roof Membrane*

ASTM D 5147-97 *Test Methods for Sampling and Testing Modified Bituminous Sheet Material*

ASTM D 6162-97 *Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements*

ASTM D 6163-97 *Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements*

ASTM D 6164-97 *Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements*

ASTM D 6222-98 *Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements*

ASTM D 6223-98 *Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements*

5. PVC (polyvinyl chloride) prefabricated sheets

ASTM D 4434-96 *Specification for Poly(Vinyl Chloride) Sheet Roofing*

6. Fiber- or fabric-reinforced CSPE (Hypalon) prefabricated sheets

ASTM D 5019-96 *Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membrane*

Product Category

7. Fiber- or fabric-reinforced PIB prefabricated sheets

Reference Document

ASTM D 5019-96 *Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membrane*

8. Fiber- or fabric-reinforced CPE prefabricated sheets	ASTM D 5019-96 <i>Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membrane</i>
9. Other single-ply prefabricated sheets	A list of eighteen optional tests are offered for the products, for which standards are not available.
10. Spray polyurethane foam-based roof systems	ASTM D 412-97 <i>Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers</i> —Tension ASTM D 570-95 <i>Test Method for Water Absorption of Plastics</i> ASTM D 573-88 (1994) <i>Test Method for Rubber</i> —Deterioration in an Air Oven ASTM D 822-96 <i>Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus</i> ASTM D 1621-94 <i>Test Method for Compressive Properties of Rigid Cellular Plastics</i> ASTM D 1622-93 <i>Test Method for Apparent Density of Rigid Cellular Plastics</i> ASTM D 2794-93 <i>Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)</i> ASTM D 2856-94 <i>Test Method for Open Cell Content of Rigid Cellular Plastics by the Air Pycnometer</i>
11. Metal roof panels	ASTM E 283-91 <i>Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen</i> ASTM E 331-96 <i>Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference</i>
12. Roofing cements and coatings	ASTM D 41-94 <i>Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i>

Reference Document

Reference Document

12. Roofing cements and coatings (cont'd)	ASTM D 43-94 <i>Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> ASTM D 1187-97 <i>Specification for Asphalt-Base</i>
---	--

Emulsions for Use as Protective Coatings for Metal

ASTM D 1227-95 Specification for Emulsified Asphalt Used as a Protective Coating for Roofing

ASTM D 2822-91 (1997) Specification for Asphalt Roof Cement

ASTM D 2823-90 (1997) Specification for Asphalt Roof Coatings

ASTM D 2824-94 Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos

ASTM D 3019-94 Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered

ASTM D 3409-93 Test Method for Adhesion of Asphalt Roof Cement to Damp, Wet, or Underwater Surfaces

ASTM D 3468-90 Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing

ASTM D 3747-79 (1995) Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation

ASTM 4022-94 Specification for Coal Tar Roof Cement, Asbestos Containing

ASTM D 4479-93 Specification for Asphalt Roof Coatings/Asbestos-Free

ASTM D 4586-93 Specification for Asphalt Roof Cement, Asbestos Free

ASTM C 203-92 Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation

13. Insulation: extruded polystyrene, glass/mineral fiber, cellular glass, phenolic, fiberboard, perlite

Product Category	Reference Document
Insulation: fiberboard	ASTM C 209-92 <i>Test Methods for Cellulosic Fiber Insulating Board</i>
Insulation: extruded polystyrene, glass/ mineral fiber, cellular glass, phenolic, perlite	ASTM C 272-91 (1996) <i>Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions</i>
Insulation: polyisocyanurate	ASTM C 1289-95 <i>Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i>
Insulation: expanded polystyrene, extruded polystyrene	ASTM C 303-96 <i>Test Method for Density of Pre-formed Block-Type Thermal Insulation</i>
Insulation: extruded polystyrene, glass/ mineral fiber, cellular glass, phenolic, perlite	ASTM D 1621-94 <i>Test Method for Compressive Properties of Rigid Cellular Plastics</i>

THIS PAGE INTENTIONALLY LEFT BLANK

Information on Low-Slope Membrane Products

Built-Up Roof Membranes

General Information

Built-up roof membranes consists of alternating layers of felts, fabrics, or mats saturated with bitumen during manufacture, assembled in place, and adhered with applied layers of hot bitumen. The felts are commonly either organic, or "rag" felts, or glass fiber mats. Layers of felts sealed with bitumen are called plies; they are solid-mopped together and applied shingle-fashion. The number of plies in a cross-section is the number of plies on the roof: four plies equals a four-ply roof. Sometimes a base sheet, used as a first ply, is mechanically fastened.

Surfacing for the hot built-up roof can be aggregate embedded in hot asphalt; mineral-surface cap sheets; or smooth-surface application, which consists of hot asphalt mopped over the entire surface or cold-applied asphalt emulsions, cut-backs, and other coatings sprayed, rolled, or brushed on.

The bitumen used for interply moppings is either asphalt or cold tar. Asphalt is a petroleum product refined from crude oil; coal tar is derived from the destructive distillation of coal. A variant of the asphalt normally used in hot built-up roofing is modified asphalt, a material that is usually associated with modified bitumen membrane products. It is so named because it is created by modifying asphalt through heating and the addition of rubbers or plastics, which makes it more elastic and gives it a higher softening point than normal built-up roofing bitumen.

The cold-applied built-up roof, applied at ambient temperature, involves the use of asphalt cutbacks or elastomeric adhesives and, usually, either asphalt-coated felts or synthetics, such as those made of polyester. The most popular surfacing is mineral granules, although some cold-applied roofs are smooth surfaced with cut-backs or emulsions.

Notes on the Built-Up Roof Section

Item 7 Felts Data The response to this item is a list of felts, mats, or other built-up roofing products that are used in each specification. The enumeration of products should include both the name and, parenthetically, both the applicable ASTM descriptive standard under which the product can be classified and the applicable classification number.

Among the more commonly referenced ASTM

descriptive standards are the following:

D 173—95 *Specification for Bitumen-Saturated Cotton Fabrics Used in Roofing and Waterproofing*

D 226—95 *Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing*

D 227—95 *Specification for Coal Tar-Saturated Organic Felt Used in Roofing and Waterproofing*

D 249—89 *Specification for Asphalt Roll Roofing (Organic Felt) Surfaced with Mineral Granules*

D 1668—95 *Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing*

D 2178—96 *Specification for Asphalt Glass Felt Used in Roofing and Waterproofing*

D 2626—95 *Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing*

D 3909—*Specification for Asphalt Roll Roofing (Glass Mat) Surfaced with Mineral Granules*

D 4601—95 *Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing*

D 4897—95 *Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing*

D 4990—95 *Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing*

Parenthetical references by manufacturers to standards in this list do not include the date.

Other ASTM descriptive standards may be cited, depending on the nature of the product under consideration.

Item 8 Specification Number This is where the manufacturer is to provide the number and/or name of the built-up roofing specification; each specification indicates a distinct combination, quantity, and configuration of felts, interply adhesive, and/or surfacings.

Item 11 Slope Requirements In this space, the manufacturer indicates the minimum and maximum slope approved for the specification, in inches per foot.

Item 12 Number of Plies The total number of plies, item 12A, is the sum of the number of plies indicated in items 12B, 12C, and 12D. If interplies are the only plies used in a specification, 12C and 12A will be the same number. Although cap sheets (12D) are really surfacing rather than plies, they are included here for clarity; see item 15 *Other* for a reference to cap sheets as surfacing.

Item 17 Restricted Regions If a specification is restricted to a particular region of the country, manufacturers will indicate this with a code for example, *N* for northern region. Readers need to refer to the manufacturer's literature for an interpretation of the codes and their geographical significance. Absent regional restrictions, manufacturers simply enter *None*.

Modified Bitumen Sheet Membranes

General Information

Polymer modified bitumen sheet membranes were developed in Europe in the mid-1960s and have been in use in the United States since 1975. They are composed of one or more premanufactured sheets consisting of asphalt, reinforcing layers, and, in some cases, surfacing. During manufacture, plastic or rubber (APP, or atactic polypropylene, and SBS, or styrene butadiene styrene, are the most common) is added to the bitumen while heating, which "modifies," or changes, its properties, giving it a higher softening point and greater elasticity. There is at least one sheet made of either polyethylene, polyester, or fiberglass sandwiched between the bitumen layers. Factory-installed surfacings include metal, mineral granules, and synthetic coatings. In many instances, modified bitumen membrane specifications may incorporate non-modified bitumen organic or fiberglass felts or mats, generally as a base sheet.

Modified bitumen membrane sheets generally are torch applied (APP and SBS modifieds), mopped in with hot asphalt (SBS modifieds), installed in cold adhesive, or self-adhered. Sometimes a combination of these application methods will be used in one system installation.

There are generally three major types of installation systems, sometimes associated with modified bitumen but more often with single-ply membranes: (1) loose-laid and ballasted, which involves attaching the membrane at the perimeters, terminations, and penetrations only and holding it in place everywhere else with ballast; (2) partially adhered, which involves

mechanically attaching the membrane or spot adhering it with an adhesive; and (3) fully adhered systems, in which the membrane is fully bonded to the substrate with field-applied adhesive. There is also a configuration known as the protected roof membrane assembly, or inverted roof system. Here, the membrane is applied to the deck or existing roof, roof board insulation is loosely laid on top of the membrane, and the system is weighted down with ballast. See item 7 under each kind of membrane product for data pertaining to these installation systems.

Notes on the Modified Bitumen Section

Part 1: General Information

Item 3 Product Description Item 3A provides for the name of the material used to modify the asphalt during the manufacture of the membrane; see the general information section on modified bitumens for further details. Item 3B asks for the total thickness of the modified membrane sheet in mils (thousandths of an inch). Item 3F requests the weight per square foot of the membrane as it would be installed on the roof, minus any surfacing ballast that might be added.

Item 7 Types of Roof Systems For item 7A, the information requested is the weight of the ballast per square foot that is recommended for application in the loose-laid/ballasted system. Absent a weight, it can be assumed that there is no loose-laid/ballasted specification for the listed product. For items 7B and 7C, the data requested is the **method** by which a product is partially or fully adhered, not simply whether a partially adhered or fully adhered specification exists. Any response besides a method will be blank. For item 7D, an X indicates whether there is a protected roof membrane assembly for the product; a blank indicates that none is available.

Item 9 Acceptable Substrates Item 7A through 7M are insulation board and decks over which membranes are normally applied. The manufacturer can respond with an O, an X, or both. An O means that the membrane can be installed over the substrate but that some kind of overlayment (e.g., a base sheet, insulation) is required in at least some circumstances; an X means that application is permitted directly to the substrate. Item 7N refers to application over an existing built-up membrane, to which the O and X responses are also applicable. Readers will need to refer to the manufacturer's specification manual for details concerning these requirements.

Item 10 Restricted Regions If a use of a membrane is restricted to a particular region of the country, manu-

facturers will indicate this with a code for example, *N* for northern region. Readers need to refer to the manufacturer's literature for an interpretation of the codes and their geographical significance. Absent regional restrictions, manufacturers simply enter *None*.

Item 11 *Workable Temperature Range* This is the range of ambient temperatures in degrees Fahrenheit within which the manufacturer recommends application of the membrane material.

Item 12 *Flashing Material* This item provides for information concerning the material used with the membrane product for flashing terminations and perimeters. It can be the same as the membrane product (generally indicated by the response *same material*), another of the manufacturer's membrane products (indicated by a trade name), or another of the manufacturer's types of products (e.g., any of the mineral-granule products offered by the manufacturer).

Item 13 *Flashing Method* The method for attaching the flashings may be the same as the field lap joint method indicated in item 6, or it may be different. It is not uncommon for the field sheet to be mopped and the flashings torched, for example.

Item 20 *Licensed Applicator Agreement* The manufacturer indicates here whether it has a licensed applicator program involving agreements with specific contractors approved to install the company's membrane products.

Part 2: Test Results

Reporting of test results information for polymer modified bitumen products is broken down based upon polymer modifier type (i.e., APP or SBS) and is reported in accordance with the currently available ASTM material standards applicable to these products. These standards are as follows.

APP-Modified Products:

ASTM D 6222-98 *Standard Specifications for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements*

ASTM D 6223-98 *Standard Specifications for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements*

SBS-Modified Products:

ASTM D 6162 *Standard Specification for Styrene*

Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements

ASTM D 6163 *Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements*

ASTM D 6164 *Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements*

Additional material standards are currently in development (e.g., foil-faced products) within ASTM. These additional standards will be incorporated into future editions of the *Guide* when these standards are published.

Part 3: Specifications

The purpose of Part 3 is to enumerate the specifications and the various configurations for the modified bitumen sheets described in Part 1. As can be seen, modified bitumen membranes are often installed in multi-ply configurations, not unlike built-up roofing. In column 1, the specification numbers are listed under the categories used to classify them. These categories refer to the kind of roof installation involved: (1) new construction or replacement (*replacement* meaning that the old roof was torn off and replaced), (2) recover (meaning that a new membrane is being installed over an existing roof), and (3) recover, insulation added (meaning that the new membrane is being installed over an existing roof but one to which new insulation has been applied). There are subcategories of roofs within the category of new/replacement that describe the substrate: insulated, nailable, or non-nailable.

The second column enumerates the total number of plies in the membrane assembly; this should equal the number of sheets named in the subsequent four columns.

The third column lists the base sheet required in the membrane assembly, but **only** if it is not a modified bitumen sheet. Sometimes a trade name will appear in this column; often simply a generic description, such as *fiberglass*, will be given, indicating that a fiberglass base sheet is required. Modified bitumen base sheets will appear in the next column, entitled first sheet.

The next three columns are for listing the modified bitumen sheets used in the specification. The first sheet should be the modified sheet on the bottom of the membrane assembly; the last sheet listed, whether second or third, should be the sheet on top of the assembly.

Single-Ply Roof Membranes

General Information

There are three types of single-ply, or elastoplastic, products in use today that are defined by the chemical properties they possess. These are: (1) cured (or vulcanized) elastomers, (2) uncured elastomers, and (3) plastomers. Cured elastomers, sometimes referred to as *thermosets*, are synthetic rubbers that have undergone the vulcanization, or curing, process. Distinguishing features are that the membrane material exhibits the "rubber-like" quality of returning to its original shape after being stretched. In addition, membrane material can only be bonded to itself with adhesives, not heat.

Uncured elastomers are installed in a manner similar to thermoplastics in that they can be heat or solvent welded. The material cures over time once exposed to the elements, however, and then exhibits the same qualities of vulcanized elastomers.

Plastomers, or thermoplastics, can be heat or solvent welded and develop strength in the welds at least equal to the original membrane material. Plastomers do not cure on the roof.

Single-Ply Product Types

The single-ply product types, categorized according to chemical classification, are as listed below.

Vulcanized Elastomers

EPDM is an elastomeric compound synthesized from ethylene, propylene, and a small amount of diene monomer. It is generally used for roofing as a vulcanized material, although it is also possible to formulate EPDM membranes that are nonvulcanized. Used as a roofing material in the United States since the early 1960s, EPDM sheets range in thickness from 30 to 60 mils and are usually black or white in color. EPDM membranes exhibit a high degree of ozone, ultraviolet, weathering, and abrasion resistance and good low-temperature flexibility. EPDM's properties of resilience, tensile strength, elongation, and hardness are largely retained in aging tests at elevated temperatures. Resistance is excellent to acids, alkalis, animal and vegetable oils, and oxygenated solvents, such as ketones, esters, and alcohols. On the other hand, exposure to aromatic, halogenated, and aliphatic solvents should be avoided to prevent swelling and distortion of the membrane.

Neoprene, or chloroprene rubber, was the first commercially available synthetic rubber product. Neoprene is formulated from polymers of chloroprene that were initially developed by E.I. DuPont de Nemours and Company, which has been manufacturing neoprene products since 1931. Neoprene may be used in a variety of elastomeric applications. It can be molded or extruded into hose, belts, heels, soles, tires, gaskets, coated fabrics, or wire and cable insulation. Neoprenes are also used to make quick-setting and high-strength adhesives. Neoprenes may be calendared into sheets that vary in thickness from 30 to 120 mils, and it is in this form that neoprene is used for roofing membranes. Chloroprene synthetic rubber sheets have been used as a single-ply roofing membrane since 1957. Sheets are available plain or with a reinforcing fabric. Neoprene roof membranes have excellent resistance to weather, heat, oils, solvents, and abrasion. The characteristics of neoprene adhesives allow fabrication of field splices that achieve high seam strength to provide a reliable continuous weatherproofing membrane. Some formulations are available that will receive a coating of liquid Hypalon synthetic rubber when a stable uniform color is desired for the roof membrane. These special nonstaining neoprene products require such a coating for weather protection.

Nonvulcanized Elastomers

CSPE Chlorosulfonated polyethylene, a synthetic rubber manufactured by DuPont, was introduced in 1951 under the trade name Hypalon. It is a self-curing nonvulcanized elastomer and is available as a liquid coating or in sheet form for single-ply membrane application. CSPE sheet roofing membranes have been in use since 1966. They may be reinforced with polyester scrim or laminated to felt backing materials, and have a finished thickness of 30 to 60 mils. CSPE is a non-vulcanized product that exhibits thermoplastic qualities during processing and field installation. During roof exposure, curing or cross-linking occurs. CSPE exhibits strong resistance to weathering and a broad range of chemicals and pollutants, as well as being inherently ozone resistant. It may be produced in many colors and offers design versatility because of its adaptability to a variety of roof shapes and substrates.

CPE Chlorinated polyethylene was first introduced to the single-ply membrane roofing market in 1964. The raw materials used are manufactured by the Dow Chemical Co. CPE may be formulated for use as roofing membranes as both cured and uncured elastomers. They may be non-reinforced or reinforced with

scrim and range in thickness from 40 to 48 mils. They are inherently flexible and do not require the addition of plasticizers in their formulations. CPE exhibits strong resistance to oils and chemicals, excellent weatherability, and ozone resistance. They are also resistant to bitumen and can therefore be installed directly over existing asphalt or coal tar pitch roofs. Although usually produced in white or light gray for reflectivity and energy efficiency, CPE can also be pigmented to a variety of colors.

PIB (polyisobutylene) is an elastomeric compound, made of isobutylene and other polymers, which was first used as a roofing membrane in Europe in the 1960s. It has been available domestically in the form used today since the mid-1970s. The 60-mil PIB membrane is laminated to a 40-mil non-woven synthetic fleece backing with an unbacked prefabricated sealing edge for the side laps. PIB exhibits good resistance to weathering, ultraviolet light, and radiant heat. It is compatible with asphalt, but is not resistant to petroleum distillates, organic oil and fats, or substances containing tar.

NBP NBP nitrile alloy membranes are compounded from butadiene-acrylonitril copolymers with other proprietary ingredients. They are typically reinforced with polyester and range in thickness from 30 to 45 mils. First developed in the mid-1960s, nitrile alloys have been used in engineering applications in the aircraft, automotive, and geomembrane industries. Used extensively for weather and waterproofing applications since the mid-1960s, NBP reinforced single-ply membranes exhibit excellent tear and puncture resistance, good weatherability, remain flexible at low temperatures, and have a low water vapor permeability. They are resistant to most chemicals but are sensitive to aromatic hydrocarbons.

Thermoplastics

PVC (polyvinyl chloride) polymers, originally produced in Germany almost thirty years ago, are among the most versatile of thermoplastics for industrial and commercial applications. They are produced by the polymerization of vinyl chloride monomer, a gaseous substance resulting from the reaction of ethylene with oxygen and hydrochloric acid. In its most basic form, the resin is a relatively hard material that requires the addition of other compounds, commonly plasticizers and stabilizers, as well as certain other ingredients, to produce the desired physical properties for end use. PVC membranes may be produced by calendaring, extruding, or spread-coating, and they may be nonreinforced or reinforced with glass fibers or

polyester fabric. They are usually 40 to 48 mils thick. PVC membranes are available that have provided up to twenty years of service life as exposed roofing. They are resistant to bacterial growth, industrial chemical atmospheres, roof penetration, and extreme weather conditions. PVC membranes properly formulated have shown excellent fire resistance and seaming capabilities. PVC membranes are chemically incompatible with bituminous materials.

EIP EIP are thermoplastic compounds consisting of ethylene interpolymers, stabilizers, pigments, antioxidants, and modifying polymers. EIP membranes are generally reinforced with polyester fabric and are usually 32 mils thick. They possess good resistance to fire, chemicals, and oils and have high tear strength. Many formulations utilizing combinations of ethylene polymers with other basic ingredients can be produced.

Physical Properties

Although it is difficult to directly correlate physical property data with actual performance or life expectancy, the following list of twelve basic material properties has been identified by SPRI's Technical Committee as being pertinent to all roofing membranes, regardless of chemical composition.

1. Thickness
2. Tensile strength
3. Ultimate elongation
4. Modulus
5. Tear resistance
6. Water vapor transmission rate
7. Water absorption
8. Dimensional stability
9. Factory seam strength
10. Low-temperature resistance
11. Results after heat aging
12. Results after accelerated weathering

Test Procedures for Evaluation of Materials

The test methods used to evaluate each of these properties vary depending upon the chemical composition and construction of the finished membrane. Different test methods are used for different generic types of material, as well as for reinforced and nonreinforced membranes.

To understand the results reported by manufacturers, it is important to know the test methods from which the data are derived. Frequently, attempts are made to compare the test results of different products to try to draw conclusions about their relative performance capabilities. Often the conclusions drawn are

invalid because the comparison is of data obtained using different test methods. Sometimes a particular test method is preferred for a particular generic membrane type. In other cases, there are multiple tests that are equally applicable; the selection of which to use is made by individual manufacturers based on such factors as availability of necessary testing equipment or apparatus. Some testing may be performed by independent laboratories, while other tests are routinely performed by the manufacturer in-house.

In most cases, standard test methods are available. These are established by (ASTM). There are also other agencies worldwide that define testing methods for single-ply membranes that may be similar to, but not exactly the same as, the ASTM methods.

Significance of the Reported Physical Properties of Membrane Materials

1. Thickness The distance between opposite surfaces of a material. Units of measure are mils, fractions of an inch, or millimeters.

The relationship of thickness to actual performance is not entirely clear, and membranes are available in thickness ranging from 30 mils to as many as 160 mils.

This rather significant variance may be accounted for by such factors as the polymer type and formulation, method of manufacture, physical construction of the finished sheet (e.g., surfacing, reinforcements, etc.), as well as the intended method of application. Thickness is related to quality control procedures in that the manufacturer must verify that a uniform thickness is maintained. The performance-related factors usually associated with membrane thickness are its resistance to mechanical damage, hail, traffic, and surface wear, although there are certainly other factors, such as compressibility of the substrate, that also contribute to all of these. In other words, the susceptibility of a membrane to damage does not in any way rely solely on the thickness of the material.

2. Tensile strength The maximum force of stress required to break a membrane sample. For nonreinforced membranes, strength is reported as a stress (pounds per square inch, or "psi"); for reinforced membranes, strength is reported as a force (pounds, or "lbf").

This physical property relates to the ability of a membrane to withstand stresses that might be imposed by such things as building movement, wind uplift, and thermal loading. The presence of reinforcing material and the type of material used as reinforcement may also affect tensile strength.

3. Ultimate elongation The amount a membrane

sample stretches during tensile testing before it ruptures, usually expressed as a percentage of the original length.

The elongation of a membrane may contribute to its ability to accommodate movement in the substrate or structure without rupturing. There is a broad range of elongation values exhibited by products that are appropriate for use as single-ply roofing membranes. The variance from product to product depends on chemical composition and sometimes on the presence of reinforcing materials. In some cases, a reinforcing material may break internally at a low strain level without affecting the integrity of the sheet, thereby allowing the membrane itself to stretch and achieve its elongation property. In other cases, the reinforcement has a high resistance to elongation and imparts this characteristic to the finished sheet, producing a membrane with a low elongation property. The selection is made by the manufacturer and is based largely on the manner in which the material will be installed.

4. Modulus is a measure of the stiffness of a polymeric sheet. Since polymeric materials do not exhibit traditional elastic behavior over their entire range of elongation, the modulus is not a constant; rather it is reported as the tensile stress required to produce a prescribed elongation. When the modulus at 50 percent elongation is reported for a number of products, it allows for a comparison of their relative stiffness. This is expressed as psi at a given percent elongation.

The presence of reinforcement affects the modulus of a material by significantly increasing its stiffness; it may also affect the elongation properties in the direction of the reinforcing medium. Like elongation, this property is an indicator of the suitability of the formulation for use as a roofing membrane, but it is not a direct predictor of its performance once installed. However, modulus, in combination with other factors, such as coefficient of thermal expansion and dimensional stability, may have an effect on the manner of attachment of the membrane at terminations.

5. Tear resistance The load required to tear a material when the stress is concentrated on a small area of the specimen by the introduction of a prescribed flaw, expressed in psi or pounds-force.

This property indicates a membrane's ability to resist initiation and/or propagation of a tear. Recognizing that occasionally mechanical damage occurs that results in a tear or puncture, it is important that during installation or membrane expansion and contraction due to structural or substrate movement or wind uplift pressures the membrane be able to resist further tearing. Resistance to tear is also of

importance in mechanically fastened membrane systems in which the membrane is penetrated by fasteners, and wherever penetration of the membrane occurs at terminations. Different test methods are used to test the tear resistance of reinforced and nonreinforced membranes.

6. Water vapor transmission A measure of the rate of transmission of water vapor through the membrane material under controlled laboratory conditions of temperature and humidity, expressed as grains/hour/square/foot or grams/24 hours/square meter.

This property, which is measured under prescribed testing procedures, determines the rate at which vapor passes through the membrane. The actual vapor transmission rate of a specific membrane is important in the design of a total roofing assembly with regard to the inclusion or exclusion of a vapor retarder.

7. Water absorption The amount of water absorbed by a material after immersion for a prescribed period of time, expressed as a percentage of the original weight of the material.

The membrane must be resistant to water absorption from continuous submersion in water due to ponding, whether because of poor drainage or snow and ice build-up. A significant loss or gain of weight during immersion would indicate that the membrane may not perform satisfactorily over a long period of time. This water absorption may indicate that the membrane may affect dimensional stability and membrane thickness, and may cause internal stress that could lead to cracking.

8. Dimensional stability The change in length and/or width of a material that results from exposure to elevated temperatures over time, expressed as a percent.

Dimensional change that occurs after installation of the membrane may affect its watertight integrity and build up forces within the roof system. Such changes in sheet dimension can occur for a number of reasons: (a) stress induced on the membrane during some manufacturing processes, (b) stress introduced during the windup operation phase of some post-manufacturing processes, and (c) the extraction of certain components of the compound due to contact with incompatible materials or through volatility of the compound.

The effect of all of the above conditions can often be accelerated by testing at elevated temperatures.

9. Factory seam strength The force required to cause failure (in peel or shear) of a seam that has been created by the material supplier, expressed in psi or as a percentage of the strength of the sheet itself.

Not all manufacturers supply membranes containing

factory seams. However, this property is considered to be as significant to the overall performance as are field seams. The most disruptive forces to which a membrane will be subjected occur during installation. The factory seam must resist unfolding, stretching, pulling, and fluttering by the installers during placement and final positioning of the sheet.

10. Low-temperature resistance The lowest temperature at which the material does not fracture or crack under prescribed impact and flexing conditions, expressed in F or C.

It is important for the membrane to be able to accommodate, without cracking, the combination of low temperatures and mechanical impact during application, structural movement, or rooftop traffic that occurs in cold climates. However, there may be a strong correlation between low-temperature flexibility as tested in the laboratory and the actual temperature service range of the membrane on the roof.

11. Heat aging This test procedure is an attempt to accelerate the effect that solar heating will have on the properties of the installed roof membrane. The change(s) in physical properties (such as tensile properties) that result from exposure are then compared to those of the original unexposed material.

The results may provide some insight into, but no direct correlation with, the actual changes in physical properties that may occur during natural aging. It is particularly difficult to relate the exposure time during testing to real time during the life of the exposed membrane.

12. Accelerated weathering The process in which materials are exposed to a controlled environment where various phenomena, such as heat, water, condensation, and light, are altered to magnify their effects, thereby accelerating the weathering process. The physical properties that result from this exposure are then measured and compared to those of the original unexposed material.

These tests are an attempt to provide insight into the long-term performance of the membrane under exposure to the climatic variables of sunlight and precipitation. Again, there is no clear correlation between the test results and actual performance, and the relationship between test exposure time and real time is difficult to determine.

Notes on the PVC Section

Part 1: General Information

Item 3 Product Description Item 3A provides for information on the material used to reinforce the PVC

sheet; fiberglass and polyester are the most common reinforcements. Absent a reinforcement, the entry will state *None*. Item 3C requests the weight per square foot of the membrane as it would be installed on the roof, minus any surfacing ballast that might be added.

Item 7 Types of Roof Systems For item 7A, the information requested is the weight of the ballast per square foot that is recommended for application in the loose-laid/ballasted system. Absent a weight, it can be assumed that there is no loose-laid/ballasted specification for the listed product. For items 7B and 7C, the data requested is the **method** by which a product is partially or fully adhered, not simply whether a partially adhered or fully adhered specification exists. Any response besides a method will be blank. For item 7D, an X indicates whether there is a protected roof membrane assembly for the product; a blank indicates that none is available.

Item 9 Acceptable Substrates Item 7A through 7M are insulation board and decks over which membranes are normally applied. The manufacturer can respond with an O, an S, or an X, or any two or all three. An O means that the membrane can be installed over the substrate but that some kind of overlayment (e.g., a base sheet, insulation) is required in at least some circumstances; an S means that a sheet of material is required to separate the membrane from the substrate; and an X means that application is permitted directly to the substrate. Item 7N refers to application over an existing built-up membrane, to which the O and X responses are also applicable. Readers will need to refer to the manufacturer's specification manual for details concerning these requirements.

Item 10 Restricted Regions If a use of a membrane is restricted to a particular region of the country, manufacturers will indicate this with a code—for example, N for northern region. Readers need to refer to the manufacturer's literature for an interpretation of the codes and their geographical significance. Absent regional restrictions, manufacturers simply enter *None*.

Item 11 Workable Temperature Range This is the range of ambient temperatures in degrees Fahrenheit within which the manufacturer recommends application of the membrane material.

Item 12 Flashing Material This item provides for information concerning the material used with the membrane product for flashing terminations and perimeters. It can be the same as the membrane product (generally indicated by the response *same material*), another of the manufacturer's membrane

products (indicated by a trade name), or another of the manufacturer's types of products (e.g., any PVC-clad metal).

Item 13 Flashing Method The method for attaching the flashings may be the same as the field lap joint method indicated in item 6, or it may be different. For example, in some cases the membrane is seamed with hot air but the flashing adhered with solvent.

Item 20 Licensed Applicator Agreement The manufacturer indicates here whether it has a licensed applicator program involving agreements with specific contractors approved to install the company's membrane products.

Part 2: Test Results

In this section, manufacturers provide results according to tests in ASTM D 4434-95. The figures and/or test result information (e.g., *negligible*) to the right of the test categories are the minimum or maximum values or the required outcome necessary for the material to pass the test in that category.

Notes on the EPDM Section

Part 1: General Information

Item 3 Product Description Item 3A provides for information on the material used to reinforce the EPDM or Neoprene sheet. Absent a reinforcement, the entry will state *None*. Item 3C requests the weight per square foot of the membrane as it would be installed on the roof, minus any surfacing ballast that might be added.

Item 7 Types of Roof Systems For item 7A, the information requested is the weight of the ballast per square foot that is recommended for application in the loose-laid/ballasted system. Absent a weight, it can be assumed that there is no loose-laid/ballasted specification for the listed product. For items 7B and 7C, the data requested is the **method** by which a product is partially or fully adhered, not simply whether a partially adhered or fully adhered specification exists. Any response besides a method will be blank. For item 7D, an X indicates whether there is a protected roof membrane assembly for the product; a blank indicates that none is available.

Item 9 Acceptable Substrates Item 7A through 7M are insulation board and decks over which membranes are normally applied. The manufacturer can respond with an O, an S, or an X, or any two or all three. An O

means that the membrane can be installed over the substrate but that some kind of overlayment (e.g., a base sheet, insulation) is required in at least some circumstances; an *S* means that a sheet of material is required to separate the membrane from the substrate; and an *X* means that application is permitted directly to the substrate. Item 7N refers to application over an existing built-up membrane, to which the *O* and *X* responses are also applicable. Readers will need to refer to the manufacturer's specification manual for details concerning these requirements.

Item 10 *Restricted Regions* If a use of a membrane is restricted to a particular region of the country, manufacturers will indicate this with a code—for example, *N* for northern region. Readers need to refer to the manufacturer's literature for an interpretation of the codes and their geographical significance. Absent regional restrictions, manufacturers simply enter *None*.

Item 11 *Workable Temperature Range* This is the range of ambient temperatures in degrees Fahrenheit within which the manufacturer recommends application of the membrane material.

Item 12 *Flashing Material* This item provides for information concerning the material used with the membrane product for flashing terminations and perimeters. It can be the same as the membrane product (generally indicated by the response *same material*), another of the manufacturer's membrane products (indicated by a trade name), or another of the manufacturer's types of products (e.g., uncured neoprene).

Item 13 *Flashing Method* In the case of EPDM membranes, the method for attaching the flashings will be essentially the same as the field lap joint method indicated in item 6, because only contact adhesive can be used on cured elastomers. The indication that sealant is used in addition to contact adhesive refers to sealant applied to ensure secure bonding of the laps and/or flashing material.

Item 20 *Licensed Applicator Agreement* The manufacturer indicates here whether it has a licensed applicator program involving agreements with specific contractors approved to install the company's membrane products.

Part 2: Test Results

In this section, manufacturers provide results according to tests in ASTM D 4637-96. The figures and/or test result information (e.g., *no cracks*) to the right of the test categories are the minimum or maximum values or the required outcome necessary for the

material to pass the test in that category.

Notes on the CSPE, PIB, CPE, and Other Prefabricated Sheet-applied Membrane Sections

Part 1: General Information

Item 3 *Product Description* Item 3A provides for information on the material used to reinforce the sheet. Absent a reinforcement, the entry will state *None*. Item 3C requests the weight per square foot of the membrane as it would be installed on the roof, minus any surfacing ballast that might be added.

Item 7 *Types of Roof Systems* For item 7A, the information requested is the weight of the ballast per square foot that is recommended for application in the loose-laid/ballasted system. Absent a weight, it can be assumed that there is no loose-laid/ballasted specification for the listed product. For items 7B and 7C, the data requested is the **method** by which a product is partially or fully adhered, not simply whether a partially adhered or fully adhered specification exists. Any response besides a method will be blank. For item 7D, an *X* indicates whether there is a protected roof membrane assembly for the product; a blank indicates that none is available.

Item 9 *Acceptable Substrates* Item 7A through 7M are insulation board and decks over which membranes are normally applied. The manufacturer can respond with an *O*, an *S*, or an *X*, or any two or all three. An *O* means that the membrane can be installed over the substrate but that some kind of overlayment (e.g., a base sheet, insulation) is required in at least some circumstances; an *S* means that a sheet of material is required to separate the membrane from the substrate; and an *X* means that application is permitted directly to the substrate. Item 7N refers to application over an existing built-up membrane, to which the *O* and *X* responses are also applicable. Readers will need to refer to the manufacturer's specification manual for details concerning these requirements.

Item 10 *Restricted Regions* If a use of a membrane is restricted to a particular region of the country, manufacturers will indicate this with a code—for example, *N* for northern region. Readers need to refer to the manufacturer's literature for an interpretation of the codes and their geographical significance. Absent regional restrictions, manufacturers simply enter *None*.

Item 11 *Workable Temperature Range* This is the range of ambient temperatures in degrees Fahrenheit within which the manufacturer recommends applica-

tion of the membrane material.

Item 12 *Flashing Material* This item provides for information concerning the material used with the membrane product for flashing terminations and perimeters. It can be the same as the membrane product (generally indicated by the response *same material*), another of the manufacturer's membrane products (indicated by a trade name), or another of the manufacturer's types of products (e.g., reinforced Hypalon).

Item 13 *Flashing Method* The method for attaching the flashings may be the same as the field lap joint method indicated in item 6, or it may be different. For example, in some cases the membrane is seamed with hot air but the flashing adhered with solvent.

Item 20 *Licensed Applicator Agreement* The manufacturer indicates here whether it has a licensed applicator program involving agreements with specific contractors approved to install the company's membrane products.

Part 2: Test Results

In the Part 2 sections for CSPE, PIB, and CPE, manufacturers provide results according to tests in ASTM D 5019-96. The figures and/or test result information (e.g., *pass*) to the right of the test categories are the minimum or maximum values or the required outcome necessary for the material to pass the test in that category.

In the Part 2 section for Other Prefabricated Sheet-applied Single-Ply Membranes, there are 18 categories of material properties that manufacturers may report test results on. They may use any test method they wish, and need only enter the method used and the results indicated. Obviously there are no pass/fail criterion for the results in the Part 2 section.

Spray Polyurethane Foam-Based Roof Systems

This portion of the Roof Membrane Section of the *Low-Slope Roofing Materials Guide* provides information on spray polyurethane foam-based roof systems. It is divided into two parts, representing the two separate systems components: Part 1: Protective Coatings and Part 2: Insulation.

General Information

The first component of the polyurethane foam roof system is the rigid, closed-cell sprayed-in-place polyurethane foam insulation. The foam comprises two components: isocyanate and polyol; transfer pumps are used to get the components to a proportioning unit, which properly meters the two at a one-to-one ratio and heats and pumps them through dual hoses. They are mixed at the spray gun, which is used to apply them to the substrate.

The second component, the protective coating, is normally sprayed on as well, although hand and power rollers can be used. The purpose of the coatings is to protect the foam from ultraviolet exposure and moisture. The generic types of coatings include acrylic, butyl, Hypalon, neoprene, silicone, urethane, vinyl, and modified asphalts.

The spray polyurethane foam-based roof system is often characterized as "self-flashing." The foam is applied so that it forms a transition from the vertical to the horizontal, which in many cases precludes the need for pipe flashings, lead boots, and other metal components. Pitch pans and equipment supports are generally encapsulated in the foam and then coated. The polyurethane foam is tapered around drains to prevent ponding.

Part 1: Protective Coatings

Item 3 *Vapor Retarder* A coating is considered a vapor retarder if it has a moisture transmission rating (MVT) of one U.S. perm or less as defined by ASTM E 96. A vapor retarder is usually required when there are extreme temperature differentials; it is advisable when spray polyurethane foam is applied to a roof over a high-humidity interior.

Item 4 *Name of Product* If a coating is used as both the base and top coating, it will be so listed in a single-column format. Products that are "paired" in a specification are listed together in two columns without a line separating them; in these cases, data is provided separately, where appropriate, for the base and top coating.

Item 16 *Physical Properties of the Coating* Responses of *NA* were not permitted in this section. When *NA* was entered, the response was left blank; no differentiation can therefore be made between a response omitted by a manufacturer and one in which the response was *NA*.

Item 17 *UL 790 Flammability Class A Rating in Any System* For information on UL 790, see the general introduction to the *Guide*. It should be noted that the question is whether a Class A rating is available for

any specification (combination of insulation and coating). The exact specification is not requested; therefore readers should refer to the appropriate UL directory for details concerning such rating.

Item 18 *Foam Insulation Requirements* These are the requirements that the coating manufacturer has for the insulation on which the specified coating will be used is in polyurethane foam roof system.

Item 19 *Foam Available from Manufacturer* In many instances, the coating manufacturer neither manufacture nor markets the foam insulation. See Item 4 in Part 2 for a cross-reference to insulation manufacturers that market systems coatings as well as insulation.

Part 2: Insulation

Item 6 *Physical Properties of the Foam* Responses of *NA* were not permitted in this section. When *NA* was entered, the response was left blank; no differentiation can therefore be made between a response omitted by a manufacturer and one in which the response was *NA*.

Item 7 *UL 790 Flammability Class A Rating in Any System* For information on UL 790, see the general introduction to the *Guide*. It should be noted that the question is whether a Class A rating is available for any specification (combination of insulation and coating). The exact specification is not requested; therefore readers should refer to the appropriate UL directory for details concerning such rating.

Metal Roof Panels

General Information

Metal roofing systems are traditionally divided into two categories, architectural and structural. The architectural system is likened to the traditional steep shingled roof, in that it is considered a water shedder. Structural systems can be compared to and compete with traditional low-slope roofs because they are designed to better resist moisture on low-slope applications. Architectural panels are usually seamed by a double-interlock method, which performs well on a slope of at least 3 in 12 inches. They require solid decking, and a felt underlayment is usually recommended. Structural metal systems are designed to resist the passage of water under hydrostatic pressure. They have the structural capability of spanning joists without being

supported by a solid deck and do not require an underlayment.

Panel Types

Following is a brief description of panel types that appear in the *Guide*.

Corrugated The corrugated seam panel has a ribbed profile and exposed fasteners. It can be described as a lap-and-fasten system, in which panels are lapped at the edges and a fastener is used to secure the joint.

Flat Seam The flat seam is created with individual panels applied in shingled application. One panel edge is folded back on top of itself; the other panel is folded under, and the two panels are hooked together.

Standing Seam The term standing seam is often used as a generic description for a class of metal roof seams. More properly, the term refers to one of two kinds of profiles, or seam types: (1) the vertical leg/flat pan and (2) the trapezoidal seam. The name standing seam derives from the fact that the seams are joined together above the panel flats. The trapezoidal standing seam is more commonly associated with structural panels.

Batten Seam The original batten seam consisted of vertical leg panels placed between wood batten strips and covered with a cap. Many batten seam panels today are constructed entirely of metal.

Standing Seam Systems Because architectural standing seam roof systems are installed on steep slopes with short panel lengths, they are designed to shed water at a rapid rate and, therefore, they may or may not have sealant in the seam. The use of short panel lengths also limits the amount of thermal movement that can occur. For this reason, the panels are attached to the decking with a clip, consisting often of a single piece without designed allowance for movement, although two-piece clips are available. The panels slide back and forth on the clips.

Structural standing seam roof systems typically have a factory-applied sealant in seams to ensure watertightness. The systems commonly employ either glass fiber insulation rolls or rigid-board insulation. Because the insulation can become compressed at the structural members, spacer blocks are often placed over the member to prevent thermal bridging.

Allowance for thermal movement of the roof panel is provided by the concealed clips that are formed into the standing seams during the seaming operation. These clips are typically of two-piece design and are attached to secondary structures. The amount of

thermal movement is a factor of the length of the panel run, the temperature changes that the panel will undergo, and the type of material that makes up the panels.

The seaming process varies. For both the vertical leg/flat pan and trapezoidal profiles, each panel typically has a male and female profile. There are a variety of seaming, or panel interlock, methods. Some are formed by mechanical seamers or by hand, such as the crimped (45 degrees), roll formed (180 degrees), double roll formed (two 180 degrees), and roll and lock. Other seam systems do not require mechanical seaming, such as the snap-on cap and snap-together methods.

Notes on the Metal Roof Panel Section

Item 6 *Panel Profile* This item provides for information concerning the profile of the listed panel. Although only one category may be designated by a manufacturer for a given product, the inference should not be made that this designation excludes description of a profile in another category as well (e.g., batten and vertical leg). The intent of this category is simply to provide information concerning what the panel profile looks like, not necessarily its total configuration.

Items 11, 12 *ASTM E331 and E283* Actual test results are to be recorded; the only other response permitted was *NONE*.

Item 13 *FM-UL Wind Uplift Ratings* This item provides for information concerning the availability of any specification in the manufacturer's product line with an FM or UL wind uplift rating. As indicated in the general introduction, implicit reference is made to the FM rating of I-60, I-90 in Roof Cover Standard 4470 and to Class 15, 30, 60, or 90 under the wind-resistance tests found in UL 580.

The exact specification(s) with such ratings are not requested. Therefore readers should refer to the appropriate UL or FM guides and directories for details concerning such ratings.

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE	FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES		BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE	FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES
ACRYMAX TECHNOLOGIES, INC. 221 Brooke St. Media, PA 19063 610/566-7470 FAX 610/891-0834										370	426		AMERICAN STEEL BUILDING CO. INC. P.O. Box 14244 Houston, TX 77221 713/433-5661 FAX 713/433-0847									312	
AEP-SPAN P O BOX 150449 Dallas, TX 75315 214/827-1746 FAX 214/828-1394										306			AMERICAN TAR COMPANY A Division of Fields Corporation 2240 Taylor Way Tacoma, WA 98421 253/627-4098 FAX 253/627-3859									375	429
ALCO-NVC, INC. P.O. Box 14001 Detroit, MI 48214 800/323-0029 FAX 313/331-4726										370	426		ANDEK CORP. P.O. Box 392 850 Glen Ave Moorestown, NJ 08057 888/88ANDEK FAX 888/44ANDEK		72	121	207		282			377	431
ALDO PRODUCTS CO., INC. 1604 N. Main St. Kannapolis, NC 28081 704/932-3054 FAX 704/932-3041 E-mail: aldocoat@aol.com							282						ARS INDUSTRIES 9606 Parkway East, Suite E Birmingham AL 35215 205/836-6777 FAX 205/836-4090									312	
AL-KOAT, INC. P.O. Box 260584 Plano, TX 75026-0584 972/758-1362 FAX 972/596-5310		70	120	142	206								ATAS INTERNATIONAL, INC. Iron Run Industrial Park 6612 Snowdrift Rd. Allentown, PA 18106 610/395-8445 FAX 610/395-9342									314	
ALLIEDSIGNAL COMMERCIAL ROOFING SYSTEMS 2000 Regency Parkway, Suite 255 Cary, NC 27511-8507 919/461-4701 (NC) 800/221-6490 FAX 919/461-4720 E-mail: frank.moore@alliedsignal.com	36	71	121	143	206						470		AVARD PRODUCTS 10461 Margarita Ave. Fountain Valley, CA 92708 714/839-4494 FAX 714/775-8415									378	
ALUMINUM COATING MANUFACTURERS 7301 Bessemer Avenue Cleveland, OH 44127 800/556-8030 FAX 216/341-5833 E-mail: sales@alum.com										371	427		BARRETT COMPANY 3422 Old Capitol Trail Wilmington, DE 19808 800/647-0100	37	72	145							474
AMERICAN BUILDINGS ROOFING & ARCHITECTURAL PRODUCTS P.O. Box 800 Eufaula, AL 36072 334/687-2032 FAX 334/687-0298										309			BERRIDGE MANUFACTURING CO. Roof Division Houston, TX 77026 713/223-4971 FAX 713/236-9422 E-mail: sales@berridge.com Web: www.berridge.com									317	
AMERICAN LUBRICANTS CO. 1227 Deeds Avenue Dayton, OH 45401 937/222-2851 FAX 937/461-7729		72	121										BHP STEEL BUILDING PROD. USA 2110 Enterprise Boulevard West Sacramento, CA 95691 916/372-6851 FAX 916/372-5442									321	

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED SPRAY POLYURETHANE FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES	
ACRYMAX TECHNOLOGIES, INC. 221 Brooke St. Media, PA 19063 610/566-7470 FAX 610/891-0834								370 426		
AEP-SPAN P O BOX 150449 Dallas, TX 75315 214/827-1746 FAX 214/828-1394							306			
ALCO-NVC, INC. P.O. Box 14001 Detroit, MI 48214 800/323-0029 FAX 313/331-4726								370 426		
ALDO PRODUCTS CO., INC. 1604 N. Main St. Kannapolis, NC 28081 704/932-3054 FAX 704/932-3041 E-mail: aldocoat@aol.com							282			
AL-KOAT, INC. P.O. Box 260584 Plano, TX 75026-0584 972/758-1362 FAX 972/596-5310		70 120 142 206								
ALLIEDSIGNAL COMMERCIAL ROOFING SYSTEMS 2000 Regency Parkway, Suite 255 Cary, NC 27511-8507 919/461-4701 (NC) 800/221-6490 FAX 919/461-4720 E-mail: frank.moore@alliedsignal.com	36	71 121 143 206							470	
ALUMINUM COATING MANU- FACTURERS 7301 Bessemer Avenue Cleveland, OH 44127 800/556-8030 FAX 216/341-5833 E-mail: sales@alum.com								371 427		
AMERICAN BUILDINGS ROOFING & ARCHITECTURAL PRODUCTS P.O. Box 800 Eufaula, AL 36072 334/687-2032 FAX 334/687-0298							309			
AMERICAN LUBRICANTS CO. 1227 Deeds Avenue Dayton, OH 45401 937/222-2851 FAX 937/461-7729		72 121								
BITEC INC. #2 Industrial Park Dr. Morriton, AR 72110 800/535-8597 FAX 501/354-3019 E-mail: dga@bitec.com		73 121 147 207							478	
AMERICAN STEEL BUILDING CO. INC. P.O. Box 14244 Houston, TX 77221 713/433-5661 FAX 713/433-0847										312
AMERICAN TAR COMPANY A Division of Fields Corporation 2240 Taylor Way Tacoma, WA 98421 253/627-4098 FAX 253/627-3859										375 429
ANDEK CORP. P.O. Box 392 850 Glen Ave Moorestown, NJ 08057 888/88ANDEK FAX 888/44ANDEK		72 121 207				282				377 431
ARS INDUSTRIES 9606 Parkway East, Suite E Birmingham AL 35215 205/836-6777 FAX 205/836-4090										312
ATAS INTERNATIONAL, INC. Iron Run Industrial Park 6612 Snowdrift Rd. Allentown, PA 18106 610/395-8445 FAX 610/395-9342										314
AVARD PRODUCTS 10461 Margarita Ave. Fountain Valley, CA 92708 714/839-4494 FAX 714/775-8415										378
BARRETT COMPANY 3422 Old Capitol Trail Wilmington, DE 19808 800/647-0100	37	72 145								474
BERRIDGE MANUFACTURING CO. Roof Division Houston, TX 77026 713/223-4971 FAX 713/236-9422 E-mail: sales@berridge.com Web: www.berridge.com										317
BHP STEEL BUILDING PROD. USA 2110 Enterprise Boulevard West Sacramento, CA 95691 916/372-6851 FAX 916/372-5442										321
COOLEY ENGINEERED MEMBRANE INC, 50 Esten Avenue Box 939 Pawtucket, RI 02862-0939 401/724-0490						267 274				

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING MODIFIED BITUMEN PVC EPDM CSPE/PIB OTHER PRE-FABRICATED SPRAY POLYURETHANE FOAM-BASED SYSTEM METAL ROOF PANELS ROOFING CEMENTS AND COATINGS WARRANTIES											
BONDCOTE ROOFING SYSTEMS 984 Southford Road Middlebury, CT 06762 800/368-2160						266					480	
						272						
THE BREWER COMPANY 30060 Lakeland Blvd. Wickliffe, OH 44090 216/944-3800 FAX 216/944-1492										378		
										431		
BURKE INDUSTRIES 2250 South 10th St. San Jose, Ca 95112 408/297-3500 800/297-7010 FAX 408/280-0938					258						480	
					260							
BUTLER MANUFACTURING CO. BMA Tower Penn Valley Park Kansas City, MO 64141 816/968-2370 FAX 816/968-2371									324			
CARLISLE SYNTec INCORPORATED P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX 717/245-7245				240	267						482	
				252	273							
CELOTEX CORP. 4010 Boy Scout Blvd. Tampa, FL 33607 813/873-1700 FAX: 813/873-4080 E-mail: aharrington@celotex.com	39	76		241						382	484	
		12		252						433		
		150										
		209										
CONKLIN CO. P.O. Box 155 Shakopee, MN 55379-0155 800/888-8838 FAX 612/496-4285 E-mail: marketing@conklin.com Web Site: www.conklin.com					258		283		383	488		
					260				435			
CONSOLIDATED COATINGS CORP. 2614 Pearl Rd., P.O. Box 10 Brunswick, OH 44212-0010 800/321-7886 FAX 330/220-6761		77			267				384	490		
		123			273				435			
		151										
ENSURCO/DURADEK U.S. LTD. 404 East 13th Avenue North Kansas City, MO 64116 800/338-3568 FAX 816/421-2924			228								498	
			234									
ERSYSTEMS Elastomeric Roofing Systems, Inc. 50 Medina Street Loretto, MN 55357-0056 612/479-6690 800/403-7747 FAX 612/479-6691 E-mail: ersu@ersystems.com Web Site: www.ersystems.com				242		268	284		387	500		
				253		275	302		437			
CURVELINE INC. P.O. Box 4268 Ontario, CA 91761 909/947-6022 FAX 909/947-1510 E-mail: curveline@cyberg8t.com Web: www.met.tile.com/curveline											326	
DANOSA CARIBBEAN INC. Box 13757, Santurce Station San Juan, PR 00908 809/785-4545 FAX 809/787-3902		77										492
		151										
		209										
DERMABIT, WATERPROOFING INDUSTRIES INC. P. O Box 273 Alexandria, VA 22313-0273 703/739-2801 FAX 703/739-2802		78										492
		123										
		153										
DEWITT PRODUCTS CO. 5860 Plumer Detroit, MI 48209 313/554-0575 800/962-8599 FAX 313/554-2171 Web: www.dewitt@globalbiz.com											385	
											435	
DIBITEN P.O. Box 5108 Denver, CO 80217-5108 800/342-4836 FAX 303/978-3904		79										494
		123										
DOW CORNING CORPORATION P.O. Box 994 Midland, MI 48686-0994 517/496-6000 FAX 517/496-8026									284			
DURO-LAST INC. 525 Morley Drive Saginaw, MI 48601 800/248-0280 (All U.S.) FAX 800/432-9331								267				498
								275				
ENGLERT INC. 1200 Amboy Ave. Perth Amboy, NJ 08862 732/826-8614 FAX 732/826-8865										327		
GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000	45	81	228								392	508
		125	234								439	
		157										
		212										
GACO WESTERN, INC. P.O. Box 88698 Seattle, WA 98138-2698 800/456-4226 FAX 206/575-0587										287		
										302		

Index to Listed Membranes and Cements and Coatings

[illegible]

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE	FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES	
HENRY COMPANY 2911 Slauson Avenue Huntington Park, CA 90255 213/583-5000 FAX 213/582-6429	49									399 444	526	
HICKMAN SYSTEMS INC., W.P. 30700 Solon Industrial Parkway Solon, OH 44139 440/248-7760 FAX 440/248-6524 E-mail: wphickman@wphickman.com	50	89 127 167			258 260						528	
HYLOAD INC. 9976 Rittman Rd Wadsworth, OH 44281 330/334-5022 FAX 330/336-5512		90 169			269 277						528	
IB ROOF SYSTEMS 36250 E. Enterprise Rd. Creswell, OR 97426 541/741-1160 FAX 541/742-9204 E-mail: solution@ibroof.com			230 236									
ICA, INC. P.O. Box 679 Warrington, PA 18976 215/918-0889 FAX 215/918-0890		90 128 215										
IKO INDUSTRIES 120 Hay Rd. Wilmington, DE 19809 302/764-3100 FAX 302/764-5852		91 129 169 215										
KOKEM PRODUCTS INC. 4432 N.E. Davis Portland, OR 97213 503/235-9206 FAX 503/235-9206										404 447		
KOPPERS INDUSTRIES INC. 436 Seventh Avenue Pittsburgh, PA 15219 800/558-2706 FAX E-mail Web:	54	96 132 175 217									542	
MALARKEY ROOFING CO. P.O. Box 17217 Portland, OR 97217-0217 503/283-1191 OR 800/545-1191		99 177 221									544	
MBC/NCI P.O. Box 38217 Houston, TX 77238 281/445-8555 FAX 281/445-1791 E-mail www.mbc.com									337			
INTEC/PERMAGLAS P.O. Box 2845 Port Arthur, TX 77643 800/231-4631 FAX 409/724-2348 E-mail: support@usintec.com	51											532
INTERNATIONAL DIAMOND SYSTEMS INC. P.O. Box 351950 Toledo, OH 43635 419/382-0111 FAX 419/382-3275				245 254								532
IPS Insulated Panel Systems P. O. Box 968 Stafford, TX 77497-0968 281/499-2605 FAX 281/499-3363										336		
JOHNS MANVILLE INTERNATIONAL, INC. Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904	52	93 130 172 215	231 237	245 255								534
KARNAK CORPORATION 330 Central Avenue Clark, NJ 07066 732/388-0300 800/526-4236 FAX 732/388-9422 Web: www.karnakcorp.com	53										401 455	
KEMPER SYSTEMS, INC. 550 S. Michigan St. Seattle, WA 98108 206/767-9505 800/541-5455 FAX 206/767-9531 E-mail: kempersys.com											403 447	
MFM BUILDING PRODUCTS CORP. P.O. Box 340 520 Orange St. Coshocton, OH 43812 614/622-2645 800/882-7663	65	101 133										
MODBIT CORP 4821 Chelsea Ave. Kansas City, MO 64138 888/663-2488 FAX 816/921-5007		101 133 222										546
MONSEY BAKOR Cold Stream Road Kimberton, PA 19442 800/523-0268 FAX 610/933-4598 E-mail: monsey-bakor.com		101 181 222									406	548
MULE HIDE PRODUCTS CO., INC. 2924 Wyetta Drive Beloit, WI 53511 608/365-3111			231 237	243 255	258 260							550

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE	FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES		BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE	FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES
MBTECHNOLOGY CORPORATION 188 South Teilman Ave Fresno, CA 93706 800/621-9281 FAX 209/233-4607		99 177 221									544		NATIONAL COATINGS CORP. 1201 Calle Suerte Camarillo, CA 93012 805/388-7112 FAX 805/388-8140 E-mail: nationalcoatings.com						293 303		409 450		
MCELROY METAL CO. 1500 Hamilton Road Bossier City, LA 71111 318/747-8000 FAX 318/747-8029									342				NEOGARD, DIV JONES BLAIR 6900 Maple Avenue P.O. Box 35288 Dallas, TX 75235 800/321-6588 FAX 214/357-7532						293				
MERCHANT & EVANS INC. 100 Connecticut Drive Burlington, NJ 08016 609/387-3033 FAX 609/387-4838									345				NORTH CAROLINA FOAM IND. 1515 Carter St. P.O. Box 1528 Mount Airy, NC 27030 336/789-9161 FAX 336/789-9586						303				
METACRYLICS ACRYLIC-POLYESTER ROOFING PRODUCTS 142 N. 27th Street San Jose, CA 95116 408/280-7733 FAX 408/280-6329 E-mail: metacrylics@msn.com										404 447			OLYMPIC RUBBER ROOFING SYSTEMS INC. P.O. Box 091082 Milwaukee, WI 53209 800/552-5393 414/442-3117				246 255						552
METAL SALES MFG CORP 7800 State Rd. 60 Sellersburg, IN 47172 812/246-0819 FAX 812/246-0829									348				PERFORMANCE ROOF SYSTEMS, INC. 4821 Chelsea Ave. Kansas City, MO 64130 816/921-0221 FAX 816/921-5540 E-mail: prshunt@aol.com		103 134 222							552	
PETERSEN ALUMINUM 1005 Tonne Rd. Elk Grove Village, IL 60007 800/323-1960 FAX 800/722-7150									349				R.M. LUCAS CO. 3211 South Wood St. Chicago, IL 60608 773/523-4300 FAX 773/523-3290 E-mail: rmlucas@ix.netcam.com								410 451		
PLASTIC COATINGS CORP. P.O. Box 1068 St. Albans, WV 25177 304/755-9151 FAX 304/755-0229									294				ROOF DESIGN SYSTEMS, INC. P.O. Box 278 Buffalo, NY 14240 888/768-3333 FAX 905/761-8363			232 238							558
PLY-TECH RUBBER SYSTEMS INC 707 Arrow Rd. Weston, ON, Canada M9M 2L4 416/749-7070 FAX 416/749-4440				246 255	258 260 262 264								ROOFING PRODUCTS INTERNATIONAL 57460 Dewitt St. Elkhart, IN 46517 800/628-2957 219/293-9096 FAX 219/294-3450				249 256						560
POLYDYNE 260 Grell Lane Johnson Creek, WI 53038 800/225-7659 FAX 414/648-5647									244				ROOSEVELT BUILDING PRODUCTS COMPANY, INC. 171 River Street Thomaston, CT 06787 860/283-6291 FAX 860/283-1235							352			
POLYGLASS USA 150 Lyon Drive Fernley, NV 89408 702/575-6007 FAX 702/575-2314 E-mail: otto@polyglass.com		103 136 183 223											SARNAFIL INC. 100 Dan Road Canton, MA 02021 800/451-2504			232							562

Index to Listed Membranes and Cements and Coatings

	BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES		BUILT-UP ROOFING	MODIFIED BITUMEN	PVC	EPDM	CSPE/PIB	OTHER PRE-FABRICATED	SPRAY POLYURETHANE FOAM-BASED SYSTEM	METAL ROOF PANELS	ROOFING CEMENTS AND COATINGS	WARRANTIES
POLYTHANE SYSTEMS, INC. P.O. Box 1452 Spring, TX 77383-6450 281/350-9000 FAX 281/288-6450 E-mail: ridgestock@aol.com							295 303									270 279					562
PREMIUM POLYMERS GROUP FLEXIBLE PRODUCTS COMPANY P.O. Box 141159 Austin, TX 78714-1159 512/272-5531 800/756-3626 FAX 512/272-4154							296				554					270 280					564
PROTECTIVE COATINGS INC. 3001 Reynolds St. Fort Wayne, IN 46803 800/992-8299 FAX 905/629-1778				246 255							556			107 185 224							568
REPUBLIC POWDERED METALS, INC. 2628 Pearl Rd. Medina, OH 44256 800/255-1136 FAX 330/273-5061					262 264					409 450	556									413 452	
SOPREMA, INC. 310 Quadral Drive Wadsworth, OH 44281 330/334-0066 800/356-3521 FAX 330/334-4289		109 189									570			114 199 226							
SOUTHWESTERN PETROLEUM CORPORATION (SWEPCO) 534 No. Main St. P.O. Box 961005 Fort Worth, TX 76161-0005 817/332-2336 800/877-9372 FAX 817/877-4047	65	113 139 197 224								413 453	570									419 455	
SPM THERMO-SHIELD INC. Rt. 2, Box 208A Custer, SD 57730 605/673-3201 FAX 605/673-3200 E-mail: spm@thermoshield.com										415 453			67	116 201		258 260 262 264				419 456	578
STEELUX ROOF SYSTEMS P.O. Box 8181 Mason, OH 45040-8181 513/573-5200 FAX 513/573-5511									354				68	116 141 201 226							
STEVENS ROOFING SYSTEMS J.P.S. Elastomerics Corp. 9 Sullivan Road Holyoke, MA 01040-2800 800/621-ROOF FAX 413/552-1198 E-mail: sbeverett@jpscorp.com					258 260	271 280					540						297 303				
SUNGUARD MARKETING CORP. 4432 N.E. Davis Portland, OR 97213 503/235-9206 FAX 503/235-9206										415 454										421 457	
SEAL-DRY/USA, INC. 3300 S. Woodrow Little Rock, AR 72204 501/663-3063 FAX 501/663-1926																					
SEAMAN CORPORATION FiberTite Roofing Systems 1000 Venture Blvd. Wooster, OH 44691 800/927-8578																					
SIPLAST INC. 1111 Hwy. 67 South Arkadelphia, AR 71923 870/246-8094 E-mail: kersey@siplast.com																					
SOMAY PRODUCTS, INC. 4301 N.W. 35th Avenue Miami, FL 33142-4382 305/633-6333 FAX 305/638-5524 E-mail: paint@somay.com																					
TEXSA, S.A. Poligono Can Pelegri San Andreu de la Barca, Spain 34-3-6820770 FAX 34-3-6820752																					
TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORP. 24 Industrial Road Walpole, MA 02081-1305 800/323-0009 FAX 508/660-2471																					
TREMCO INC. 3735 Green Rd. P.O. Box 228069 Beachwood, OH 44122-8069 216/292-5000																					
TRI-PLY P.O. Box 2685 Port Arthur, TX 77643 800/331-3007 FAX 409/727-0771																					
UCSC, LTD. 1208 N. Grand Roswell, NM 88201 505/623-9726 FAX 505/623-1908 E-mail: ucscurethane.com																					
UNIFLEX, INDUSTRIAL DIV. OF KOOL SEAL, INC. 1499 Enterprise Parkway Twinsburg, OH 44087 216/425-4717 FAX 216/425-9778																					

THIS PAGE INTENTIONALLY LEFT BLANK

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		ALLIEDSIGNAL											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		6 YES DISTRIBUTORS, DIRECT YES SEE ALLIEDSIGNAL COMM. ROOFING SYSTEMS MANUAL 800/221-6490 BLACK ARMOR TARRED FELT (D 227) BLACK ARMOR GLASS FIBER FELT (D 2178, TYPE IV) BLACK ARMOR PREM. GLASS FIBER FELT (D 2178, TYPE VI) BLACK ARMOR COAL TAR COATED GLASS FIBER (D 4990) BLACK ARMOR PREMIUM COAL TAR COATED GLASS FIBER FELT POLYMOP MODIFIED ASPHALT POLYMOP GLASS FIBER BASE SHEET POLYMOP GLASS FIBER FELT											
8. SPECIFICATION NUMBER		RP-40	RP-41	RP-40-5	RP-41-5	RP-60	RP-61	RP-60-5	RP-61-5	RP-50-TC	RP-51-TC	PM-50	PM-51
9. HOT AND/OR COLD APPLIED		HOT	HOT							HOT	HOT	HOT	HOT
10. DECK TYPE													
A. NAILABLE		X		X		X		X		X		X	
B. INSULATED			X		X		X		X		X		X
C. NONNAILABLE			X		X		X		X		X		X
11. SLOPE REQUIREMENTS (range in inches)		0 – 1/2	0 – 1/2	0 – 1/2	0 – 1/2	0 – 1/8	0 – 1/8	0 – 1/8	0 – 1/8	1/4	1/4	1/4 - 3	1/4 - 3
12. NUMBER OF PLIES													
A. TOTAL PLIES		4	4	5	5	4	4	5	5	4	4	4	4
B. BASE SHEET		1		1		1		1		1		1	
C. INTERPLY(IES)		3	4	4	5	3	4	4	5	3	4	3	4
D. CAP SHEET													
13. TYPES OF FELT													
A. GLASS FIBER						X	X	X	X	X	X	X	X
B. ORGANIC		X	X	X	X	X	X	X	X				
C. ASBESTOS													
D. POLYESTER													
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT													
B. MODIFIED ASPHALT												X	X
C. COAL TAR		X	X	X	X	X	X	X	X	X	X		
D. ELASTOMERIC ADHESIVE													
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)		4	4	4	4	4	4	4	4	4	4	4	4
B. SLAG (lbs./ft ²)		3	3	3	3	3	3	3	3	3	3	3	3
C. CRUSHED ROCK (lbs./ft ²)													
SMOOTH													
D. ASPHALT													
E. COAL TAR													
F. EMULSION/CUTBACK													
G. ALUMINUM COATING													
H. VINYL/VINYL COATING													
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET													
K. OTHER		X	X	X	X	X	X	X	X				
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE		6.0	6.0	6.5	6.5	6.0	6.0	6.5	6.5	6.0	6.0	6.0	6.0
B. SMOOTH													
C. CAP SHEET													
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE							NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE		1987	1987	1987	1987	1991	1991	1991	1991			1998	1998
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION													
XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD													
-XD													
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD													
-XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD													
-XD													
20. SEE MEMBRANE APPENDIX IF CHECKED		X	X	X	X	X	X	X	X	X	X		

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

General information with test description and suggested values as specified in NBS BSS #55/1974												
<div> <div> 1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide]) </div> <div> BARRETT COMPANY, THE 3 YES DISTRIBUTORS, DIRECT YES SEE BARRETT MANUAL SALES OFFICE POLY-FELT 165 VP POLYEST ASTM D 5665-97A, TYPE II (metric) POLY-FELT 265 VP POLYEST ASTM D 5665-97A, TYPE II (metric) RAM-GLASSPLY IV (D 2178, TYPE IV) RAM-GLASS VI (D 2178, TYPE VI) RAM BASE PLY NO. 32 GLASS (D 4601, TYPE II) RAM-BASE PLY NO. 30 POLYESTER ASTM D 5665-97A, TYPE IV, (metric) RAM-FLASH 327HDR NEOPRENE (NONE) RAM HYPALON FLASHING (NONE) RAM 306, RAM 309 (D 5147) </div> </div>												
8. SPECIFICATION NUMBER	K312 2F	K312 3F	K312 4F	K312 2P	K312 3P	K312 4P	T-3. 1P	T-3. 2P	T-3. 3P	T-3. 4P	CP-50 3P	CP-50 2P
9. HOT AND/OR COLD APPLIED	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	COLD	COLD
10. DECK TYPE												
A. NAILABLE	X	X	X	X	X	X	X	X	X	X	X	X
B. INSULATED	X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE	X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)	0-3	0-6	0-6	0-6	0-6	0-6	1-6	1/8-6	1/8-6	1/8-6	1/8-6	1/8-6
12. NUMBER OF PLIES												
A. TOTAL PLIES	2	3	4	2	3	4	1	2	3	4	3	2
B. BASE SHEET												
C. INTERPLY(IES)	2	3	4	2	3	4	1	2	3	4	3	2
D. CAP SHEET												
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X									
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER				X	X	X	X	X	X	X	X	X
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT							X	X	X	X	X	X
B. MODIFIED ASPHALT												
C. COAL TAR												
D. ELASTOMERIC ADHESIVE	X	X	X	X	X	X						
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)	4	4	4	4	4	4		4	4	4	4	4
B. SLAG (lbs./ft ²)	3	3	3	3	3	3		3	3	3	3	3
C. CRUSHED ROCK (lbs./ft ²)	10	10	10	10	10	10		10	10	10	10	10
SMOOTH												
D. ASPHALT							X	X	X	X		
E. COAL TAR												
F. EMULSION/CUTBACK	X	X	X	X	X	X	X	X	X	X	X	X
G. ALUMINUM COATING	X	X	X	X	X	X	X	X	X	X	X	X
H. VINYL/VINYL COATING	X	X	X	X	X	X	X	X	X	X	X	X
OTHER												
I. MINERAL GRANULES	X	X	X	X	X	X	X	X	X	X	X	X
J. CAP SHEET	X	X	X	X	X	X	X	X	X	X	X	X
K. OTHER	X	X	X	X	X	X	X	X	X	X	X	X
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE	4.15	4.50	4.90	4.0	4.25	4.50		4.25	4.50	4.50	4.50	4.15
B. SMOOTH	1.15	1.50	1.90	1.0	1.25	1.50	0.75	1.25	1.50	1.50	1.50	1.15
C. CAP SHEET	2.0	2.35	2.75	1.85	2.10	2.35	1.60	2.10	2.35	2.35	2.35	2.00
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE	1985	1985	1985	1985	1985	1985	1985	1983	1985	1983	1978	1978
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD		> 200 > 200	> 200 > 200		> 200 > 200	> 200 > 200			> 200 > 200	> 200 > 200	> 200 > 200	
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

CELOTEX CORP.

7
YES
DISTRIBUTORS, DIRECT
YES
SEE CELOTEX BUR & MB RFG SYS MANUAL
REGIONAL OFFICES, SALES/A. HARRINGTON, TECH.
CELO-GLASS IV (D 2178, TYPE IV)
CELO-GLASS AGS (D 2178, TYPE VI)
VAPORBAR GB (D 4601, TYPE II)
CHANNEL VENT GB (D 4897, TYPE II)
VAPORBAR BASE SHEET (D 2626)
HYDRO-STOP VAPOR BARRIER/VENTING BASE SHEET (NONE)

CP-80 2P	CP-80 3P	CP-80 3 G.BS
COLD	COLD	COLD
X	X	X
X	X	X
X	X	X
1/8 - 6	1/8 - 6	1/8 - 6
2	3	3
2	3	3
		X
X	X	
X	X	X
4	4	4
3	3	3
10	10	10
X	X	X
X	X	X
X	X	X
4.15	4.50	6.0
1.15	1.50	2.0
2.00	2.35	2.85
NONE	NONE	NONE
1985	1985	1978
	> 200	> 200
	> 200	> 200
X	X	X

G/A-4- W-G	AGS-4- W-G	G/A-4- F-G	AGS-4- F-G	G/A-3- W-G	G/A-3- C-G	G/A-4- W-S	AGS-4- W-S	G/A-4- F-S	AGS-4- F-S	G/A-4- C-S	AGS-4- C-S	G/A-4- C-G	AGS-4- C-G	G/A-3- W-S
HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
X	X			X		X	X							X
		X	X		X			X	X	X	X	X	X	
		X	X		X			X	X	X	X	X	X	
0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 9	0 - 9	0 - 9	0 - 9	0 - 9	0 - 9	0 - 3	0 - 3	0 - 9
4	4	4	4	3	3	4	4	4	4	4	4	4	4	3
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	3	3	3	2	3	3	3	3	3	4	4	4	4	2
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	4	4	4	4	4							4	4	4
3	3	3	3	3	3							3	3	3
						X	X	X	X	X	X			X
						X	X	X	X	X	X			X
						X	X	X	X	X	X			X
5.80	5.80	5.60	5.60	5.60	5.60							5.80	5.80	
						1.50	1.50	1.60	1.60	1.70	1.70			1.70
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	W
1980	1980	1980	1980	1980	1962	1980	1980	1980	1980	1962	1962	1983	1983	1980
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X		X				X		X		X		X	

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

CELOTEX CORP.												
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])	7 YES DISTRIBUTORS, DIRECT YES SEE CELOTEX BUR & MB RFG SYS MANUAL REGIONAL OFFICES, SALES/A. HARRINGTON, TECH. CELO-GLASS IV (D 2178, TYPE IV) CELO-GLASS AGS (D 2178, TYPE VI) VAPORBAR GB (D 4601, TYPE II) CHANNEL VENT GB (D 4897, TYPE II) VAPORBAR BASE SHEET (D 2626) HYDRO-STOP VAPOR BARRIER/VENTING BASE SHEET (NONE)											
8. SPECIFICATION NUMBER	G/A-3- W-M	G/A-4- W-M	AGS-4- W-M	G/A-4- F-M	AGS-4- F-M	G/A-4- C-M	AGS-4- C-M	G/A-H+ 3-W-G	AGS-H+ 3-W-G	AGS-H+ 4-W-M	G/A-H+ 4-W-M	AGS-H+ 3-W-M
9. HOT AND/OR COLD APPLIED	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE												
A. NAILABLE	X	X	X					X	X	X	X	X
B. INSULATED				X	X	X	X					
C. NONNAILABLE				X	X	X	X					
11. SLOPE REQUIREMENTS (range in inches)	0-9	0-9	0-9	0-9	0-9	0-9	0-9	0-3	0-3	0-9	0-9	0-9
12. NUMBER OF PLIES												
A. TOTAL PLIES	3	4	4	4	4	4	4	4	4	5	5	4
B. BASE SHEET	1	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)	1	2	2	2	2	2	2	2	2	3	3	2
D. CAP SHEET	1	1	1	1	1	1	1	1	1	1	1	1
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER								X	X	X	X	X
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT												
C. COAL TAR												
D. ELASTOMERIC ADHESIVE												
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)	4	4	4					4	4			
B. SLAG (lbs./ft ²)	3	3	3					3	3			
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT												
E. COAL TAR												
F. EMULSION/CUTBACK				X				X	X			
G. ALUMINUM COATING				X								
H. VINYL/VINYL COATING				X				X	X			
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET	X	X	X	X	X	X	X	X	X	X	X	X
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE												
B. SMOOTH				1.70								
C. CAP SHEET	0.90	1.30	1.30	1.20	1.20	1.30	1.30	1.20	1.20			
17. RESTRICTED REGIONS (refer to manufacturer's literature)	W	W	W	W	W	W	W	NONE	NONE			
18. YEAR OF FIRST COMMERCIAL USE	1983	1980	1980	1980								
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD	X	X	X	X	X	X	X	X	X			
-XD	X	X	X	X	X	X	X	X	X			
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD												
-XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD												
-XD												
20. SEE MEMBRANE APPENDIX IF CHECKED	X		X		X		X		X			

General information with test description and suggested values as specified in NBS BSS #55/1974

[illegible]

FIELDS CORPORATION

15

YES

DISTRIBUTORS

NO

SEE FIELDS BUR MANUAL

T. VANDERLINDA/J. SCARLETT 800/627-4098

FIELDS F50 POLYSHIELD (D 4601, D 2178)

FIELDS F52 GLASBASE 2 (D 4601)

FIELDS F54 GLASPLY4 (D 2178, TYPE IV)

FIELDS F55 POLYSHIELD 2 (D 4601, D 2178)

FIELDS F56 GLASPLY6 (D 2178, TYPE VI)

FIELD 5 F58 GLASFLY (D 2178, TYPE VI)
FIELD 5 F58 GLASCAP (D 3609)

FIELD S M60 BURBOLY (D 1601 D 2178)

FIELDS M63 RUBBERGLAS (D4601, D 2178)

FIELD 5 M62 RUBRGLAS (D4601, D 2178)
FIELD 5 M64 RUBRGLAS (D 4601, D 2178)

FIELDS M66 RUBBCLAS2 (D 4601, D 2178)

FIELD S M66 RUBRGLAS2 (D 460)

FIELD S M68 RUBRCAP
FIELD S B30 POLYMER

FIELDS P72 POLYWEB

FIELDS P74 POLYROOF

FIELDS P75 POLYROOF

FIELDS P76 POLYTEX

FIELDS P77 POLYSOFT

FIEL DS P78 POL YTEX2

FIELDS P78 POLYTEX2
FIELDS G360 GLASWEB

FIELDS G360 GLASWEB
FIELDS G362 GLASWEB

FIELDS G362 GLASWEB
FIELDS G60 GLASWEB

FIELDS G60 GLASWEB
FIELDS G62 GLASWEB

FIELDS G62 GLASWEB
 FIELDS G64 GLASWEB

FIELDS G64 GLASWEB

[illegible]

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

FIELDS CORPORATION												
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])	15 YES DISTRIBUTORS NO SEE FIELDS BUR MANUAL T. VANDERLINDA/J. SCARLETT 800/627-4098 FIELDS F50 POLYSHIELD (D 4601, D 2178) FIELDS F52 GLASBASE 2 (D 4601) FIELDS F54 GLASPLY4 (D 2178, TYPE IV) FIELDS F55 POLYSHIELD 2 (D 4601, D 2178) FIELDS F56 GLASPLY6 (D 2178, TYPE VI) FIELDS F58 GLASCAP (D 3609) FIELDS M60 RUBRPOLY (D 4601, D 2178) FIELDS M62 RUBRGLAS (D4601, D 2178) FIELDS M64 RUBRPOLY2 (D 4601, D 2178) FIELDS M66 RUBRGLAS2 (D 4601, D 2178) FIELDS M68 RUBRCAP (D 5147) FIELDS P70 POLYWEB FIELDS P72 POLYWEB FIELDS P74 POLYROOF FIELDS P75 POLYROOF FIELDS P76 POLYTEX FIELDS P77 POLYSOFT FIELDS P78 POLYTEX2 FIELDS G360 GLASWEB FIELDS G362 GLASWEB FIELDS G60 GLASWEB FIELDS G62 GLASWEB FIELDS G64 GLASWEB											
8. SPECIFICATION NUMBER	HAI-315-MS	HAI-325-MS	HAI-335-MS	HAW-325-RM	HAW-335-RM	HAW-345-RM	HAC-325-RM	HAC-335-RM	HAC-345-RM	HAI-X35-RM	HAI-X45-RM	HAI-325-RM
	HAI-317-MS	HAI-327-MS	HAI-337-MS	HAW-327-RM	HAW-337-RM	HAW-347-RM	HAC-327-RM	HAC-337-RM	HAC-347-RM	HAI-X37-RM	HAI-X47-RM	HAI-327-RM
9. HOT AND/OR COLD APPLIED	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE												
A. NAILABLE				X	X	X						
B. INSULATED	X	X	X							X	X	X
C. NONNAILABLE							X	X	X			
11. SLOPE REQUIREMENTS (range in inches)	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3
12. NUMBER OF PLIES												
A. TOTAL PLIES	3	4	5	3	4	5	3	4	5	3	4	3
B. BASE SHEET	1	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)	1	2	3	2	3	4	2	3	4	3	4	2
D. CAP SHEET	1	1	1									
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT												
C. COAL TAR												
D. ELASTOMERIC ADHESIVE												
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)												
B. SLAG (lbs./ft ²)												
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT												
E. COAL TAR												
F. EMULSION/CUTBACK												
G. ALUMINUM COATING												
H. VINYL/VINYL COATING												
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET	X	X	X									
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE				5.6	5.9	6.3	5.5	5.8	6.2	5.05	6.05	5.85
B. SMOOTH												
C. CAP SHEET	1.45	1.85	2.20									
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD												
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED												

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

[illegible]

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		FIELDS CORPORATION											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		15 YES DISTRIBUTORS NO SEE FIELD'S BUR MANUAL T. VANDERLINDA/J. SCARLETT 800/627-4098 FIELDS F50 POLYSHIELD (D 4601, D 2178) FIELDS F52 GLASBASE 2 (D 4601) FIELDS F54 GLASPLY4 (D 2178, TYPE IV) FIELDS F55 POLYSHIELD 2 (D 4601, D 2178) FIELDS F56 GLASPLY6 (D 2178, TYPE VI) FIELDS F58 GLASCAP (D 3609) FIELDS M60 RUBRPOLY (D 4601, D 2178) FIELDS M62 RUBRGLAS (D4601, D 2178) FIELDS M64 RUBRPOLY2 (D 4601, D 2178) FIELDS M66 RUBRGLAS2 (D 4601, D 2178) FIELDS M68 RUBRCAP (D 5147) FIELDS P70 POLYWEB FIELDS P72 POLYWEB FIELDS P74 POLYROOF FIELDS P75 POLYROOF FIELDS P76 POLYTEX FIELDS P77 POLYSOFT FIELDS P78 POLYTEX2 FIELDS G360 GLASWEB FIELDS G362 GLASWEB FIELDS G60 GLASWEB FIELDS G62 GLASWEB FIELDS G64 GLASWEB											
8. SPECIFICATION NUMBER		AAI-325 RC	AAI-335 RC	AAI-315 MS	AAI-X43 RC	AAI-335 RC	AAI-335 RC	AAI-315 MS	AAC-X33 RC	AAC-325 RC	AAC-329 RC	AAC-315 MS	AAC-X43 RC
9. HOT AND/OR COLD APPLIED		COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD
10. DECK TYPE													
A. NAILABLE		X	X							X	X	X	
B. INSULATED				X	X	X	X	X					X
C. NONNAILABLE									X				
11. SLOPE REQUIREMENTS (range in inches)		1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3	1/4 – 3
12. NUMBER OF PLIES													
A. TOTAL PLIES		3	3	3	4	4	4	4	4	4	4	4	3
B. BASE SHEET		1	2	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)		2	1	1	3	3	3	2	3	3	3	2	2
D. CAP SHEET				1				1				1	
13. TYPES OF FELT													
A. GLASS FIBER		X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC													
C. ASBESTOS													
D. POLYESTER													
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT													
C. COAL TAR													
D. ELASTOMERIC ADHESIVE													
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)													
B. SLAG (lbs./ft ²)													
C. CRUSHED ROCK (lbs./ft ²)													
SMOOTH													
D. ASPHALT													
E. COAL TAR													
F. EMULSION/CUTBACK		X	X		X	X	X		X	X	X		X
G. ALUMINUM COATING		X	X		X	X	X		X	X	X		X
H. VINYL/VINYL COATING													
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET				X				X		X		X	
K. OTHER													
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE													
B. SMOOTH		1.3	1.55		1.95	2.05	1.6		2.25	1.4	1.55		1.6
C. CAP SHEET				1.25				1.75				2.05	
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE		1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD													
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD													
20. SEE MEMBRANE APPENDIX IF CHECKED													

General information with test description and suggested values as specified in NBS BSS #55/1974

5
YES
DISTRIBUTORS
YES
SEE GAFMC GAFGLAS SPEC MANUAL
REGIONAL OFFICE, TECHNICAL SERVICE OFFICE
GAFGLAS PLY 4 (D 2178, TYPE IV)
GAFGLAS PLY 6 (D 2178, TYPE VI & IV)
GAFGLAS MINERAL SURFACED CAP SHEET (D 3909)
GAFGLAS#75 BASE SHEET (D 4601, TYPE II)
GAFGLAS STRATAVENT PERFORATED BASE SHEET (D 4897)
GAFGLAS STRATAVENT NAILABLE BASE SHEET (D 4897)
GAFGLAS FLEXPPLY6 (D 2178, TYPE VI & IV)
GAFGLAS #80 ULTIMA BASE SHEET (D 4601, TYPE II)

AAC-335 RC	AAC-325 RC
COLD	COLD
X	X
1/4 – 3	1/4 – 3
3	3
1	1
2	2
X	X
X	X
X	X
X	X
1.3	1.55
NONE 1980	NONE 1980

[illegible]

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		GAF MATERIALS CORPORATION											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		5 YES DISTRIBUTORS YES SEE GAFMC GAFGLAS SPEC MANUAL REGIONAL OFFICE, TECHNICAL SERVICE OFFICE GAFGLAS PLY 4 (D 2178, TYPE IV) GAFGLAS PLY 6 (D 2178, TYPE VI & IV) GAFGLAS MINERAL SURFACED CAP SHEET (D 3909) GAFGLAS#75 BASE SHEET (D 4601, TYPE II) GAFGLAS STRATAVENT PERFORATED BASE SHEET (D 4897) GAFGLAS STRATAVENT NAILABLE BASE SHEET (D 4897) GAFGLAS FLEXPPLY6 (D 2178, TYPE VI & IV) GAFGLAS #80 ULTIMA BASE SHEET (D 4601, TYPE II)											
8. SPECIFICATION NUMBER		NN-0-4-M	I-0-4-M	NN-B-4-M	I-B-4-M	NN-0-3-M	I-0-3-M	N-B-4-G	N-B-4-C	N-B-3-G	N-B-3-C	N-B-4-M	N-B-3-M
9. HOT AND/OR COLD APPLIED		HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE													
A. NAILABLE								X	X	X	X	X	X
B. INSULATED			X		X		X						
C. NONNAILABLE		X		X		X							
11. SLOPE REQUIREMENTS (range in inches)		0-6	0-6	0-6	0-6	0-6	0-6	0-3	0-6	0-3	0-6	0-6	0-6
12. NUMBER OF PLIES													
A. TOTAL PLIES		4	4	4	4	3	3	4	4	3	3	4	3
B. BASE SHEET				1	1			1	1	1	1	1	1
C. INTERPLY(IES)		3	3	2	2	2	2	3	3	2	2	2	1
D. CAP SHEET		1	1	1	1	1	1					1	1
13. TYPES OF FELT													
A. GLASS FIBER		X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC													
C. ASBESTOS													
D. POLYESTER													
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
C. COAL TAR													
D. ELASTOMERIC ADHESIVE													
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)								4		4			
B. SLAG (lbs./ft ²)								3		3			
C. CRUSHED ROCK (lbs./ft ²)								4		4			
SMOOTH													
D. ASPHALT									X		X		
E. COAL TAR													
F. EMULSION/CUTBACK									X		X		
G. ALUMINUM COATING									X		X		
H. VINYL/VINYL COATING													
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET		X	X	X	X	X	X					X	X
K. OTHER													
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE								6.0		6.0			
B. SMOOTH									2.0		2.0		
C. CAP SHEET		2.0	2.0	2.0	2.0	2.0	2.0					2.0	2.0
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE	NONE	NONE	N	N	NONE	NONE	NONE	N	NONE	N & S
18. YEAR OF FIRST COMMERCIAL USE		1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD													
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD													
20. SEE MEMBRANE APPENDIX IF CHECKED													

General information with test description and suggested values as specified in NBS BSS #55/1974

I-B-5-M	NN-B-5-M	N-B-5-G	N-B-5-C	N-B-5-M	I-O-5-M	NN-O-5-M
HOT	HOT	HOT	HOT	HOT	HOT	HOT
X		X	X	X	X	
	X					X
0-6	0-6	0-3	0-6	0-6	0-6	0-6
5	5	5	5	5	5	5
1	1	1	1	1		
3	3	4	4	3	4	4
1	1			1	1	1
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
		4				
		3				
		4				
			X			
			X			
			X			
X	X			X	X	X
		6.0				
			2.0			
3.0	3.0			3.0	3.0	3.0
NONE	NONE	NONE	NONE	NONE	NONE	NONE
1974	1974	1974	1974	1974	1974	1974

GS ROOFING PRODUCTS COMPANY INC.

2
YES
DISTRIBUTORS
NO
SEE COMMERCIAL ROOFING SYSTEMS MANUAL
COMMERCIAL ROOFING DEPT/REGION OFFICE
FLINTGLAS MS CAP SHEET (D 3909)
GLASBASE BASE SHEET (D 4601, TYPE I)
FLINTGLAS PLY SHEET TYPE VI (D 2178, TYPE VI)
FLINTGLAS PLY SHEET TYPE IV (D 2178, TYPE IV)
YOSEMITE MS BUFFER SHEET (D 249)
ALL WEATHER EMPIRE BASE SHEET (D 2626)
NO.15 PERFORATED FELT (D 226, TYPE I)
FLEXIGLAS PREMIUM CAP 960 (D 3909)
FLEXIGLAS BASE SHEET (D 4601, TYPE II)

[illegible]

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

GS ROOFING PRODUCTS COMPANY INC. 1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])											
8. SPECIFICATION NUMBER	M-N-B4	M-C-B3	M-N-B3	M-C-B5	M-N-B5	SR-C-B3	SR-N-B3	S-C-B4	S-N-B4	S-C-B3	S-N-B3
9. HOT AND/OR COLD APPLIED	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA
10. DECK TYPE											
A. NAILABLE	X		X		X		X		X		X
B. INSULATED	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE		X		X		X		X		X	
11. SLOPE REQUIREMENTS (range in inches)	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6
12. NUMBER OF PLIES											
A. TOTAL PLIES	4	3	3	5	5	3	3	4	4	3	3
B. BASE SHEET	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)	2	1	1	3	3	2	2	3	3	2	2
D. CAP SHEET	1	1	1	1	1						
13. TYPES OF FELT											
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC						X					
C. ASBESTOS											
D. POLYESTER											
E. OTHER											
14. INTERPLY ADHESIVE											
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT											
C. COAL TAR											
D. ELASTOMERIC ADHESIVE	X	X	X	X	X	X	X	X	X	X	X
15. SURFACING											
AGGREGATE											
A. GRAVEL (lbs./ft ²)											
B. SLAG (lbs./ft ²)											
C. CRUSHED ROCK (lbs./ft ²)											
SMOOTH											
D. ASPHALT											
E. COAL TAR											
F. EMULSION/CUTBACK						X	X	X	X	X	X
G. ALUMINUM COATING											
H. VINYL/VINYL COATING											
OTHER											
I. MINERAL GRANULES											
J. CAP SHEET	X	X	X	X	X						
K. OTHER											
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)											
A. AGGREGATE											
B. SMOOTH						1.90	1.70	1.80	1.60	1.50	1.30
C. CAP SHEET	2.10	1.80	1.70	2.40	2.21						
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	1	1	NONE	NONE	1&2	1&2	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE											
19. TEST RESULTS PER NBS BSS #55											
MD = MACHINE DIRECTION XD = CROSS DIRECTION											
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD											
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD											
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD											
20. SEE MEMBRANE APPENDIX IF CHECKED											

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

HENRY COMPANY

6
YES
DISTRIBUTORS
NO
CONTACT MANUFACTURER
JIM HAY/KEN JACOBS
HENRY 604 (D 4601, TYPE II)
HENRY 605 TYPE G3 (ASTM D 3909)
HENRY 607 (D 4601, TYPE II)
HENRY 184 RUFON E3N POLYESTER
HENRY 195 TIETEX T272 POLYESTER
HENRY 196 TIETEX T326 POLYESTER
HENRY 600 RUFTAC

HM107W	HM107-1C	HM107C	HM107-IC	HM107S	HM107LWC	HM106W	HM106IW	HCA 107W	HPC 203W	HCG 203W	HCG 403W	HCG 307W	HCG 403I
HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	HOT/CA	COLD	COLD	COLD	COLD	COLD	COLD	COLD	COLD
X	X				X	X	X	X	X	X	X	X	X
	X		X	X			X						X
		X	X	X							X		X
0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6
3	3	3	3	3	3	3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2
X	X	X	X	X	X	X	X	X	X	X	X	X	X
						X	X		X				
X	X	X	X	X	X	X							
X	X	X	X	X	X	X	X	X	X	X	X	X	X
										3	4		4
X	X	X	X	X	X	X	X	X	X				
X	X	X	X	X	X	X	X	X	X				
X	X	X	X	X	X	X	X	X	X				
										X		X	
										4.10	5.54	2.70	5.35
200	253	205	245	215	200	175	2.28	1.24	.84				
X	X	X	X	X	X	X							

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		W.P. HICKMAN											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		5 YES DIRECT YES SEE HICKMAN REP R. GALLION / K BRZOZOWSKI/ C FITZGERALD MULTI-PLY GLASS(D 4601, TYPE II) MULTI-PLY GLASS C/L(NONE) PERFORMANCE PLY(NONE) WEATHER PLY (NONE) POLYESTER PLY(NONE) PREMIUM PLY (ASTM D 2178, TYPE VI) PIKA PLY CAP SHEET HICKMAN PREMIUM CAP HK TARRED FELT (D 227)											
8. SPECIFICATION NUMBER		BUR PLUS GLASS/POLY- ESTER	BUR PLUS GLASS/POLY- ESTER	BUR PLUS PIKA PLY CAP SHEET	BUR PLUS 505	TAR PLUS	PERFORM- ANCE PLY MS + MS/FR	WEATHER PLY MA+MA/FR	PIKA PLY CAP SHEET	BUR PLUS GLASS	BUR PLUS GLASS	BUR PLUS POLY- ESTER	BUR PLUS POLY- ESTER
9. HOT AND/OR COLD APPLIED		HOT	HOT	HOT	HOT	HOT	COLD	COLD	COLD	HOT	HOT	HOT	HOT
10. DECK TYPE													
A. NAILABLE		X	X	X	X	X	X	X	X	X	X	X	X
B. INSULATED		X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE		X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)		1/8 - 3	1/8 - 3	1/8 - 3	0 - 1/2	0 - 1/2	1/8 - 4	1/8 - 4	1/8 - 4	1/8 - 3	1/8 - 3	1/8 - 3	1/8 - 3
12. NUMBER OF PLIES													
A. TOTAL PLIES		4	4	3	4	4	3	3	3	3	3	3	3
B. BASE SHEET		1	1		1								
C. INTERPLY(IES)		3	3	2	3	4	2	2	2	3	3	3	3
D. CAP SHEET				1			1	1	1				
13. TYPES OF FELT													
A. GLASS FIBER		X	X	X	X	X	X	X	X	X	X		
B. ORGANIC					X	X							
C. ASBESTOS													
D. POLYESTER		X	X	X	X	X	X	X	X			X	X
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT		X	X	X	X					X	X	X	X
B. MODIFIED ASPHALT		X	X	X						X	X	X	X
C. COAL TAR					X	X							
D. ELASTOMERIC ADHESIVE							X	X	X				
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)			4		4	4					4		4
B. SLAG (lbs./ft ²)													
C. CRUSHED ROCK (lbs./ft ²)													
SMOOTH													
D. ASPHALT													
E. COAL TAR													
F. EMULSION/CUTBACK		X								X		X	
G. ALUMINUM COATING		X								X		X	
H. VINYL/VINYL COATING		X								X		X	
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET				X	X		X	X	X				
K. OTHER													
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE			5.25		6.0	6.0					5.25		5.25
B. SMOOTH		1.90								1.85		1.80	
C. CAP SHEET				1.85			2.25	2.25	2.50				
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE		1985	1985	1985	1994	1985	1985	1995	1985	1985	1985	1985	1985
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD										260	260	275	275
-XD										245	245	255	255
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD													
-XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD													
-XD													
20. SEE MEMBRANE APPENDIX IF CHECKED													

General information with test description and suggested values as specified in NBS BSS #55/1974

INTEC/PERMAGLAS

6
YES
DISTRIBUTORS
YES
SEE BUILT-UP ROOFING SYSTEMS MANUAL
800/624-6832
COMBINATION BASE (D 4601, TYPE I)
ULTRA BASE (D 4601, TYPE I/II)
TOUGH PLY IV (D 2178, TYPE IV)
ULTRA PLY VI (D 2178, TYPE VI)
ULTRA CAP (D 3909)
PERMAVENT (D 4897, TYPE II)
FLEX BASE 30 (D 4601, TYPE II)

51

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

JOHNS MANVILLE INTERNATIONAL, INC. ROOFING SYSTEMS GROUP 10 YES DISTRIBUTORS YES SEE BUR PRODUCT & SPECIFICATIONS MANUAL REGIONAL OFFICE GLASPLY PREMIER (D 2178, TYPE VI) GLASPLY IV (D 2178, TYPE IV) GLASBASE (D 4601) PERMAPLY 28 GLASKAP (D 3909) VENTSULATION (D 4897, TYPE II) GLASTITE FLEXIBLE (NONE) GLASBASE PLUS (D 4601) DYNAFLEX (NONE)												
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])												
8. SPECIFICATION NUMBER	5GNS	4GIS	4GNS	3GIS	3GNS	4GIG	3GIG	5GNG	4GNG	3GNG	5GIC	5GNC
9. HOT AND/OR COLD APPLIED	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE												
A. NAILABLE	X		X		X			X	X	X		X
B. INSULATED		X		X		X	X				X	
C. NONNAILABLE		X		X		X	X				X	
11. SLOPE REQUIREMENTS (range in inches)	0-6	0-6	0-6	0-6	0-6	0-3	0-3	0-3	0-3	0-3	1/4-6	1/4-6
12. NUMBER OF PLIES												
A. TOTAL PLIES	5	4	4	3	3	4	3	5	4	3	5	5
B. BASE SHEET	1		1		1			1	1	1		1
C. INTERPLY(IES)	4	4	3	3	2	4	3	4	3	2	4	3
D. CAP SHEET											1	1
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT												
C. COAL TAR						X	X		X	X		
D. ELASTOMERIC ADHESIVE												
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)						4	4	4	4	4		
B. SLAG (lbs./ft ²)						3	3	3	3	3		
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT	X	X	X	X	X							
E. COAL TAR												
F. EMULSION/CUTBACK	X	X	X	X	X							
G. ALUMINUM COATING	X	X	X	X	X							
H. VINYL/VINYL COATING												
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET											X	X
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE						6.30	6.0	6.90	6.60	6.30		
B. SMOOTH	1.80	1.40	1.60	1.10	1.30							
C. CAP SHEET											2.40	2.40
17. RESTRICTED REGIONS (refer to manufacturer's literature)												
18. YEAR OF FIRST COMMERCIAL USE	1978	1976	1978	1980	1980	1978	1978	1978	1978	1980	1978	1978
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD		404 351	357 343	310 331	288 247	404 351	310 331		357 343	288 247		
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED												

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

4GIC	4GNC	3GIC	3GNC	5GLG	4GLG	3GLG
HOT	HOT	HOT	HOT	HOT	HOT	HOT
	X		X	X	X	X
X		X				
X		X				
1/4-6	1/4-6	1/4-6	1/4-6	0-3	0-3	0-3
4	4	3	3	5	4	3
1	1		1	1	1	1
3	2	2	1	4	3	2
1	1	1	1			
X	X	X	X	X	X	X
X	X	X	X	X	X	X
					X	X
X	X	X	X			
				6.9	6.3	6
2.0	2.20	2.0	1.80			
1978	2,3 1978	3 1978	3 1980	1978	1978	2,3 1978

KARNAK CORPORATION

7
NO
DISTRIBUTORS
NO
SEE KARNAK SPECIFICATIONS
800/526-4236
POLY-MAT REMAY INC
RESAT-MAT
43-LB. BASE CHOICE OF MANUFACTURERS
NO. 31 GLASS MEMBRANE (D1668)

P-21	P-22	P-23	P-24	AR SYSTEM	RC-W SYSTEM
COLD	COLD	COLD	COLD	COLD	COLD
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
0-6	0-6	0-6	0-6	0-6	0-6
1	2	3	4	1	1
1	2	1	1	1	1
		2	3		
X	X	X	X	X	X
X	X	X	X		
X	X	X	X		
X	X	X	X	X	X
4 3	4 3	4 3	4 3		
X	X	X	X	X	
X	X	X	X		
X	X	X	X	X	X
X	X	X	X	X	
X	X	X	X	X	
1.13	1.32	1.53	1.75	1.11	1.13
0.63	0.72	0.93	1.15	0.61	0.63
NONE 1965	NONE 1965	NONE 1965	NONE 1965	NONE 1972	NONE 1975

General information with test description and suggested values as specified in NBS BSS #55/1974

54

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

					MALARKEY ROOFING CO.												
					15 YES DISTRIBUTORS NO SEE MALARKEY SPEC MANUAL J. DECHANDT AND M. MALARKEY #515 STANDARD BASE (D 4601) #501 PREMIUM 1 SBS BASE (D 4601) #508 PREMIUM SBS VENTED BASE (D 4897) #601 HP POLYGLASS SBS MINERAL (D 5147) #602 ARCTIC SHIELD SBS BASE (D 4601) #603 SUPER BASE SBS (D 4601) #605 PANOPLY SBS BASE (D 4601) #1000 ESHAVENT THERMAL SBS (D 4897) #500 PREMIUM PLY (D 2178) #350 PREMIUM SBS MINERAL (D 5147) #502 PREMIUM MINERAL (D 3909) #506 SUPER 6 PLY TYPE VI (D 2178)												
495-3	IR-263	IR-273	IR-463	IR-473	M3-XHA M3-XIA	M3-AHA M3-AIA	M3-BHA M3-BIA	M4-XHA M4-XIA	M4-BHA M4-BIA	M4-EHA M4-EIA	M5-BHA M5-BIA	M5-EHA M5-EIA	S3-XHX S3-XIX	S3-XBX	S3-BBX	S3-XEX	S3-BEX
HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD
	X		X			X	X		X	X	X	X			X		X
X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
0-1/4	0-1/4	0-1/4	0-1/4	0-1/4	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6	0-6
3	4	3	4	3	3	3	3	4	4	4	5	5	3	3	3	3	3
	1		1		1	1		1	1	1	1	1			1		1
3	3	3	3	3	2	1	1	3	2	2	3	3	3	3	2	3	2
					1	1	1	1	1	1	1	1					
X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X															
					X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
														X	X	X	X
4 3	10.0	10.0	10.0	10.0													
													X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X					
5.50	11.50	11.50	11.50	11.50													
													1.32	1.89	1.64	2.49	2.04
NONE 1990	NONE 1991	NONE 1991	NONE 1991	NONE 1991	1.75 2,3	1.67 2,3	1.69 2,3	2.01 NONE	2.05 NONE	2.25 NONE	2.41 NONE	2.61 NONE	2,3	2,3	2,3	2,3	2,3
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

MALARKEY ROOFING CO.												
1. NUMBER OF REGIONAL SERVICE LOCATIONS:	15											
2. LICENSED APPLICATOR AGREEMENT (yes/no):	YES											
3. DISTRIBUTION METHOD (distributors and/or direct):	DISTRIBUTORS											
4. PREFORMED ACCESSORIES AVAILABLE (yes/no):	NO											
5. LIMITATIONS/RESTRICTIONS:	SEE MALARKEY SPEC MANUAL											
6. FOR SALES/TECHNICAL INFORMATION:	J. DECHANDT AND M. MALARKEY											
7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])	<div> <div> #515 STANDARD BASE (D 4601) #501 PREMIUM 1 SBS BASE (D 4601) #508 PREMIUM SBS VENTED BASE (D 4897) #601 HP POLYGLASS SBS MINERAL (D 5147) #602 ARCTIC SHIELD SBS BASE (D 4601) #603 SUPER BASE SBS (D 4601) #605 PANOPLY SBS BASE (D 4601) #1000 ESHAVENT THERMAL SBS (D 4897) #500 PREMIUM PLY (D 2178) #350 PREMIUM SBS MINERAL (D 5147) #502 PREMIUM MINERAL (D 3909) #506 SUPER 6 PLY TYPE VI (D 2178) </div> <div> #625 PARAGON SBS MINERAL (D 5147) #650 PANOPLY SBS MINERAL (D 5147) #917 POLYGLASS SBS MINERAL (D 5147) #919 POLYGLASS SBS SMOOTH (D 5147) #159 APP SMOOTH (D 5147) #160 APP SMOOTH (D 5147) #161 APP MINERAL (D 5147) #162 APP MINERAL (D 5147) #916 SBS WALK BOARD </div> </div>											
8. SPECIFICATION NUMBER	S4-BBX	G3-XHX G3-XIX	G4-XHX G4-XIX	G3-BHX G3-BIX	G4-BHX G4-BIX	S2-BXF	S2-CXF	S2-DXF	S4-BEX	S4-EEX	S4-AHX S4-AIX	S4-BHX S4-BIX
9. HOT AND/OR COLD APPLIED	HOT/CLD	HOT	HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD
10. DECK TYPE												
A. NAILABLE	X			X	X	X	X	X	X	X		X
B. INSULATED	X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE	X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)	0-6	0-3	0-3	0-3	0-3	3-0	3-0	3-0	0-6	0-6	0-6	0-6
12. NUMBER OF PLIES												
A. TOTAL PLIES	4	3	4	3	4	2	2	2	4	4	4	4
B. BASE SHEET	1			1	1	1	1	1	1	1		1
C. INTERPLY(IES)	3	3	4	2	3				3	3	4	3
D. CAP SHEET						1	1	1				
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
C. COAL TAR												
D. ELASTOMERIC ADHESIVE	X					X	X	X	X	X		
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)		4	4	4	4							
B. SLAG (lbs./ft ²)												
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT												
E. COAL TAR												
F. EMULSION/CUTBACK	X					X	X	X	X	X	X	X
G. ALUMINUM COATING												
H. VINYL/VINYL COATING												
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET						X	X	X				
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE		5.68	6.04	5.62	5.98							
B. SMOOTH	2.19											
C. CAP SHEET						2.19	2.36	2.64	2.79	2.99	1.60	1.62
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	2,3	2,3
18. YEAR OF FIRST COMMERCIAL USE												
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD												
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

G3-BBX	G3-EEX	G4-BBX	S2-EXF	S3-BBF	S3-EBF	S3-EEF	S3-FHF S3-FIF	S3-FBF	S3-FEF	S4-BBF	S4-EBF	A2-BXF	A2-CXF	A2-DXF	A2-EXF	A3-BBF	A3-EBF
HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD
X	X	X	X	X	X	X				X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
3	3	4	2	3	3	3	3	3	3	4	4	2	2	2	2	3	3
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	3		1	1	1	1	1	1	2	2					1	1
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X				X	X	X	X	X	X	X	X
4	4	4															
			X	X	X	X	X	X	X	X	X		X	X	X	X	X
			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6.00	6.60	6.55															
			2.39	2.74	2.94	3.14	2.63	2.82	3.02	3.29	3.03	2.13	2.32	2.58	2.33	2.68	2.88
2.3	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

MALARKEY ROOFING CO.												
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])	15 YES DISTRIBUTORS NO SEE MALARKEY SPEC MANUAL J. DECHANDT AND M. MALARKEY #515 STANDARD BASE (D 4601) #501 PREMIUM 1 SBS BASE (D 4601) #508 PREMIUM SBS VENTED BASE (D 4897) #601 HP POLYGLASS SBS MINERAL (D 5147) #602 ARCTIC SHIELD SBS BASE (D 4601) #603 SUPER BASE SBS (D 4601) #605 PANOPLY SBS BASE (D 4601) #1000 ESHAVENT THERMAL SBS (D 4897) #500 PREMIUM PLY (D 2178) #350 PREMIUM SBS MINERAL (D 5147) #502 PREMIUM MINERAL (D 3909) #506 SUPER 6 PLY TYPE VI (D 2178) #625 PARAGON SBS MINERAL (D 5147) #650 PANOPLY SBS MINERAL (D 5147) #917 POLYGLASS SBS MINERAL (D 5147) #919 POLYGLASS SBS SMOOTH (D 5147) #159 APP SMOOTH (D 5147) #160 APP SMOOTH (D 5147) #161 APP MINERAL (D 5147) #162 APP MINERAL (D 5147) #916 SBS WALK BOARD											
8. SPECIFICATION NUMBER	A4-BBF	A4-EBF	M2-CXB	M2-DXB	M2-EXB	M3-BHB M3-BIB	M3-BBB	M3-BCB	M3-BDB	M3-EHB M3-EIB	M3-EBB	M3-EEB
9. HOT AND/OR COLD APPLIED	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD	HOT/CLD
10. DECK TYPE												
A. NAILABLE	X	X				X	X	X	X	X	X	X
B. INSULATED	X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE	X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
12. NUMBER OF PLIES												
A. TOTAL PLIES	4	4	2	2	2	3	3	3	3	3	3	3
B. BASE SHEET	1	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)	2	2				1	1	1	1	1	1	1
D. CAP SHEET	1	1	1	1	1	1	1	1	1	1	1	1
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
C. COAL TAR												
D. ELASTOMERIC ADHESIVE	X	X	X	X	X		X	X	X		X	X
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)												
B. SLAG (lbs./ft ²)												
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT												
E. COAL TAR												
F. EMULSION/CUTBACK												
G. ALUMINUM COATING	X	X										
H. VINYL/VINYL COATING												
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET	X	X	X	X	X	X	X	X	X	X	X	X
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE												
B. SMOOTH												
C. CAP SHEET	3.23	3.43	1.99	2.27	2.02	1.93	2.12	2.29	2.57	2.12	2.32	2.52
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE												
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD												
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

M3-FHB M3-FIB	M3-FBB	M3-FEB	M4-BHB M4-BIB	M4-BBB	M4-EBB	M4-FHB M4-FIB	M4-FBB	M4-FEB	M5-BHB M5-BIB	M5-EHB M5-EIB	M2-CXC	M2-DXC	M2-EXC	M3-BHC M3-BIC	M3-BBC	M3-EHC M3-EIC	M3-EBC	M3-EEC
HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT	HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD	HOT	HOT/CLD	HOT/CLD
			X	X	X				X	X				X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
3	3	3	4	4	4	4	4	4	5	5	2	2	2	3	3	3	3	3
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	2	2	2	2	2	2	3	3				1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			X	X	X						X	X	X		X		X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.01	2.45	2.40	2.29	2.67	2.87	2.37	2.75	3.15	2.61	2.85	1.99	2.27	2.02	1.91	2.12	2.13	2.32	2.52
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		MALARKEY ROOFING CO.											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		15 YES DISTRIBUTORS NO SEE MALARKEY SPEC MANUAL J. DECHANDT AND M. MALARKEY #515 STANDARD BASE (D 4601) #501 PREMIUM 1 SBS BASE (D 4601) #508 PREMIUM SBS VENTED BASE (D 4897) #601 HP POLYGLASS SBS MINERAL (D 5147) #602 ARCTIC SHIELD SBS BASE (D 4601) #603 SUPER BASE SBS (D 4601) #605 PANOPLY SBS BASE (D 4601) #1000 ESHAVENT THERMAL SBS (D 4897) #500 PREMIUM PLY (D 2178) #350 PREMIUM SBS MINERAL (D 5147) #502 PREMIUM MINERAL (D 3909) #506 SUPER 6 PLY TYPE VI (D 2178) #625 PARAGON SBS MINERAL (D 5147) #650 PANOPLY SBS MINERAL (D 5147) #917 POLYGLASS SBS MINERAL (D 5147) #919 POLYGLASS SBS SMOOTH (D 5147) #159 APP SMOOTH (D 5147) #160 APP SMOOTH (D 5147) #161 APP MINERAL (D 5147) #162 APP MINERAL (D 5147) #916 SBS WALK BOARD											
8. SPECIFICATION NUMBER		M3-FHC M3-FIC	M3-FBC	M3-FCC	M3-FDC	M3-FEC	M4-BHC M4-BIC	M4-BBC	M4-EHC M4-EIC	M4-EBC	M4-FHC M4-FIC	M4-FBC	M4-FEC
9. HOT AND/OR COLD APPLIED		HOT	HOT	HOT	HOT	HOT	HOT	HOT/CLD	HOT	HOT/CLD	HOT	HOT	HOT
10. DECK TYPE													
A. NAILABLE							X	X	X	X			
B. INSULATED		X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE		X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)		0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
12. NUMBER OF PLIES													
A. TOTAL PLIES		3	3	3	3	3	4	4	4	4	4	4	4
B. BASE SHEET		1	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)		1	1	1	1	1	2	2	2	2	2	2	2
D. CAP SHEET		1	1	1	1	1	1	1	1	1	1	1	1
13. TYPES OF FELT													
A. GLASS FIBER		X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC													
C. ASBESTOS													
D. POLYESTER													
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
C. COAL TAR													
D. ELASTOMERIC ADHESIVE								X		X			
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)													
B. SLAG (lbs./ft ²)													
C. CRUSHED ROCK (lbs./ft ²)													
SMOOTH													
D. ASPHALT													
E. COAL TAR													
F. EMULSION/CUTBACK													
G. ALUMINUM COATING													
H. VINYL/VINYL COATING													
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET		X	X	X	X	X	X	X	X	X	X	X	X
K. OTHER													
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE													
B. SMOOTH													
C. CAP SHEET		2.01	2.20	2.37	2.65	2.40	2.04	2.67	2.49	2.87	2.37	2.75	3.15
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE													
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD													
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD													
20. SEE MEMBRANE APPENDIX IF CHECKED		X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

M5-BHC M5-BIC	M5-BBC	M5-EBC	M5-FHC M5-FIC	M5-FBC	M2-CXD	M2-DXD	M2-EXD	M3-BHD M3-BID	M3-BBD	M3-EHD M3-EID	M3-EBD	M3-EED	M3-FHD M3-FID	M3-FBD	M3-FED	M4-BHD M4-BID	M4-BBD	M4-EHD M4-EID
HOT	HOT/CLD	HOT/CLD	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD	HOT	HOT/CLD	HOT/CLD	HOT	HOT	HOT	HOT	HOT/CLD	HOT
X	X	X						X	X	X	X	X				X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
5	5	5	5	5	2	2	2	3	3	3	3	3	3	3	3	4	4	4
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	3	3	3	3				1	1	1	1	1	1	1	1	2	2	2
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X			X	X	X		X		X	X					X	
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.61	3.22	3.42	2.59	3.30	2.17	2.45	2.20	2.11	2.30	2.31	2.50	2.70	2.19	2.38	2.58	2.47	2.85	2.67
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

General information with test description and suggested values as specified in NBS BSS #55/1974

62

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

M3-BBE	M3-EBE	M3-EEE	M4-BHD M4-BID	M4-BBD	M4-EHD M4-EID	M4-EBD	M4-FHD M4-FID	M4-FBD	M4-FED	M5-EHD M5-EID	M5-EBD	M5-FHD M5-FID	M5-FBD	M2-BXE	M2-CXE	M2-DXE	M2-EXE	M3-BBE
HOT/CLD	HOT/CLD	HOT/CLD	HOT	HOT/CLD	HOT	HOT/CLD	HOT	HOT	HOT	HOT	HOT/CLD	HOT	HOT	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD	HOT/CLD
X	X	X	X	X	X	X					X							X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
3	3	3	4	4	4	4	4	4	4	5	5	5	5	2	2	2	2	3
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	2	2	2	2	2	2	2	3	3	3	2					1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X		X		X					X			X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.70	2.90	3.10	2.47	2.85	2.67	3.05	2.55	2.93	3.33	3.03	3.60	2.91	3.48	2.15	2.32	2.60	2.35	2.70
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

MALARKEY ROOFING CO.												
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])	15 YES DISTRIBUTORS NO SEE MALARKEY SPEC MANUAL J. DECHANDT AND M. MALARKEY #515 STANDARD BASE (D 4601) #501 PREMIUM 1 SBS BASE (D 4601) #508 PREMIUM SBS VENTED BASE (D 4897) #601 HP POLYGLASS SBS MINERAL (D 5147) #602 ARCTIC SHIELD SBS BASE (D 4601) #603 SUPER BASE SBS (D 4601) #605 PANOPLY SBS BASE (D 4601) #1000 ESHAVENT THERMAL SBS (D 4897) #500 PREMIUM PLY (D 2178) #350 PREMIUM SBS MINERAL (D 5147) #502 PREMIUM MINERAL (D 3909) #506 SUPER 6 PLY TYPE VI (D 2178) #625 PARAGON SBS MINERAL (D 5147) #650 PANOPLY SBS MINERAL (D 5147) #917 POLYGLASS SBS MINERAL (D 5147) #919 POLYGLASS SBS SMOOTH (D 5147) #159 APP SMOOTH (D 5147) #160 APP SMOOTH (D 5147) #161 APP MINERAL (D 5147) #162 APP MINERAL (D 5147) #916 SBS WALK BOARD											
8. SPECIFICATION NUMBER	M3-EBE	M3-EEE	M3-FHE M3-FIE	M3-FBE	M3-FEE	M4-BBE	M4-EBE	F2-BXG	F2-EXG	F3-BHG F3-BIG	F3-BBG	F3-EHG F3-EIG
9. HOT AND/OR COLD APPLIED	HOT/CLD	HOT/CLD	HOT	HOT	HOT	HOT/CLD	HOT/CLD	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE												
A. NAILABLE	X	X				X	X			X	X	X
B. INSULATED	X	X	X	X	X	X	X	X	X	X	X	X
C. NONNAILABLE	X	X	X	X	X	X	X	X	X	X	X	X
11. SLOPE REQUIREMENTS (range in inches)	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	NONE	NONE	NONE	NONE
12. NUMBER OF PLIES												
A. TOTAL PLIES	3	3	3	3	3	4	4	2	2	3	3	3
B. BASE SHEET	1	1	1	1	1	1	1	1	1	1	1	1
C. INTERPLY(IES)	1	1	1	1	1	2	2			1	1	1
D. CAP SHEET	1	1	1	1	1	1	1	1	1	1	1	1
13. TYPES OF FELT												
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC												
C. ASBESTOS												
D. POLYESTER												
E. OTHER												
14. INTERPLY ADHESIVE												
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT	X	X	X	X	X	X	X	X	X	X	X	X
C. COAL TAR												
D. ELASTOMERIC ADHESIVE	X	X				X	X					
15. SURFACING												
AGGREGATE												
A. GRAVEL (lbs./ft ²)												
B. SLAG (lbs./ft ²)												
C. CRUSHED ROCK (lbs./ft ²)												
SMOOTH												
D. ASPHALT												
E. COAL TAR												
F. EMULSION/CUTBACK												
G. ALUMINUM COATING												
H. VINYL/VINYL COATING												
OTHER												
I. MINERAL GRANULES												
J. CAP SHEET	X	X	X	X	X	X	X	X	X	X	X	X
K. OTHER												
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)												
A. AGGREGATE												
B. SMOOTH												
C. CAP SHEET	2.90	3.10	2.59	2.78	2.98	3.25	3.45	1.55	1.75	1.91	2.10	2.11
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE												
19. TEST RESULTS PER NBS BSS #55												
MD = MACHINE DIRECTION XD = CROSS DIRECTION												
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD												
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD												
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD												
20. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X	X	X	X	X	X	X

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

MFM BUILDING PRODUCTS CORP.

YES

NO

STEVE FOSTER/WES SIMPSON
DURAPLY IV (D 3178, TYPE IV)
DURABASE (NONE)
POLYPLY (NONE)

43- GAW	43- GSW	43- GAC	44- GSC	52- PAW	52- PSW	52- PSC	52- PAC
HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
X	X			X	X		
		X	X			X	X
		X	X			X	X
1/2 - 3	1/2 - 6	1/2 - 3	1/2 - 6	1/2 - 3	1/2 - 3	1/2 - 3	1/2 - 3
4	4	3	4	3	3	2	2
1	1			1			
3	3	3	4	2	2	2	2
X	X	X	X				
				X	X	X	X
X	X	X	X	X	X	X	X
4		4		4			4
	X		X				
	X		X		X	X	
6.0	2.0	6.0	2.0	5.0	2.0	2.0	6.0
1976	1976	1976	1976	1982	1982	1982	1982
343 257	343 257	293 241	382 333				
23.5 27.9	23.5 27.9	18.8 16.8	21.7 21.3				
687 523	687 523	840 840	866 883				
X	X	X	X	X	X	X	X

SOUTHWESTERN PETROLEUM CORPORATION

NO

DIRECT

NO

SEE COLD PROCESS BUR SYSTEM 301 APPLICATION GUIDE

R. KLEINTOP

ASPHALT ROLL ROOFING (D 2626)

COLD PRO- CESS BUR 301 SYSTEM
COLD
X
X
X
1/4 & UP
3
3
X
X
4-6
X
X
X
X
6.7
1.5
NONE
1971

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		TAMKO ROOFING PRODUCTS INC. 27 YES DISTRIBUTORS NO SEE TAMKO COMMERCIAL ROOFING MANUAL DISTRICT OFFICE/TECHNICAL SERVICE TYPE 43 BASE (D 2626) TAM CAP (3909), TAM-PLY IV (D 2178 TYPE IV) VAPOR CHAN (D 4897 TYPE II) GLASS-BASE (D 4601 TYPE II) TAM-GLASS PREMIUM (D 2178, TYPE VI) TAM-PLY IV (D 2178 TYPE IV) BASE-N-PLY (D4601 TYPE II)									
8. SPECIFICATION NUMBER	501 601	502 602	503 603	504 604	505 605	507 607	512 612	514 614	515 615	516 616	
9. HOT AND/OR COLD APPLIED	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	
10. DECK TYPE											
A. NAILABLE							X	X	X	X	
B. INSULATED	X	X	X	X	X	X					
C. NONNAILABLE											
11. SLOPE REQUIREMENTS (range in inches)	0-3	0-3	0-3	0-3	0-3	0-3	0-1 1/2	0-3	0-3	0-1	
12. NUMBER OF PLIES											
A. TOTAL PLIES	3	4	4	3	4	5	4	4	4	4	
B. BASE SHEET							1	1	1	1	
C. INTERPLY(IES)	3	3	4	3	4	4	2	3	3	3	
D. CAP SHEET		1				1	1				
13. TYPES OF FELT											
A. GLASS FIBER	X	X	X	X	X	X	X	X	X	X	
B. ORGANIC							X	X		X	
C. ASBESTOS											
D. POLYESTER											
E. OTHER											
14. INTERPLY ADHESIVE											
A. ASPHALT	X	X	X	X	X	X	X	X	X	X	
B. MODIFIED ASPHALT											
C. COAL TAR											
D. ELASTOMERIC ADHESIVE											
15. SURFACING											
AGGREGATE											
A. GRAVEL (lbs./ft ²)	4		4					4	4		
B. SLAG (lbs./ft ²)	3		3					3	3		
C. CRUSHED ROCK (lbs./ft ²)											
SMOOTH											
D. ASPHALT				X	X					X	
E. COAL TAR											
F. EMULSION/CUTBACK				X	X					X	
G. ALUMINUM COATING				X	X					X	
H. VINYL/VINYL COATING											
OTHER											
I. MINERAL GRANULES											
J. CAP SHEET		X				X	X				
K. OTHER											
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)											
A. AGGREGATE	6.0		6.0					6.0	7.0		
B. SMOOTH				1.50	1.50					1.50	
C. CAP SHEET		2.0				2.1	2.0				
17. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	YES	NONE	NONE	NONE	NONE	NONE	NONE	
18. YEAR OF FIRST COMMERCIAL USE											
19. TEST RESULTS PER NBS BSS #55											
MD = MACHINE DIRECTION XD = CROSS DIRECTION											
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD -XD											
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD -XD											
C. THERMAL BASE SHOCK (not < 100°F) -MD -XD											
20. SEE MEMBRANE APPENDIX IF CHECKED											

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

TREMCO, INC.

18
YES
DIRECT
YES
SEE TREMCO REP
SALES OFFICE/TECHNICAL DEPT.
BURMASTIC COMPOSITE PLY SHEET (NONE)
BURMASTIC GLASS PLY SHEET(D 4601, TYPE II)
THERMGLASS ROOFING PLY (D 2178, TYPE VI)
POLYTHERM PLY SHEET (NONE)

BURMAS- TIC 100	BURMAS- TIC 100	BURMAS- TIC 200	BURMAS- TIC 200	THERM 100	BURMAS- TIC 100	BURMAS- TIC 100	BURMAS- TIC 200	BURMAS- TIC 200	THERM 100	THERM 100	THERM 200	THERM 200
COLD	COLD	COLD	COLD	HOT	COLD	COLD	COLD	COLD	HOT	HOT	HOT	HOT
X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X
1/8 - 4	1/8 - 4	1/8 - 4	1/8 - 4	1/8 - 3	1/8 - 4	1/8 - 4	1/8 - 4	1/8 - 4	1/8 - 3	1/8 - 3	1/8 - 3	1/8 - 3
3	3	3	3	3	3	3	3	3	3	3	3	3
X	X			X	X	X			X	X		
		X	X				X	X			X	X
X	X	X	X		X	X	X	X				
				X					X	X	X	X
	4.0		4.0			4.0		4.0		4.0		4.0
X		X		X	X		X		X		X	
X		X		X	X		X		X		X	
X		X		X	X		X		X		X	
X		X		X	X		X		X		X	
X		X		X	X		X		X		X	
	5.70		5.70			5.70		5.70		5.20		5.0
2.30		2.30		1.80	2.30		2.30		1.80		1.60	
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
1978	1978	1986	1986	1982	1978	1978	1986	1986	1982	1982	1983	1983
330 295	330 295	390 400	390 400	255 240	330 295	330 295	390 400	390 400	255 240	255 240	265 225	265 225

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

		TRI-PLY											
1. NUMBER OF REGIONAL SERVICE LOCATIONS: 2. LICENSED APPLICATOR AGREEMENT (yes/no): 3. DISTRIBUTION METHOD (distributors and/or direct): 4. PREFORMED ACCESSORIES AVAILABLE (yes/no): 5. LIMITATIONS/RESTRICTIONS: 6. FOR SALES/TECHNICAL INFORMATION: 7. FELTS DATA: TRADE NAME (applicable ASTM standard), (metric [39 3/8-in. wide])		5 YES DISTRIBUTORS YES SEE TRI-PLY DOMINIC MORAN/ROBERT WHITE EAGLE BASE ULTRA TYPE I/II EAGLE BONDABLE 28 TYPE I/II EAGLE SUPER GLASS TYPE III EAGLE TOUGH GLASS TYPE IV EAGLE ULTRA GLASS TYPE VI EAGLE CAP (3909)											
8. SPECIFICATION NUMBER		I-5-4P-M	I-4-4P-G	I-4-4P-S	I-4-3P	I-3-3P-G	I-3-3P-S	I-3-2P-M	N-3-B2P-G	N-3-B2P-S	N-3-BP-M	N-4-B3P-G	N-4-B3P-S
9. HOT AND/OR COLD APPLIED		HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT	HOT
10. DECK TYPE													
A. NAILABLE		X	X	X	X				X	X	X	X	X
B. INSULATED						X	X	X					
C. NONNAILABLE													
11. SLOPE REQUIREMENTS (range in inches)		0-6	0-3	0-6	0-6	0-3	0-6	0-6	0-3	0-6	0-6	0-3	0-6
12. NUMBER OF PLIES													
A. TOTAL PLIES		5	4	4	4	3	3	3	3	3	3	4	4
B. BASE SHEET					3			2	1	1	1	1	1
C. INTERPLY(IES)		4	4	4		3	3	1	2	2	1	3	3
D. CAP SHEET		1			1						1		
13. TYPES OF FELT													
A. GLASS FIBER		X	X	X	X	X	X	X	X	X	X	X	X
B. ORGANIC													
C. ASBESTOS													
D. POLYESTER													
E. OTHER													
14. INTERPLY ADHESIVE													
A. ASPHALT		X	X	X	X	X	X	X	X	X	X	X	X
B. MODIFIED ASPHALT													
C. COAL TAR													
D. ELASTOMERIC ADHESIVE													
15. SURFACING													
AGGREGATE													
A. GRAVEL (lbs./ft ²)			4			4			4			4	
B. SLAG (lbs./ft ²)			3			3			3			3	
C. CRUSHED ROCK (lbs./ft ²)													
SMOOTH													
D. ASPHALT				X			X			X			X
E. COAL TAR													
F. EMULSION/CUTBACK				X			X			X			X
G. ALUMINUM COATING				X			X			X			X
H. VINYL/VINYL COATING													
OTHER													
I. MINERAL GRANULES													
J. CAP SHEET		X			X			X			X		
K. OTHER													
16. WEIGHT, INCLUDING PLIES (approx. lbs./ft ²)													
A. AGGREGATE													
B. SMOOTH													
C. CAP SHEET													
17. RESTRICTED REGIONS (refer to manufacturer's literature)		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18. YEAR OF FIRST COMMERCIAL USE		1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985
19. TEST RESULTS PER NBS BSS #55													
MD = MACHINE DIRECTION													
XD = CROSS DIRECTION													
A. TENSILE STRENGTH (>200 lb/in @ 0°F) -MD													
-XD													
B. THERMAL EXPANSION (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) -MD													
-XD													
C. THERMAL BASE SHOCK (not < 100°F) -MD													
-XD													
20. SEE MEMBRANE APPENDIX IF CHECKED													

Built-up Roofing

General information with test description and suggested values as specified in NBS BSS #55/1974

N-4- B2P-M	NN-3 B2P-G	NN-3 B2P-S	NN-3 BP-M	N-5 B3P-M	NN-5-B 3P-M	NN-4 B3P-G	NN-4 B3P-S	NN-4 B2P-M
HOT	HOT	HOT	HOT		HOT	HOT	HOT	HOT
X				X				
	X	X	X		X	X	X	X
0-6	0-3	0-6	0-6	0-6	0-6	0-3	0-6	0-6
4	3	3	3	5	5	4	4	4
1	1	1	1	1	1	1	1	1
2	2	2	1	3	3	3	3	2
1			1	1	1			1
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
		4				4		
		3				3		
			X				X	
			X				X	
			X				X	
X			X	X	X			X
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
1985	1985	1985	1985	1985	1985	1985	1985	1985

Modified Bitumen Part 1: General Information

1. COMPANY NAME	AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.
2. PRODUCT NAME	AL-FLEX, G	AL-FLEX, S	AL-KOAT, PG-40	AL-KOAT, PA-30	AL-KOAT, VG-30	AL-KOAT, VA-20	AL-KOAT, PG-45T
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	160	160	120	120	80	170
C. TOP SURFACE	GRANULES	SMOOTH	GRANULE	SMOOTH	GRANULES	SMOOTH	GRANULES
D. REINFORCING MATERIAL	NON-WOVEN POLYESTER	NON-WOVEN POLYESTER	NON-WOVEN POLYESTER	NON-WOVEN POLYESTER	NON-WOVEN GLASS	NON-WOVEN GLASS	NON-WOVEN POLYESTER
E. COLOR(S)	BLACK/WHITE/ BUFF/RED/ BROWN/GREEN		BLACK/WHITE		BLACK/WHITE		BLACK/WHITE
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.02	0.97	1.02	0.79	0.84	0.75	1.14
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	GRANULAR SHEET	NONE	GRANULAR SHEET	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)	TORCH	TORCH	MOP/TORCH/ADH.	MOP/TORCH/ADH.	MOP/TORCH/ADH.	MOP/TORCH/ADH.	TORCH
C. FULLY ADHERED (method)							
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIREC	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X O	X O	X O	X O	X O	X O	X O
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	X O	X O	X O	X O	X O	X O	X O
G. PERLITE	X O	X O	X O	X O	X O	X O	X O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	X O	X O	X O	X O	X O	X O	X O
K. CONCRETE	X O	X O	X O	X O	X O	X O	X O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS
11. WORKABLE TEMPERATURE RANGE (degrees F)	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	GRANULAR SHEET	SAME MATERIAL	GRANULAR SHEET	SAME MATERIAL
13. FLASHING METHOD	TORCH	TORCH	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO
B. MANFACTURE	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO	MEXICO
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1982	1982	1982	1982	1982	1982	1982
B. WITHIN USA	1992	1992	1992	1992	1992	1992	1992
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	1	1	1	1	1	1	1
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/3AL-KOAT	800/3AL-KOAT	800/3AL-KOAT	800/3AL-KOAT	800/3AL-KOAT	800/3AL-KOAT	800/3AL-KOAT
22. FOR TECHNICAL INFORMATION, CONTACT:	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT	C. HICKEY 800/3AL-KOAT
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

AL-KOAT INC.	AL-KOAT INC.	AL-KOAT INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.
AL-KOAT, PA-40T	AL-KOAT, VG-35T	AL-KOAT, VA-30T	INFINITEE 30 BMC FR	INFINITEE 20 SM	INFINITEE 30 GMC	INFINITEE ST	INFINITEE GTC	INFINITEE GTC-FR	MILLENNIUM BASE SHEET
SBS 160 SMOOTH	SBS 130 GRANULES	SBS 120 SMOOTH	SBS 160 GRANULES	SBS 82 SMOOTH	SBS 160 GRANULES	APP 160 SMOOTH	APP 160 GRANULES	APP 160 GRANULES	TARDYNE 80 SMOOTH
NON-WOVEN POLYESTER	NON-WOVEN GLASS	NON-WOVEN GLASS	POLYESTER	FIBERGLASS	POLYESTER	POLYESTER	POLYESTER	POLYESTER	FIBERGLASS
	BLACK/WHITE		WHITE/BLACK	BLACK	WHITE/BLACK	BLACK	WHITE/BLACK	WHITE/BLACK	BLACK
1.01	0.92	0.79	1.05	0.65	0.90	0.80	1.05	1.05	0.53
GRANULAR SHEET	NONE	GRANULAR SHEET	NONE	CAP SHEET	NONE	NONE	NONE	NONE	CAP SHEET
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	HOT MOP OR COLD	HOT MOP OR COLD	HOT MOP OR COLD	TORCH	TORCH	TORCH	HOT MOP, HEAT WELD, COLD
TORCH	TORCH	TORCH	HOT MOP	HOT MOP	HOT MOP	TORCH	TORCH	TORCH	
			HOT MOP/COLD	HOT MOP/COLD	HOT MOP/COLD	TORCH	TORCH	TORCH	HOT MOP/COLD
X	X	X	X	X	X	X	X	X	X
POS. DRAIN	POS. DRAIN	POS. DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	NONE
X O	X O	X	O	O	O	O	O	O	X
O	O	O	O	O	O	O	O	O	
O	O	O	O	O	O	O	O	O	
O	O	O	O	O	O	O	O	O	X
X O	X O	X	O	X	O	O	O	O	O X
X O	X O	X	O	X	O	O	O	O	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X O	X O	X	O	O	O	O	O	O	O
X O	X O	X	O	O	O	O	O	O	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
SEE SPECS	SEE SPECS	SEE SPECS							
20 - 115	20 - 115	20 - 115	30 - 100	30 - 100	30 - 100	40 - 100	40 - 100	40 - 100	30 - 100
GRANULAR SHEET	SAME MATERIAL	GRANULAR SHEET	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH	TORCH	TORCH	HOT MOP OR MOD BIT FLASH-ING CEMENT	HOT MOP OR MOD BIT FLASH-ING CEMENT	HOT MOP OR MOD BIT FLASH-ING CEMENT	TORCH	TORCH	TORCH	MOD BIT FLASHING CEMENT
NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
MEXICO MEXICO	MEXICO MEXICO	MEXICO MEXICO	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1982 1992	1982 1992	1982 1992	1989	1992	1986	1985	1986	1986	1994
MILLIONS MILLIONS	MILLIONS MILLIONS	MILLIONS MILLIONS							
DISTRIBUTORS 1 YES	DISTRIBUTORS 1 YES	DISTRIBUTORS 1 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES	DISTR.DIRECT 6 YES
800/3AL-KOAT C. HICKEY 800/3AL-KOAT	800/3AL-KOAT C. HICKEY 800/3AL-KOAT	800/3AL-KOAT C. HICKEY 800/3AL-KOAT	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES

Modified Bitumen Part 1: General Information

1. COMPANY NAME	ALLIED SIGNAL, INC.	ALLIED SIGNAL, INC.	AMERICAN LUBRICANTS CO. INC.	ANDEK CORP.	BARRETT CO.	BARRETT CO.	BARRETT CO.
2. PRODUCT NAME	MILLENNIUM SMOOTH MOP	MILLENNIUM GRANULATED MOP CAP	TIFFANY	FLASHBAND-28	RAM-TOUGH 400-PS	RAM 306	RAM 306 FR
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	TARDYNE	TARDYNE	APP	APE	SBS	SBS	SBS
B. THICKNESS (mils)	120	150	157	52			
C. TOP SURFACE	SMOOTH	SMOOTH	MODIFIED BITUMEN	ALUMINUM	POLY-PROPYLENE POLYESTER	GRANULAR	GRANULAR
D. REINFORCING MATERIAL	FIBERGLASS	FIBERGLASS	NONWOVEN POLYESTER FABRIC	NONE	POLYESTER	POLYESTER	POLYESTER
E. COLOR(S)	BLACK	GRAY/BLACK	BLACK	SILVER	BLACK/WHITE	VARIOUS	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.75	0.87	1	0.33			
4. KINDS OF FIELD SURFACING REQUIRED	CAP SHEET	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP, HEAT WELD, COLD	HOT MOP, HEAT WELD, COLD	TORCH	PRESSURE BOND	SELF-ADHERING	HOT MOP	HOT MOP
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	HOT MOP/COLD	HOT MOP/COLD	TORCH	SELF-ADHERING	SELF-ADHERED	HOT MOP	HOT MOP
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X		X	X	X	X
8. MINIMUM SLOPE REQUIREC	NONE	NONE	POS DRAIN	NONE	TO DRAIN	TO DRAIN	TO DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	O	X		X	X
B. MINERAL FIBER			O	X			
C. POLYSTYRENE			O	X			
D. CELLULAR GLASS	X	X	O	X		X	X
E. PHENOLIC		O	O	X			
F. FIBERBOARD	X	X	O	X		X	X
G. PERLITE	X	X	O	X		X	X
H. POLYISOCYANURATE		O	O	X			O
I. POLYURETHANE		O	O	X			
J. GYPSUM		O	O	X	O	O	O
K. CONCRETE	X	X	X	X	X	X	X
L. WOOD PLANK		O	O	X	O	O	O
M. PLYWOOD		O	O	X	O	O	O
N. EXISTING BUILT-UP MEMBRANE		O	X	X	X	X	X
10. RESTRICTED REGIONS (refer to manufacturer's literature)			NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	30 - 100	30 - 100	0 - 120	0 - 100	40 - 120	40 - 120	40 - 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	MOD BIT FLASHING CEMENT	MOD BIT FLASHING CEMENT	TORCH	PRESSURE BOND	SELF-ADHERING	HOT MOP	HOT MOP
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	NO	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	GREAT BRIT.	USA	USA	USA
B. MANFACTURE	USA	USA	USA	GREAT BRIT.	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA				1964	1983	1972	1986
B. WITHIN USA	1994	1994	1981	1973	1984	1978	1986
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA			NONE	900,000			
B. WITHIN USA			MILLIONS	200,000	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTR. DIRECT	DISTR. DIRECT	DIRECT	DISTRIBUTORS	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT
19. NUMBER OF REGIONAL LOCATIONS	6	6		112	21	21	21
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	NO	NO	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	REGIONAL OFFICE	R. G. READ	H. LISS	CUST SERVICE	CUST SERVICE	CUST SERVICE
22. FOR TECHNICAL INFORMATION, CONTACT:	TECHINCAL SERVICES	TECHINCAL SERVICES	937/222-2851 R. G. READ 937/222-2851	800/800-2844 N. SHEARER 888/882-6335	TECH SERVICE	TECH SERVICE	TECH SERVICE
23. SEE MEMBRANE APPENDIX IF CHECKED					X	X	X

Modified Bitumen Part 1: General Information

BARRETT CO.	BARRETT CO.	BARRETT CO.	BARRETT CO.	BARRETT CO.	BARRETT CO.	BARRETT CO.	BARRETT CO.	BITEC INC.	BITEC INC.
RAM 306 HP	RAM 309	RAM TOUGH 250	RAM 309 FR	RAM 309 HT	RAM 200	RAM 201	RAM 203	MDA	APS-4T
SBS	SBS	SBS 215	SBS	SBS	SBS	SBS	SBS	APP 160	APP 160
GRANULAR	GRANULAR	PMR	GRANULAR	GRANULAR	MICA	MICA	MICA	MINERAL DESIGN	MODIFIED BITUMEN
POLYESTER	FIBERGLASS	POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	FIBERGLASS	FIBERGLASS	SPUNBOND TYPE 55	SPUNBOND POLYESTER
VARIOUS	VARIOUS	BLACK	VARIOUS	VARIOUS	GRAY/BLACK	GRAY/BLACK	GRAY/BLACK	VARIOUS	BLACK
NONE	NONE	2	NONE	NONE	COATING	COATING	COATING	1.00	0.90
NONE	NONE	CAP SHEET OR PMR	NONE	NONE	COATING	COATING	COATING	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP	HOT MOP	THERMAL FUSION	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP	TORCH	TORCH
HOT MOP	HOT MOP	FLUID	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP	TORCH	TORCH
X	X	X	X	X	X	X	X		
TO DRAIN	TO DRAIN	NONE	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	DEAD LEVEL	DEAD LEVEL
X	X	O	X	X	X	X	X	O	O
		O						O	O
		O						O	O
X	X	O	X	X	X	X	X	O	O
X	X	O	X	X	X	X	X	O	O
X	X	O	X	X	X	X	X	O	O
O	O	O	O	O	O	O	O	O	O
		O						O	O
O	O	X	O	O	O	O	O	O	O
X	X	X	X	X	X	X	X	X O	X O
X O	X O	O	X O	X O	X O	X O	X O	O	O
O	O	X	O	O	O	O	O	O	O
X O	X O	X O	X O	X O	X O	X O	X O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 130	40 – 130
SAME MATERIAL	SAME MATERIAL	NEOPRENE SHEET	SAME MATERIAL	SAME MATERIAL	SBS/POLY SHEET	SBS/POLY SHEET	SBS/POLY SHEET	SAME MATERIAL OR APM	SAME MATERIAL OR APM
HOT MOP	HOT MOP	ADHERED	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP	TORCH	TORCH
YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
USA	USA	USA	USA	USA	USA	USA	USA	ITALY	ITALY
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1990	1972		1991	1990	1972			1994	1978
1990	1978	1982	1991	1990	1978	1992	1992	1997	1987
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	> 20,000	< 5,000	< 5,000	> 5,000	> 2 MILLION
DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	DISTR,DIRECT 21	< 5,000	> 2 MILLION
YES	YES	YES	YES	YES	YES	YES	YES	DISTRIBUTORS 6	DISTRIBUTORS 13
CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	YES	YES
TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	800/535-8597	800/535-8597
								D. ALLEN	D. ALLEN
X	X	X	X	X	X	X	X	800/535-8597	800/535-8597

Modified Bitumen Part 1: General Information

1. COMPANY NAME	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.
2. PRODUCT NAME	APM-4T	APM-4.5T	COMPABASE FA-2T	MDS	SPM-4.5T	SPM-3.5H	SFM-3.5H
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	APP	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	180	80	160	180	140	140
C. TOP SURFACE	GRANULES	GRANULES	MODIFIED BITUMEN	MINERAL DESIGN	GRANULES	GRANULES	GRANULES
D. REINFORCING MATERIAL	SPUNBOND POLYESTER	SPUNBOND POLYESTER	NONWOVEN FIBERGLASS	SPUNBOND TYPE 55	SPUNBOND POLYESTER	SPUNBOND POLYESTER	NONWOVEN FIBERGLASS
E. COLOR(S)	VARIOUS	VARIOUS	BLACK	VARIOUS	VARIOUS	VARIOUS	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.00	0.92	0.47	1.10	1.23	1.00	1.00
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	APS4T, APM4T APM4.5T	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHES	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)	TORCH	TORCH	NAIL				
C. FULLY ADHERED (method)			TORCH	MOP OR ADHES	TORCH	MOP OR ADHES	MOP OR ADHES
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIREC	DEAD LEVEL	DEAD LEVEL	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	O	O	O
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	O	O	O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X O	X O	X O	X O	X O	O	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O	O	X O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 130	40 – 130	40 – 130	30 – 130	30 – 120	30 – 130	30 – 130
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL		SAME MATERIAL OR SPM-4.5T	SAME MATERIAL	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T
13. FLASHING METHOD	TORCH	TORCH		HOT MOP OR TORCH	TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH
14. PREFORMED ACCESSORIES AVAILABLE(yes/no)	NO	NO	NO		NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1978	1978	1978	1994	1978	1978	1978
B. WITHIN USA	1987	1987	1988	1997	1987	1987	1989
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA	> 2 MILLION	1 MILLION	100,000	> 5,000	20,000	500,000	
B. WITHIN USA	> 1 MILLION	50,000	1,500	< 5,000	>6,000	2 MILLION	> 200,000
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	13	13	13	6	13	13	13
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597
22. FOR TECHNICAL INFORMATION, CONTACT:	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.	BITEC INC.
SPM-4H	SPM-4H/250	SPS-3H	COMPABASE PS-2H	COMPABASE FS-2H	COMPAFLASH BFS-2H	COMPABASE FS-2H-FR	SFM-3.5H-FR	SFM-4H-FR	FS-2H PLUS
SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS
160	160	120	80	80	80	80	140	160	88
GRANULES	GRANULES	MODIFIED BITUMEN	MODIFIED BITUMEN	MODIFIED BITUMEN	MODIFIED BITUMEN	MODIFIED BITUMEN	GRANULES	GRANULES	MODIFIED BITUMEN
SPUNBOND POLYESTER	SPUNBOND POLYESTER 250	SPUNBOND POLYESTER	SPUNBOND POLYESTER	NONWOVEN FIBERGLASS	SPUNBOND POLYESTER	NONWOVEN FIBERGLASS MAT	NONWOVEN FIBERGLASS MAT	NONWOVEN FIBERGLASS	NONWOVEN FIBERGLASS
VARIOUS	VARIOUS	MODIFIED BITUMEN	BLACK	BLACK	BLACK	BLACK	VARIOUS	VARIOUS	BLACK
1.10	1.20	0.73	0.47	0.47	0.47	0.47	1.00	1.10	0.60
NONE	NONE	COATING OR ASPH & GRVL	SPM OR SFM SHEETS	SPM OR SFM SHEETS	ROOF COATING	SFM SHEETS	NONE	NONE	SPM OR SFM SHEETS
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130
SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T	SAME MATERIAL OR SPM-4.5T
HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA
1978 1989	1978 1989	1978 1989	1978 1989	1978 1989	1978 1989	1978 1989	1978 1989	1978 1989	1978 1989
> 5,000	20,000 > 20,000	> 500,000	> 3,000	> 10,000	1,500 2,000	7,000	50,000	> 10,000	> 50,000
DISTRIBUTORS 13 YES	DISTRIBUTORS 6 YES	DISTRIBUTORS 6 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 13 YES	DISTRIBUTORS 6 YES
800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597	800/535-8597
D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597

Modified Bitumen Part 1: General Information

1. COMPANY NAME	BITEC INC.	BITEC INC.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.
2. PRODUCT NAME	FS-25	FS-40	CELOTEX APP 4/S CAP SHEET	CELOTEX APP 4/M CAP SHEET	CELOTEX SBS/170 CAP SHEET	CELOTEX SBS/250 CAP SHEET	CELOTEX SBS DUEL PLY FR BASE SHEET
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	APP	APP	SBS	SBS	SBS
B. THICKNESS (mils)	40	60	157	157	149	177	98
C. TOP SURFACE	MODIFIED BITUMEN	MODIFIED BITUMEN	SMOOTH	GRANULAR	GRANULAR	GRANULAR	SMOOTH
D. REINFORCING MATERIAL	NONWOVEN FIBERGLASS	NONWOVEN FIBERGLASS	POLYESTER	POLYESTER	POLYESTER	POLYESTER	GLASS FIBER
E. COLOR(S)	BLACK	BLACK	BLACK	BLACK OR WHITE	BLACK OR WHITE	BLACK OR WHITE	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.25	0.40	1.03	1.13	1.13		0.70
4. KINDS OF FIELD SURFACING REQUIRED	SPM OR SPM SHEETS	SPM OR SPM SHEETS	COATINGS/ EMULSIONS	NONE	NONE	NONE	CAP SHEET
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH	TORCH	HOT MOP	HOT MOP	HOT MOP
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)					HOT MOP	HOT MOP	HOT MOP
C. FULLY ADHERED (method)	MOP OR ADHES	MOP OR ADHES	TORCH	TORCH			
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIREC			POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	X	X	X
B. MINERAL FIBER	O	O	O	O	X	X	X
C. POLYSTYRENE	O	O	O	O	X	X	O
D. CELLULAR GLASS	O	O	O	O	O	O	X
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	X	X	X
G. PERLITE	O	O	O	O	X	X	X
H. POLYISOCYANURATE	O	O	O	O	X	X	X
I. POLYURETHANE	O	O	O	O			X
J. GYPSUM	O	O	O	O	X	X	X
K. CONCRETE	O	O	O	O	X	X	X
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	30 – 130	30 – 130	30 – 120	30 – 120	30 – 120	30 – 120	30 – 120
12. FLASHING MATERIAL			SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SPEC FLASH 250	SPEC FLASH 250
13. FLASHING METHOD			TORCH	TORCH	HOT MOP	HOT MOP	HOT MOP
14. PREFORMED ACCESSORIES AVAILABLE(yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	ITALY	ITALY		USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1978	1978	1965	1963	1965	1965	
B. WITHIN USA	1988	1988	1983	1983	1986		1985
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	> 50,000	> 50,000					
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	6	6	6	6	6	6	6
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/535-8597	800/535-8597	REG. OFFICE 800/CELOTEX REG. OFFICE 800/CELOTEX	REG. OFFICE 800/CELOTEX REG. OFFICE 800/CELOTEX	REG. OFFICE 800/CELOTEX REG. OFFICE 800/CELOTEX	REG. OFFICE 800/CELOTEX REG. OFFICE 800/CELOTEX	REG. OFFICE 800/CELOTEX REG. OFFICE 800/CELOTEX
22. FOR TECHNICAL INFORMATION, CONTACT:	D. ALLEN 800/535-8597	D. ALLEN 800/535-8597					
23. SEE MEMBRANE APPENDIX IF CHECKED			X	X	X	X	

Modified Bitumen Part 1: General Information

CELOTEX CORP.	CONSOLIDATED COATINGS CORPORATION	CONSOLIDATED COATINGS CORPORATION	CONSOLIDATED COATINGS CORPORATION	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.
CELOTEX SBS DUEL PLY FR CAP SHEET	CONSO-GARD II	CONSO-GARD III	CONSO-GARD IV	ESTERDAN RM	GLASDAN AL-80	GLASDAN R-36	ESTERDAN R-36	GLASDAN AL-80-3	GLASDAN RM
SBS	APP	SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS
157	157	140	140	140	140	140	140	120	140
GRANULAR	PLAIN	PLAIN	GRANULATED	MINERAL GRANULES	ALUMINUM	BITUMEN	BITUMEN	ALUMINUM	MINERAL GRANULES
GLASS FIBER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	GLASS FIBER	SMOOTH	SMOOTH	GLASS FIBER	GLASS FIBER
BLACK	BLACK	BLACK	LT GRAY	WHITE/OTHER	ALUMINUM	BLACK	BLACK	ALUMINUM	WHITE/OTHER
0.95	0.90	0.90	0.90	0.83	0.77	0.77	0.77	0.72	0.83
NONE	COATING	COATING	NONE	NONE	NONE	COATING BALLAST	COATING BALLAST	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP	TORCH	TORCH OR ADHESIVE	TORCH OR ADHESIVE	HOT MOP OR TORCH	TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	TORCH	HOT MOP OR TORCH
HOT MOP	10	10							
	TORCH/ADHES	TORCH/ADHES	TORCH/ADHES	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH
	X	X	X						
	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL
X	X O	X O	X	X	X	X	X	X	X
X	O	O	O	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
X	O	O	O	X O	X O	X O	X O	X O	X O
X	O	O	O	X O	X O	X O	X O	X O	X O
X	O	O	O	O	O	O	O	O	O
X	O	O	O	O	O	O	O	O	O
X	X O	X O	X O	O	O	O	O	O	O
X	O	O	O	O	O	O	O	O	O
X	O	O	O	O	O	O	O	O	O
X	X	X	X	O	O	O	O	O	O
X	X	X	X	X	X	X	X	X	X
O	O	O	O	X O	X O	X O	X O		X O
O	O	O	O	X O	X O	X O	X O		X O
O	X	X	X	O		O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
30 – 120	50 – 115	20 – 115	20 – 115	14 – 120	14 – 120	14 – 120	14 – 120	14 – 120	14 – 120
SPEC FLASH 250	SAME MATERIAL	SAME MATERIAL	CONSO GARD III	SAME MATERIAL OR GLASDAN AL-80	SAME MATERIAL OR ESTERDAN RM	GLASD AL-80 OR ESTERDAN RM	GLASD AL-80 OR ESTERDAN RM	SAME MATERIAL OR ESTERDAN RM	SAME MATERIAL OR GLASDAN AL-80
HOT MOP	TORCH	TORCH OR ADHESIVE	TORCH OR ADHESIVE	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
USA	USA	USA	USA	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO
USA	USA	CANADA	CANADA	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO
1985	1972 1980	1971 1984	1971 1984	1979	1979	1979	1979	1988	1988
	40,000	30,000	12,000	MILLIONS THOUSANDS	MILLIONS THOUSANDS	MILLIONS THOUSANDS	MILLIONS THOUSANDS	MILLIONS THOUSANDS	MILLIONS THOUSANDS
DISTR, DIRECT 6 YES	DIRECT 4 NO	DIRECT 4 NO	DIRECT 4 NO	DISTR, DIRECT 2 YES	DISTR, DIRECT 2 YES	DISTR, DIRECT 2 YES	DISTR, DIRECT 2 YES	DISTR, DIRECT 2 YES	DISTR, DIRECT 2 YES
REG. OFFICE 800/CELOTEX	T. COULTON	T. COULTON	T. COULTON	W. RIVERA	W. RIVERA	W. RIVERA	W. RIVERA	W. RIVERA	W. RIVERA
REG. OFFICE 800/CELOTEX	T. COULTON	T. COULTON	T. COULTON	F. ROMERO	F. ROMERO	F. ROMERO	F. ROMERO	F. ROMERO	F. ROMERO

Modified Bitumen Part 1: General Information

1. COMPANY NAME	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DANOSA CARIBBEAN, INC.	DERMABIT WATER-PROOFING INDUSTRIES	DERMABIT WATER-PROOFING INDUSTRIES
2. PRODUCT NAME	GLASDAN R-36-3	GLASDAN RM-5	ESTERDAN R-36-3	ESTERDAN RM-5	ESTERDAN RM-PLUS	DERMABIT 4170 SMOOTH	DERMABIT 4170 GRANULE
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	APP	APP
B. THICKNESS (mils)	120	173	120	177	197	160	160
C. TOP SURFACE	BITUMEN	MINERAL GRANULES	BITUMEN	MINERAL GRANULES	MINERAL GRANULES	SMOOTH	GRANULE
D. REINFORCING MATERIAL	SMOOTH	GLASS FIBER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
E. COLOR(S)	BLACK	WHITE/OTHER	BLACK	WHITE/OTHER	WHITE/OTHER	BLACK	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.72	1.05	0.72	1.07	1.19	0.88	0.95
4. KINDS OF FIELD SURFACING REQUIRED	COATING BALLAST	NONE	EMULSION, BALLAST	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	MOP OR TORCH	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIREC	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X	O	O
B. MINERAL FIBER	X	X	X	X	X	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	X O	X	X O	X O	X O	O	O
E. PHENOLIC	X O	O	X O	X O	X O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	X	O	O	X O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	X	X
K. CONCRETE	X	X	X	X	X	X	X
L. WOOD PLANK	X O	X O	X O	X O	X O	O	O
M. PLYWOOD	X O	X O	X O	X O	X O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	X	X
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	14 – 120	14 – 120	14 – 120	14 – 120	14 – 120	20 – 140	20 – 140
12. FLASHING MATERIAL	GLASD AL-80 OR ESTERDAN RM	SAME MATERIAL OR GLASDAN AL-80	GLASD AL-80 OR ESTERDAN RM	SAME MATERIAL OR GLASDAN AL-80	SAME MATERIAL OR GLASDAN AL-80	SAME MATERIAL OR GRANULATED	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	TORCH	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	SA/ITALY	SA/ITALY
B. MANFACTURE	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	PUERTO RICO	SA/ITALY	SA/ITALY
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA						1976	1976
B. WITHIN USA	1987	1988	1987	1985	1995	1987	1987
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS		3.5 MILLION	1.5 MILLION
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS		200,000	100,000
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	2	2	2	2	2	1	1
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	W. RIVERA	W. RIVERA	W. RIVERA	W. RIVERA	W. RIVERA	G. JERMSTAD	G. JERMSTAD
22. FOR TECHNICAL INFORMATION, CONTACT:	F. ROMERO	F. ROMERO	F. ROMERO	F. ROMERO	F. ROMERO	G. JERMSTAD	G. JERMSTAD
23. SEE MEMBRANE APPENDIX IF CHECKED						X	X

Modified Bitumen Part 1: General Information

DERMABIT WATER- PROOFING INDUSTRIES	DERMABIT WATER- PROOFING INDUSTRIES	DIBITEN	DIBITEN	DIBITEN	DIBITEN	DIBITEN	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.
ELASPHALT 4170 SMOOTH	ELASPHALT 4170 GRANULE	DIBITEN POLY/4	DIBITEN POLY/4.5 GRANULAR	DIBITEN POLY/5	DIBITEN BLACK GRANITE	DIBITEN MINERAL	APP160	APP170	APP180
SBS 160 SMOOTH	SBS 160 GRANULE	APP 160	APP 180	APP 200	APP 160	APP 180	APP 150	APP 165	APP 170
POLYESTER	POLYESTER	MODIFIED BITUMEN NONWOVEN POLYESTER	SLATE FLAKES NONWOVEN POLYESTER	MODIFIED BITUMEN NONWOVEN POLYESTER	FINE SLAG PARTICLES NONWOVEN POLYESTER	MINERAL GRANULES NONWOVEN POLYESTER	SMOOTH	SMOOTH	GRANULES
BLACK	VARIOUS	BLACK	VARIOUS	BLACK	BLACK	VARIOUS	POLYESTER	POLYESTER	POLYESTER
0.88 COATING	0.95 NONE	0.90 NONE	1.05 NONE	1.10 NONE	0.92 NONE	1.05 NONE	BLACK	BLACK	VARIOUS
0.82 NONE	0.90 NONE	1.02 NONE							
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP OR TORCH	HOT MOP OR TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
MOP OR TORCH	MOP OR TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
DEAD LEVEL	DEAD LEVEL	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X O	X O	X O	X O	X O	X O	X O	X	X	X
X O	X O	O	O	O	O	O	O	O	O
X O	X O	O	O	O	O	O	O	O	O
X	X	X O	X O	X O	X O	X O	X	X	X
NONE	NONE	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	NONE	NONE	NONE
0 – 120	0 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	0 – 130	0 – 130	0 – 130
SAME MATERIAL OR GRANULATED	SAME MATERIAL OR GRANULATED	SAME MATERIAL	DIBITEN POLY/4	SAME MATERIAL	DIBITEN POLY/4	DIBITEN POLY/4	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH OR MOP	TORCH OR MOP	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SA/ITALY SA/ITALY	SA/ITALY SA/ITALY	ITALY USA	ITALY USA	ITALY USA	USA USA	USA USA	ITALY USA	ITALY USA	USA USA
1976 1987	1976 1987	1968 1978	1968 1978	1968 1978	1989	1995	1965 1980	1965 1980	1989
200,000	300,000	10.7 MILLION 4.6 MILLION	900,000 1.3 MILLION	100,000 200,000	45,000	75,000	MILLIONS MILLIONS	MILLIONS MILLIONS	MILLIONS MILLIONS
DISTRIBUTORS 1 YES	DISTRIBUTORS 1 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES
G. JERMSTAD	G. JERMSTAD	R. BIANCHI	R. BIANCHI	R. BIANCHI	R. BIANCHI	R. BIANCHI	800/428-4442	800/428-4442	800/428-4442
G. JERMSTAD	G. JERMSTAD	D. CARL	D. CARL	D. CARL	D. CARL	D. CARL	800/428-4511	800/428-4511	800/428-4511
X	X	X	X	X	X	X			

Modified Bitumen Part 1: General Information

1. COMPANY NAME	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.
2. PRODUCT NAME	APP180 FR	SBS BASE SHEET	SBS PREMIUM BASE SHEET	SBS SMOOTH	SBS	SBS FR	SBS PREMIUM
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	170	90	90	145	150	150	160
C. TOP SURFACE	GRANULES	SMOOTH	SMOOTH	SMOOTH	GRANULES	GRANULES	GRANULES
D. REINFORCING MATERIAL	POLYESTER	FIBERGLASS	FIBERGLASS MAT/SCRIM	POLYESTER	POLYESTER	POLYESTER	POLYESTER
E. COLOR(S)	VARIOUS	BLACK	BLACK	BLACK	VARIOUS	VARIOUS	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.06	0.54	0.55	0.86	0.91	0.91	1.01
4. KINDS OF FIELD SURFACING REQUIRED	NONE	SBS CAP	SBS CAP	FLOOD COAT/ GRAVEL	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	MOP OR WELD	MOP OR WELD	MOP OR WELD	MOP OR WELD	MOP OR WELD	MOP OR WELD
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)		HOT MOP	HOT MOP				
C. FULLY ADHERED (method)	TORCH	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIREC	POS DRAIN			POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	X	X	O	O	O	O
B. MINERAL FIBER	O	X	X	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	X	X	O	O	O	O
G. PERLITE	O	X	X	O	O	O	O
H. POLYISOCYANURATE	O	X	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X	O	X	O	O	O	O
L. WOOD PLANK		O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 130	30 – 100	30 – 100	30 – 130	30 – 130	30 – 130	30 – 130
12. FLASHING MATERIAL	SAME MATERIAL	SBS FLASHING	SBS FLASHING	SBS FLASHING	SBS FLASHING	SBS FLASHING	SBS FLASHING
13. FLASHING METHOD	TORCH	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP
14. PREFORMED ACCESSORIES AVAILABLE(yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA				1965	1965		
B. WITHIN USA	1993	1990	1993	1991	1989	1994	1991
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	5	5	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442
22. FOR TECHNICAL INFORMATION, CONTACT:	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	GAF MATERIALS CORPORATION
SBS PREMIUM FR	SBS GLASS	SBS GLASS FR	SBS TORCH	SBS FLASHING	SBS GLASS TORCH BASE	SBS POLY TORCH BASE	SBS FR TORCH	SBS GLASS FR TORCH	RUBEROID TORCH (SMOOTH)
SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS	APP
160	150	150	150	150	120	120	175	175	160
GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	SMOOTH
POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	POLYESTER	FIBERGLASS	POLYESTER	POLYESTER	FIBERGLASS	POLYESTER
VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS	BLACK	BLACK	VARIOUS	VARIOUS	BLACK
1.01	0.89	0.89	0.93	0.91	0.82	0.82	1.20	1.13	0.80
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
MOP OR WELD	MOP OR WELD	MOP OR WELD	TORCH	MOP OR WELD	MOP OR WELD	MOP OR WELD	MOP OR WELD	MOP OR WELD	TORCH
									TORCH
MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	TORCH	MOP OR ADHES	TORCH	TORCH	TORCH	TORCH	TORCH
X	X	X	X	X	X	X	X	X	X
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	MUST DRAIN
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	CONTACT GAF
30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	40 – 100
SBS FLASHING	SBS FLASHING	SBS FLASHING	SBS MATERIAL	SBS MATERIAL	SBS FLASHING	SBS FLASHING	SBS FLASHING	SBS FLASHING	SAME MATERIAL
HOT MOP	HOT MOP	HOT MOP	TORCH	HOT MOP	HOT MOP	HOT MOP	HOT MOP	HOT MOP	TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1992	1991	1991	1994	1994	1995	1995	1995	1993	1985
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	
DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES	DISTRS,DIRECT 5 YES
800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	800/428-4442	REGIONAL OFFICE TECHNICAL SERVICES
800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	800/428-4511	

Modified Bitumen Part 1: General Information

1. COMPANY NAME	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
2. PRODUCT NAME	RUBEROID TORCH (GRANULE)	RUBEROID TORCH PLUS	RUBEROID TORCH FR	RUBEROID TORCH 1	RUBEROID MOP PLUS	RUBEROID MOP FR	RUBEROID MOP (GRANULE)
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	APP	APP	SBS	SBS	SBS
B. THICKNESS (mils)	160	197	197	177	197	160	160
C. TOP SURFACE	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
E. COLOR(S)	WHITE/BLACK	WHITE/BLACK	WHITE/BLACK	BLK/WH/BRT SIENNA CEDAR/SLATE/ WEATHERWD BLEND	WHITE/BLACK	WHITE/BLACK	WHITE/BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.05	1.25	1.1	1.02	0.9	0.9	0.9
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	TORCH	TORCH	HOT MOP OR COLD	HOT MOP OR COLD	HOT MOP OR COLD
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)	TORCH	TORCH	TORCH	TORCH	HOT MOP	HOT MOP	HOT MOP
C. FULLY ADHERED (method)	TORCH	TORCH	TORCH	TORCH	HOT MOP/COLD	HOT MOP/COLD	HOT MOP/COLD
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIREC	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN	MUST DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	O	O	O
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE			O	O			
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	O	O	O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X O	X O	X O	X O	O	O	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O	X O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	CONTACT GAF	CONTACT GAF	CONTACT GAF	CONTACT GAF	CONTACT GAF	CONTACT GAF	CONTACT GAF
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 100	40 – 100	30 – 100	40 – 100	30 – 100	30 – 100	30 – 100
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	TORCH	TORCH	TORCH	TORCH	HOT MOP OR MOD BIT FLASH- ING CEMENT	HOT MOP OR MOD BIT FLASH- ING CEMENT	HOT MOP OR MOD BIT FLASH- ING CEMENT
14. PREFORMED ACCESSORIES AVAILABLE(yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1986	1988	1989	1997	1988	1989	1986
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	5	5	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE
22. FOR TECHNICAL INFORMATION, CONTACT:	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information
--

[illegible]

Modified Bitumen Part 1: General Information

1. COMPANY NAME	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE
2. PRODUCT NAME	MODIFIED BASE SHEET	MODIFIED CAP SHEET 601+	ULTRACLAD SBS	STRESSPLY	STRESSPLY MINERAL	STRESSPLY FR	STRESSPLY FR MINERAL
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)		140	145	80	135	80	135
C. TOP SURFACE	SMOOTH	GRANULES	FOIL FACE	BLACK BEAUTY	MINERAL GRANULES	BLACK BEAUTY	MINERAL GRANULES
D. REINFORCING MATERIAL	FIBERGLASS	FIBERGLASS	FIBERGLASS	DUAL FIBERGLASS	DUAL FIBERGLASS	DUAL FIBERGLASS	DUAL FIBERGLASS
E. COLOR(S)	BLACK	WHITE	COPPER/ALUMINUM STAINLESS STL/ OTHER	BLACK	OFF WHITE	BLACK	OFF WHITE
F. INSTALLED WEIGHT (lbs./ft ² without ballast)		0.90		0.85	1.00	0.85	1.00
4. KINDS OF FIELD SURFACING REQUIRED	CAP SHEET	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD	HOT MOP OR COLD	HOT MOP OR HEAT WELDING	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)	HOT MOP	HOT MOP					
C. FULLY ADHERED (method)	HOT MOP/COLD	HOT MOP/COLD	HOT MOP/TORCH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X		X	X	X	X
8. MINIMUM SLOPE REQUIREC	MUST DRAIN	MUST DRAIN	MUST DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	X	X	X	X
B. MINERAL FIBER	O	O	O	X	X	X	X
C. POLYSTYRENE				O	O	O	O
D. CELLULAR GLASS	O	O	O	X	X	X	X
E. PHENOLIC		O	O	O	O	O	O
F. FIBERBOARD	X	O	O	X	X	X	X
G. PERLITE	X	O	O	X	X	X	X
H. POLYISOCYANURATE		O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	X	O	O	O	O	O	O
K. CONCRETE	X	O	O	O	O	O	O
L. WOOD PLANK	X	O	O	O	O	O	O
M. PLYWOOD	X	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	CONTACT GAF	CONTACT GAF	CONTACT GAF	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	30 – 100	30 – 100		35 – 120	35 – 120	35 – 120	35 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR MOD BIT FLASH- ING CEMENT	HOT MOP OR MOD BIT FLASH- ING CEMENT	TORCH	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NONE	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	USA	USA		USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1996	1997	1997	1978	1989	1986	1989
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	165	165	165	165
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL
22. FOR TECHNICAL INFORMATION, CONTACT:	TECHNICAL SERVICES	TECHNICAL SERVICES	TECHNICAL SERVICES	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE
VERSIPLY 40	VERSIPLY 60	VERSIPLY 80	VERSIPLY MINERAL	PITCHPLY SELF- ADHERED	STRESSPLY PLUS	STRESSPLY PLUS MINERAL	STRESSPLY PLUS FR	STRESSPLY PLUS FR MINERAL	STRESSPLY IV
SBS 40	SBS 60	SBS 80	SBS 135	NITRILE 60	SEBS/SBS 80	SEBS/SBS 135	SEBS/SBS 80	SEBS/SBS 135	SBS 135
SAND	BLACK BEAUTY	BLACK BEAUTY	MINERAL GRANULES		BLACK BEAUTY	MINERAL GRANULES	BLACK BEAUTY	MINERAL GRANULES	BLACK BEAUTY
DUAL FIBERGLASS	DUAL FIBERGLASS	DUAL FIBERGLASS	DUAL FIBERGLASS	INTERLOCKING FIBERS	QUAD-AXIAL FIBERGLASS	QUAD-AXIAL FIBERGLASS	QUAD-AXIAL FIBERGLASS	QUAD-AXIAL FIBERGLASS	DUAL FIBERGLASS
BLACK	BLACK	BLACK	OFF WHITE	BLACK	BLACK	OFF WHITE	BLACK	OFF WHITE	BLACK
0.90	0.70	0.85	1.00	0.70	0.85	1.00	0.85	1.00	0.90
GRAVEL OR COATING	NONE	NONE	NONE	GRAVEL OR COATING	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP	HOT MOP	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	SELF- ADHERED	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH
MOP	MOP	MOP/COLD ADH	MOP/COLD ADH	SELF-ADHERED	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	TORCH
X	X	X	X	X	X	X	X	X	X
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
X	X	X	X	O	X	X	X	X	O
X	X	X	X	O	X	X	X	X	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	O	X	X	X	X	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	O	X	X	X	X	O
X	X	X	X	O	X	X	X	X	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
HOT MOP	HOT MOP	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	SELF- ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	TORCH
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA	USA	USA	USA	ENGLAND	USA	USA	USA	USA	USA
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1986	1986	1986	1991	1965 1985	1989	1990	1990	1990	1991
DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES	DIRECT 165 YES
D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL
B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH

Modified Bitumen Part 1: General Information

1. COMPANY NAME	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GARLAND COMPANY INC., THE	GRACE, W. R. & CO.
2. PRODUCT NAME	STRESSPLY IV MINERAL	HPR TORCH BASE SHEET	STRESSPLY "E"	STRESSPLY "E" MINERAL	STRESSPLY "E" FR	STRESSPLY "E" FR MINERAL	PRMA MEMBRANE
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS/SIS	SBS/SIS	SBS/SIS	SBS/SIS	SBS
B. THICKNESS (mils)	165	120	80	135	80	135	50
C. TOP SURFACE	MINERAL GRANULES	SAND	BLACK BEAUTY	MINERAL GRANULES	BLACK BEAUTY	MINERAL GRANULES	POLYETHYLENE
D. REINFORCING MATERIAL	DUAL FIBERGLASS	FIBERGLASS	POLYESTER/ FIBERGLASS	POLYESTER/ FIBERGLASS	POLYESTER/ FIBERGLASS	POLYESTER/ FIBERGLASS	NONE
E. COLOR(S)	OFF WHITE	BLACK	BLACK	OFF WHITE	BLACK	OFF WHITE	GRAY/BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.05	0.85	0.85	1.00	0.85	1.00	0.34
4. KINDS OF FIELD SURFACING REQUIRED	NONE	SP IV OR SP IV MINERAL	NONE	NONE	NONE	NONE	INSUL BOARD BALLAST
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	SELF- ADHESIVE
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	TORCH	TORCH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	SELF-ADHERING
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIREC	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	TO DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	X	X	X	X	
B. MINERAL FIBER	O	O	X	X	X	X	
C. POLYSTYRENE	O	O	O	O	O	O	
D. CELLULAR GLASS	O	O	X	X	X	X	
E. PHENOLIC	O	O	O	O	O	O	
F. FIBERBOARD	O	O	X	X	X	X	
G. PERLITE	O	O	X	X	X	X	
H. POLYISOCYANURATE	O	O	O	O	O	O	
I. POLYURETHANE	O	O	O	O	O	O	
J. GYPSUM	O	O	O	O	O	O	
K. CONCRETE	O	O	O	O	O	O	
L. WOOD PLANK	O	O	O	O	O	O	
M. PLYWOOD	O	O	O	O	O	O	
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	25 – 120
12. FLASHING MATERIAL	SAME MATERIAL	STRESSPLY IV OR STRESSPLY IV MINERAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	PRMA MEMBRANE
13. FLASHING METHOD	TORCH	TORCH	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	SELF- ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							1971
B. WITHIN USA	1991	1991	1993	1994	1995	1994	1972
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							1.25 MILLION
B. WITHIN USA							2.0 MILLION
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT 165	DIRECT 165	DIRECT 165	DIRECT 165	DIRECT 165	DIRECT 165	DIRECT 34
19. NUMBER OF REGIONAL LOCATIONS	YES	YES	YES	YES	YES	YES	YES
20. LICENSED APPLICATOR AGREEMENT (yes/no)							
21. FOR SALES INFORMATION, CONTACT:	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	REGIONAL OFFICE
22. FOR TECHNICAL INFORMATION, CONTACT:	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	B. LAMBERT F. JANOCH	REGIONAL OFFICE
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.
FLINTLASTIC STA	FLINTLASTIC STA PLUS 5.0	FLINTLASTIC GTA	GTA BLACK DIAMOND AND WHITE DIAMOND	FLINTLASTIC GTA-FR	FLINTLASTIC GTS	FLINTLASTIC GMS	FLINTLASTIC GMS PREMIUM	FLINTLASTIC FR-P	FLINTLASTIC FR-P PREMIUM
APP	APP	APP	APP	APP	SBS	SBS	SBS	SBS	SBS
160	200	180	160	180	180	160	180	160	180
ALUMINUM	ALUMINUM	GRANULE	FINE CERAMIC PARTICLES	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE
POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
BLACK	BLACK	WHITE/BLACK/ BROWN/TAN/ GRAY/OTHER	BLK DIAMOND/ WHT DIAMOND	WHITE	WHITE	WHITE/BLACK/ BROWN/TAN/ GRAY/OTHER	WHITE	WHITE	WHITE
0.90	1.00	1.05	0.95	1.05	1.22	1.00	1.05	1.08	1.05
REFLECTIVE COATING	REFLECTIVE COATING	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X O	X O	X O	X O	X O	X O	X O	X O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE
NO	NONE	NO	NO	NO	NO	NO	NO	NO	NO
ITALY USA	USA USA	ITALY USA	UK USA	USA USA	ITALY USA	ITALY USA	USA USA	USA USA	USA USA
1978 1980	1997	1978 1986	1987	1996	1978 1986	1972 1980	1989	1989	1989
1,200,000 MILLIONS		MILLIONS	MILLIONS		>100,000 MILLIONS	>100,000 MILLIONS		200,000	
DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES	DISTRIBUTORS 2 YES
EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434
972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600
X	X	X	X	X	X	X	X	X	X

Modified Bitumen Part 1: General Information

1. COMPANY NAME	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.	GS ROOFING PRODUCTS CO. INC.
2. PRODUCT NAME	FLINTLASTIC FR PG	FLINTLASTIC FR BASE SHEET	FLINTLASTIC FR CAP	POLY SMS BASE SHEET	BLACK DIAMOND BASE SHEET	FLEXIGLAS BASE SHEET	FLEXIGLAS PREMIUM CAP 960
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	180	92	140	120	50		160
C. TOP SURFACE	GRANULE	GRANULE	GRANULE	SAND	GRANULE	SAND	GRANULES
D. REINFORCING MATERIAL	POLYESTER AND FIBERGLASS	POLYESTER	POLYESTER	POLYESTER	POLYESTER	FIBERGLASS	FIBERGLASS
E. COLOR(S)	WHITE	VARIOUS	VARIOUS	BLACK	BLACK	BLACK	WHITE
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.00	0.60	0.90	.045	.038	0.30	0.90
4. KINDS OF FIELD SURFACING REQUIRED	NONE	CAP SHEET	NONE	CAP SHEET	CAP SHEET	CAP SHEET	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD ADHES	MECH/HOT MOP/ OR CLD ADHES	HOT MOP OR COLD ADHES	MECH/HOT MOP/ OR CLD ADHES	SELF-ADHESIVE	MECH/HOT MOP/ OR CLD ADHES	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)		MOP/CLD ADH		MECH/MOP/CLD ADH		MECH.	
C. FULLY ADHERED (method)	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	SELF-ADHERED	MOP/CLD ADHS	MOP/CLD ADH
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIREC	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O X		O X	X	X	X	O
B. MINERAL FIBER	O X		O X	X	X	X	O
C. POLYSTYRENE	O X		O X	X	X	X	O
D. CELLULAR GLASS	O X		O X	X	X	X	O
E. PHENOLIC	O X		O X	X	X	X	O
F. FIBERBOARD	O X		O X	X	X	X	O
G. PERLITE	O X		O X	X	X	X	O
H. POLYISOCYANURATE	O X		O X	X	X	X	O
I. POLYURETHANE	O X		O X	X	X	X	O
J. GYPSUM	O X		O X	X	X	X	O
K. CONCRETE	O X		O X	X	X	X	O
L. WOOD PLANK	O X		O X		O X		O
M. PLYWOOD	O X		O X		O X		O
N. EXISTING BUILT-UP MEMBRANE	X O	X	X O	X	O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130	30 – 130
12. FLASHING MATERIAL	SAME MATERIAL	ANY SBS CAP SHEET	SAME MATERIAL	ANY SBS CAP SHEET	FLINTLASTIC STA, GTA, GMS	ANY FLINTLASTIC CAP SHEET	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	TORCH, MOP, COLD ADHESIVE	TORCH, MOP, COLD ADHESIVE	HOT MOP OR COLD ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN		USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1989	1989	1989	1989	1989	1990	1997
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	MILLIONS	100,000	100,000	40,000	50,000		
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	2	2	2	2	2	2	2
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434	EAST: 927/580-5604 WEST: 510/606-7434
22. FOR TECHNICAL INFORMATION, CONTACT:	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600	972/580-5600
23. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X		

Modified Bitumen Part 1: General Information

W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.
PIKA PLY SS-4	PIKA PLY MS-4	PIKA PLY SA-3	PIKA PLY SA-4	PIKA PLY MA-4	PIKA PLY 808	PIKA PLY SS-3P	PIKA PLY SS-2	PIKA PLY 808-MS	PIKA PLY MS-3G
SBS	SBS	APP	APP	APP	SBS	SBS	SBS	SBS	SBS
160	160	120	160	160	100	120	60	120	120
				MINERAL				MINERAL	
POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	WOVEN GLASS/ GLASS MAT	POLYESTER	POLYESTER	WOVEN GLASS/ GLASS MAT	GLASS
BLACK	OFF WHITE	BLACK	BLACK	OFF WHITE	BLACK	BLACK	BLACK	OFF WHITE	OFF WHITE
			0.90	0.95					
GRAVEL/ALUM- INUM / WHITE	NONE	ALUMINUM OR WHITE	ALUMINUM OR WHITE	NONE	GRAVEL/ALUM- INUM / WHITE	GRAVEL/ALUM- INUM / WHITE	GRAVEL/ALUM- INUM / WHITE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP COLD ADHES	HOT MOP COLD ADHES	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
MOP OR ADHES	MOP OR ADHES	TORCH	TORCH	TORCH	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES	MOP OR ADHES
X			X		X	X			
1/8"	1/8"	1/8"	POS DRAIN	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
O	O	O	O	O	O	O	O	O	O
O	O	O	O		O	O	O	O	O
O		O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120	35 – 120
SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON
HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1985	1985	1985	1985	1985	1985	1985	1985	1985	1985
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES	DIRECT 5 YES
C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD	C FITZGERALD
R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI

Modified Bitumen Part 1: General Information

1. COMPANY NAME	W P HICKMAN SYSTEMS INC.	W P HICKMAN SYSTEMS INC.	HYLOAD, INC.	HYLOAD, INC.	ICA, INC.	ICA, INC.	ICA, INC.
2. PRODUCT NAME	PERFORMANCE PLY MS+MS/FR	WEATHER PLY MA+MA/FR	HYBASE	HYBASE SAM	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP MINERAL	ICA PREMIUM APP SLATE
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SEBS	APP			APP	APP	APP
B. THICKNESS (mils)	120	120	35	55	160	180	180
C. TOP SURFACE	MINERAL	MINERAL	SMOOTH	SMOOTH	SMOOTH	MINERAL GRANULES	SLATE FLAKES
D. REINFORCING MATERIAL	POLYESTER	POLYESTER			NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER
E. COLOR(S)	OFF WHITE	OFF WHITE	BLACK	BLACK	BLACK	VARIOUS	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)					0.90	1.05	1.05
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	NAILED	SELF- ADHESIVE	TORCH	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)			NAILED	SELF-ADHESIVE	COLD ADHES	COLD ADHES	COLD ADHES
D. PROTECTED ROOF MEMBRANE ASSEMBLY					TORCH	TORCH	TORCH
8. MINIMUM SLOPE REQUIREC	1/8"	1/8"	DEAD LEVEL	DEAD LEVEL	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	X		O	O	O
B. MINERAL FIBER			X		O	O	O
C. POLYSTYRENE	O	O	X		O	O	O
D. CELLULAR GLASS	O	O	X		O	O	O
E. PHENOLIC			X		O	O	O
F. FIBERBOARD	O	O	X	X	O	O	O
G. PERLITE	O	O	X		O	O	O
H. POLYISOCYANURATE	O	O	X	X	O	O	O
I. POLYURETHANE	O	O	X		O	O	O
J. GYPSUM	O	O	X		O	O	O
K. CONCRETE	X	X	X	X	X	X	X
L. WOOD PLANK	O	O	X	X	O	O	O
M. PLYWOOD	O	O	X	X	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	X	X	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	SEE SPECS	SEE SPECS	SEE SPECS
11. WORKABLE TEMPERATURE RANGE (degrees F)	35 - 120	35 - 120	40 - 120	55 - 120	40 - 120	40 - 120	40 - 120
12. FLASHING MATERIAL	SAME MATERIAL OR HYPALON	SAME MATERIAL OR HYPALON	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	NAILED	SELF- ADHERED	TORCH	TORCH	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	NO	NO	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1985	1995	1996	1996	1997	1997	1997
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	THOUSANDS	THOUSANDS	2,000	2,000			
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT 5	DIRECT 5	DIRECT 20	DIRECT 20	DISTR,DIRECT 2	DISTR,DIRECT 2	DISTR,DIRECT 2
19. NUMBER OF REGIONAL LOCATIONS	5	5	20	20	2	2	2
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	C FITZGERALD	C FITZGERALD	J. NUSSBAUM 800/457-4056 J. GANNON 800/457-4056	J. NUSSBAUM 800/457-4056 J. GANNON 800/457-4056	800/352-7002	800/352-7002	800/352-7002
22. FOR TECHNICAL INFORMATION, CONTACT:	R GALLION K BRZOZOWSKI	R GALLION K BRZOZOWSKI			800/352-7002	800/352-7002	800/352-7002
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.
ARMOURPLAST CLASSIC	ARMOURPLAST GRANULAR	MODIFLEX MP-180-CAP	MODIFLEX MP-250-CAP	TORCHFLEX TP-180-CAP	TORCHFLEX TP-250-CAP	TORCHFLEX TP-250-CAP 5MG	MODIFLEX MF-95-SS- BASE	MODIFLEX MF-95-FS-BASE	MODIFLEX MF-180-FS-BASE
APP	APP	SBS	SBS	SBS	SBS	SBS	SBS	SBS	SBS
160	160	138	158	158	158	196	87	87	87
MOD BIT	GRANULAR	GRANULAR	GRANULAR	GRANULAR	GRANULAR	GRANULAR	SAND	SAND	SAND
180-GRAM POLYESTER	180-GRAM POLYESTER	180-GRAM POLYESTER	250-GRAM POLYESTER	180-GRAM POLYESTER	250-GRAM POLYESTER	250-GRAM POLYESTER	95-GRAM FIBERGLASS	95-GRAM FIBERGLASS	180-GRAM POLYESTER
B LACK	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS	BLACK	BLACK	BLACK
0.88	0.97	0.96	1.04	1.08	1.08	1.32	0.57	0.56	0.56
ROOF COAT GRAN./GRAVEL	NONE	NONE	NONE	NONE	NONE	NONE	MODIFLEX CAP TORCHFLEX CAP	MODIFLEX CAP TORCHFLEX CAP	MODIFLEX CAP TORCHFLEX CAP
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH	TORCH	TORCH	HOT MOP	HOT MOP TORCH	HOT MOP TORCH
TORCH	TORCH			TORCH	TORCH	TORCH			
TORCH	TORCH			TORCH	TORCH	TORCH	MOP OR ADHES.	MOP, TORCH	MOP, TORCH
1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	X	X	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	35 -120	0 - 120	0 - 120
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH	TORCH	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	TORCH	TORCH	TORCH	HOT MOP OR ADHESIVE	HOT MOP OR ADHESIVE	HOT MOP OR ADHESIVE
NO	NO	NO	NO	NO	NO	NO	NONE	NONE	NONE
BELGIUM CANADA	BELGIUM CANADA	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA CANADA	CANADA CANADA	CANADA CANADA
1979 1988	1979 1988								
DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
NO	NO						NO	NO	NO
800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171
800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171	800/323–7171

Modified Bitumen Part 1: General Information

1. COMPANY NAME	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.	IKO INDUSTRIES INC.
2. PRODUCT NAME	MODIFLEX MF-180-SS-BASE	TORCHFLEX TF-95-FF-BASE	TORCHFLEX TF-95-FF-BASE (22)	TORCHFLEX TP-180-FF-BASE	ARMOURBOND 95	ARMOURBOND 180	ARMOUR BRIDGE/PONT
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	87	118	87	118	98	118	217
C. TOP SURFACE	SAND	FILM	FILM	FILM	FILM	FILM	GRANULAR
D. REINFORCING MATERIAL	180-GRAM POLYESTER	95-GRAM FIBERGLASS	95-GRAM FIBERGLASS	180-GRAM FIBERGLASS	95-GRAM FIBERGLASS	180-GRAM POLYESTER	180-GRAM POLYESTER
E. COLOR(S)	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.56	0.79	0.56	0.75	0.64	0.76	1.34
4. KINDS OF FIELD SURFACING REQUIRED	MODIFLEX CAP TORCHFLEX CAP	MODIFLEX CAP TORCHFLEX CAP	MODIFLEX CAP TORCHFLEX CAP	MODIFLEX CAP TORCHFLEX CAP	ARMOURPLAST T-FLEX CAP	ARMOURPLAST MOP/TORCH CAP	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP	TORCH	TORCH	TORCH	SELF-ADHERING	SELF-ADHERING	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP OR ADHES.	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIREC	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN	1/4" OR P. DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	O	O	O
B. MINERAL FIBER	X	X	X	X	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	O	O	O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X	X	X	X	X	X	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	35 - 120	0 - 120	0 - 120	0 - 120	40 - 120	40 - 120	40 - 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR ADHESIVE	TORCH	TORCH	TORCH	SELF-ADHERE	SELF-ADHERE	SELF-ADHERE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
15. COUNTRY OF:							
A. ORIGIN	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA
B. MANFACTURE	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA							
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS							
20. LICENSED APPLICATOR AGREEMENT (yes/no)	NO	NO	NO	NO	NO	NO	NO
21. FOR SALES INFORMATION, CONTACT:	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171
22. FOR TECHNICAL INFORMATION, CONTACT:	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171	800/323-7171
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

IKO INDUSTRIES INC.	IMPERITALIA S P A	IMPERITALIA S P A	IMPERITALIA S P A	IMPERITALIA S P A	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
ARMOURGARD ICE & WATER	PARALON NT4	TRIPLANE	ARWENOL AL	ARWENOL ARD/S	DYNAKAP	DYNAKAP FR	DYNAGLAS	DYNAPLY	DYNAGLAS FR
SBS	APP	APP	APP	APP	SBS	SBS	SBS	SBS	SBS
63	160		150	170	160	160	150	125	150
SAND	PLAIN	PLAIN	ALUMINUM	GRANULAR	GRANULE	GRANULE	GRANULE	SAND	GRANULE
78-GRAM FIBERGLASS	POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	FIBERGLASS & POLYESTER	FIBERGLASS & POLYESTER	FIBERGLASS	FIBERGLASS & POLYESTER	FIBERGLASS
BLACK	BLACK	BLACK	VARIOUS	VARIOUS	WHITE/BLACK	WHITE/BLACK	WHITE/BLACK	BLACK	WHITE/BLACK
0.42	0.83		0.73	0.99	1.10	1.10	0.88	0.78	0.88
SHINGLES MOD /TORCH CAP	NONE	NONE	NONE	NONE	NONE	NONE	NONE	ASPHALT & GRAVEL	NONE
X	X		X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
SELF-ADHERE	TORCH	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
	10	10							
	TORCH	TORCH	TORCH	TORCH					
TORCH	TORCH	TORCH	TORCH	TORCH	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD
					X		X	X	
1/4" OR P. DRAIN	1/4"	1/4"	1/4"	1/4"	1/8"	1/8"	1/8"	1/8"	1/8"
O					X	X	X	X	X
O					O	O	O	O	O
O					O	O	O	O	O
O					O	O	O	O	O
O					X	X	X	X	X
O					X	X	X	X	X
O					O	O	O	O	O
O					O	O	O	O	O
O					X	X	X	X	X
X O					X	X	X	X	X
O					X	X	X	X	X
X O					X	X	X	X	X
O					O	O	O	O	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
40 - 120	40 - 120	40 - 120	40 - 120	40 - 120					
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX
SELF-ADHERE	TORCH	TORCH	TORCH	TORCH	HOT MOP OR MEMB. FLASH-ING CEMENT	HOT MOP OR MEMB. FLASH-ING CEMENT	HOT MOP OR MEMB. FLASH-ING CEMENT	HOT MOP OR MEMB. FLASH-ING CEMENT	HOT MOP OR MEMB. FLASH-ING CEMENT
NONE	NO	NO	NO	NO	NO	NO	NO	NO	NO
CANADA CANADA	ITALY ITALY	ITALY ITALY	ITALY ITALY	ITALY ITALY	USA USA	USA USA	USA USA	USA USA	USA USA
	1968 1980	1966 1980	1972 1981	1972 1981	1983	1986	1987	1987	1988
	3,000,000 50,000	3,500,000 25,000	1,000,000 7,500	1,500,000 10,000	MILLIONS	MILLIONS	MILLIONS	100,000	MILLIONS
DISTRIBUTORS	DISTRSDIRECT 2	DISTRSDIRECT 2	DISTRSDIRECT 2	DISTRSDIRECT 2	DISTRIBUTORS 5	DISTRIBUTORS 5	DISTRIBUTORS 5	DISTRIBUTORS 5	DISTRIBUTORS 5
NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
800/323-7171	G CALABRESE	G CALABRESE	G CALABRESE	G CALABRESE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE
800/323-7171	G CALABRESE	G CALABRESE	G CALABRESE	G CALABRESE	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES
	X	X	X	X					

Modified Bitumen Part 1: General Information

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
2. PRODUCT NAME	DYNALASTIC 250	DYNALASTIC 180	DYNALASTIC 180 FR	DYNAGLAS 30 FR	DYNABASE	DYNALASTIC 180 S	SBS 170
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	158	150	150	125	100	118	145
C. TOP SURFACE	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	POLYESTER
E. COLOR(S)	WHITE/BLACK	WHITE/BLACK/ TAN	WHITE/BLACK	WHITE/BLACK	BLACK	BLACK	WHITE/BLACK/ TAN
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.96	0.88	0.88	0.78	0.58	0.80	0.85
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	CAP SHEET	CAP SHEET	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD	HOT OR COLD
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X			X
8. MINIMUM SLOPE REQUIREC	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X	X	X
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC							
F. FIBERBOARD	X	X	X	X	X	X	X
G. PERLITE	X	X	X	X	X	X	X
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	X	X	X	X	X	X	X
K. CONCRETE	X	X	X	X	X	X	X
L. WOOD PLANK	X	X	X	X	X	X	X
M. PLYWOOD	X	X	X	X	X	X	X
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)							
12. FLASHING MATERIAL	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX	DYNAFLEX
13. FLASHING METHOD	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR COLD FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1995	1993	1994	1993	1987	1979	1979
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	10,000	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	5	5	5
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	5	5	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE
22. FOR TECHNICAL INFORMATION, CONTACT:	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
DYNALASTIC 250 FR	DYNAMAX	DYNAMAX FR	APPEX 5S	APPEX 4S	APPEX 4M	BLACK BEAR	CLASSIC MINERAL	TRICOR-M FR	TRICOR
SBS	SBS	SBS	APP	APP	APP	APP		APP	APP
160	160	160	200	160	160	160	160	180	160
GRANULE	GRANULE	GRANULE	SMOOTH	SMOOTH	MINERAL	MINERAL	MINERAL	MINERAL	SMOOTH
POLYESTER	FIBERGLASS POLYESTER	FIBERGLASS POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	LAMINATED GLASS FIBER/ POLYESTER	LAMINATED GLASS FIBER/ POLYESTER
WHITE/BLACK	WHITE/BLACK	WHITE/BLACK	BLACK	BLACK	GRAY/WHITE	BLACK	BLACK AND WHITE	GRAY/WHITE	BLACK
1.06	1.16	1.16	1.10	0.90	0.95	0.95	0.95	1.0	0.95
NONE	NONE	NONE	ALUMINUM	ALUMINUM	NONE	NONE	NONE	NONE	ALUMINUM
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH	TORCH	TORCH	TORCH	MOP, TORCH, OR CLD ADHES	TORCH	TORCH
			10	10				10	
HOT OR COLD	HOT OR COLD	HOT OR COLD	TORCH	TORCH	TORCH	TORCH	MOP/COLD ADHES	TORCH	TORCH/COLD
	X		X	X	X		X	X	X
1/8"	1/8"	1/8"	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
X	X	X	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	X	O	O	O	O	O	O	O
X	X	X	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	X	O	O	O	O	O	X O	X O
X	X	X	X O	X O	X O	X O	O	O	O
X	X	X	O	O	O	O	O	O	O
X	X	X	O	O	O	O	O	O	O
O	O	O	X O	X O	X O	X O	O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
DYNAFLEX	DYNAFLEX	DYNAFLEX	40 – 120 SAME MATERIAL	40 – 120 SAME MATERIAL	40 – 120 SAME MATERIAL OR APPEX 4S	40 – 120 SAME MATERIAL OR APPEX 4S	30 – 120 SAME MATERIAL	40 – 120 SAME MATERIAL	40 – 120 SAME MATERIAL
HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	HOT MOP OR MEMB. FLASH- ING CEMENT	TORCH	TORCH	TORCH	TORCH	MOP, TORCH, COLD ADHESIVE	TORCH	TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1996	1995	1995	1967 1979	1967 1979	1967 1979	1991	1989	1994	1994
THOUSANDS	THOUSANDS	THOUSANDS	190,000 55,000	83,400,000 8,000,000	18,350,000 600,000	50,000	60,000		
5 YES	DISTRIBUTORS 5 YES	DISTRIBUTORS 5 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES	DISTRIBUTORS 8 YES
REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES	REGIONAL OFFICE GUARANTEE SERVICES

Modified Bitumen Part 1: General Information

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.
2. PRODUCT NAME	BICOR	APPEX 4.5M	APPEX 4.5M FR	CLASSIC SMOOTH	CLASSIC FR PREMIUM	2040-M APP	2040-S APP
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	APP	PAO	PAO	APP	APP
B. THICKNESS (mils)	160	160	160	160	160	160	160
C. TOP SURFACE	SMOOTH	MINERAL	MINERAL	SMOOTH	SMOOTH OR GRANULAR	MINERAL	SMOOTH
D. REINFORCING MATERIAL	FIBERGLASS AND POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
E. COLOR(S)	BLACK	GRAY/WHITE	GRAY/WHITE	BLACK	BLACK/WHITE	GRAY/WHITE	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.95	1.05	1.12	0.90	0.95	0.95	0.90
4. KINDS OF FIELD SURFACING REQUIRED	ALUMINUM	NONE	NONE	ALUMINUM OR AGGREGATE	NONE	NONE	ALUMINUM
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	TORCH	MOP TORCH COLD ADHES	MOP TORCH COLD ADHES	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	TORCH/COLD	TORCH	TORCH	MOP/COLD ADHES	MOP/COLD ADHES	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X		
8. MINIMUM SLOPE REQUIREC	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	1/4"	1/4"
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	O	O	O
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	O	O	O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE						O	O
J. GYPSUM	X O	O	O	X O	X O	O	O
K. CONCRETE	O	X O	X O	O	O	O	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O	X O	X O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL OR APPEX 4S	SAME MATERIAL OR APPEX 4S	SAME MATERIAL		SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	TORCH	TORCH	TORCH	HOT MOP, TORCH, OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	TORCH	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	ITALY	ITALY
B. MANFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA						1967	1967
B. WITHIN USA	1994	1994	1994	1994	1994	1983	1983
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA						MILLIONS	MILLIONS
B. WITHIN USA		5,000	5,000	25,000		THOUSANDS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRS, DIRECT	DISTRS, DIRECT
19. NUMBER OF REGIONAL LOCATIONS	8	8	8	8	8		
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	800/558-2706	800/558-2706
22. FOR TECHNICAL INFORMATION, CONTACT:	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	800/558-2706	800/558-2706
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.
2050-S APP	2041-M SBS	2041-S SBS	2045-M SBS	2045 MFR-CAP	2042 MFR-CAP	2042 FR-BASE	APP 159 SMOOTH	APP 160 SMOOTH	APP 161 MINERAL
APP	SBS	SBS	SBS	SBS	SBS	SBS	APP	APP	APP
200	160	160	180	180	160	112	159	160	160
SMOOTH	MINERAL	SMOOTH	MINERAL	MINERAL	MINERAL	MINERAL	SMOOTH	SMOOTH	GRANULE
POLYESTER	POLYESTER	POLYESTER	POLYESTER	LAMINATED INTERWOVEN FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS	POLYESTER	POLYESTER
BLACK	GRAY/WHITE	BLACK	GRAY/WHITE	GRAY/WHITE	GRAY/WHITE	BLACK	BLACK	BLACK	WHITE
1.10	0.95	0.90	1.05	1.05	0.95	0.70			
ALUMINUM	NONE	ALUMINUM	NONE	NONE	NONE	CAP SHEET	EMULSION/ GRANULE/ALUM.	EMULSION/ GRANULE/ALUM.	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	MOP/TORCH	MOP/TORCH	MOP/TORCH	MOP	MOP	MOP	TORCH	TORCH	TORCH
								10	10
TORCH	MOP	MOP	MOP	MOP	MOP	MOP	TORCH	TORCH	TORCH
								X	X
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	TO DRAIN	TO DRAIN	TO DRAIN
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X O	X O	X O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X O	X O	X O
O	O	O	O	O	O	O	X O	X O	X O
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X	X	X
O	O	O	O	O	O	O	X O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	20	20	20
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH	HOT MOP, TORCH	HOT MOP, TORCH	HOT MOP, TORCH	HOT MOP	HOT MOP	HOT MOP	TORCH	TORCH	TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	USA USA	USA USA	USA USA
1967 1983	1977 1984	1977 1984	1977 1984	1988 1979	1988 1979	1988 1979	1961 1991	1960 1990	1960 1990
THOUSANDS THOUSANDS	MILLIONS THOUSANDS	MILLIONS MILLIONS	MILLIONS THOUSANDS						
DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRIBUTORS 100 + YES	DISTRIBUTORS 100 + YES	DISTRIBUTORS 100 + YES
YES	YES	YES	YES	YES	YES	YES	G MALARKEY	G MALARKEY	G MALARKEY
800/558-2706	800/558-2706	800/558-2706	800/558-2706	800/558-2706	800/558-2706	800/558-2706	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY

Modified Bitumen Part 1: General Information

1. COMPANY NAME	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.	MALARKEY ROOFING CO.
2. PRODUCT NAME	APP 162 MINERAL	PREMIUM SBS 601	PARAGON SBS 625	PANOPLY SBS 650	POLYGLASS SBS 917	POLYGLASS SBS 919	ESHALUM SBS 1020
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	120	125	150	180	160	160
C. TOP SURFACE	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE	SMOOTH	ALUMINUM
D. REINFORCING MATERIAL	POLYESTER	POLYGLASS	FIBERGLASS	FIBERGLASS	POLYGLASS	POLYGLASS	FIBERGLASS
E. COLOR(S)	WHITE	WHITE/BLACK/ VARIOUS	WHITE/BLACK/ VARIOUS	WHITE/BLACK/ VARIOUS	WHITE/ VARIOUS	BLACK	ALUMINUM
F. INSTALLED WEIGHT (lbs./ft ² without ballast)							
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	EMULSION/ GRANULE/ALUM.	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	HOT/COLD	HOT/COLD	HOT/COLD	HOT/COLD/ TORCH	HOT/COLD/ TORCH	HOT/TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	TORCH	HOT/COLD	HOT/COLD	HOT/COLD	HOT/COLD/TORCH	HOT/COLD/TORCH	HOT/COLD/TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	
8. MINIMUM SLOPE REQUIRED	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X	X	X
B. MINERAL FIBER	X	X	X	X	X	X	X
C. POLYSTYRENE	X O	X O	X O	X O	X O	X O	X O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC							
F. FIBERBOARD	X	X	X	X	X	X	X
G. PERLITE	X	X	X	X	X	X	X
H. POLYISOCYANURATE	X O	X O	X O	X O	X O	X O	X O
I. POLYURETHANE	X O	X O	X O	X O	X O	X O	X O
J. GYPSUM	X	X	X	X	X	X	X
K. CONCRETE	X	X	X	X	X	X	X
L. WOOD PLANK	X	X	X	X	X	X	X
M. PLYWOOD	X	X	X	X	X	X	X
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O	X O	X O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	20						
12. FLASHING MATERIAL	SAME MATERIAL	SAME	SAME	SAME	601, 625, 650	601, 625, 650	SAME
13. FLASHING METHOD	TORCH	HOT/COLD	HOT/COLD	HOT/COLD	HOT/COLD	HOT/COLD	TORCH OR HOT MOP
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1960	1982			1982	1982	1985
B. WITHIN USA	1990	1982	1993	1992	1981	1981	
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	100 +	100 +	100 +	100 +	100 +	100 +	100 +
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	G MALARKEY	G MALARKEY	G MALARKEY	G MALARKEY	G MALARKEY	G MALARKEY	G MALARKEY
22. FOR TECHNICAL INFORMATION, CONTACT:	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY	J DECHANDT M. MALARKEY
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY
SUPERCAP SBS SC-100GWH	METALFLEX SBS MF-160WAL	SUPERFLEX SBS SF-160 PSA	FIREGUARD FASTORCH SBS FGFT160 CWH	FIREGUARD SBS FG160 CWH	FIREGUARD SBS FG160 GWH	FIREGUARD SBS FG90 GWH	LAYFLAT SBS LF25	LAYFLAT SBS LF40	LAYFLAT SBS LF60
SBS 135	SBS 145	SBS 125	SBS 167	SBS 154	SBS 143	SBS 125	SBS 42	SBS 58	SBS 81
GRANULES	EMBOSSED COPPER/ALUM.	PLAIN	GRANULES	GRANULES		GRANULES	SAND/SMOOTH	SAND/SMOOTH	SAND/SMOOTH
FIBERGLASS	SCRIM- WOVEN	POLYESTER	POLYESTER & FIBERGLASS	POLYESTER & FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS
VARIOUS	ALUMINUM/ VARIOUS	BLACK	VARIOUS	VARIOUS	VARIOUS	VARIOUS	BLACK	BLACK	BLACK
1.00	1.01	0.90	1.20	1.10	1.10	0.90	0.28	0.45	0.70
NONE	NONE	GRAVEL, EMUL- SIONS, ACRYLC	NONE	NONE	NONE	NONE	CAPSHEET, GRA- VEL, EMULSION	CAPSHEET, GRA- VEL, EMULSION	CAPSHEET, GRA- VEL, EMULSION
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT MOP OR COLD ADHES	HOT MOP OR TORCH	HOT MOP OR COLD ADHES	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	NAIL, MOP, OR COLD ADHES	NAIL, MOP, OR COLD ADHES	NAIL, MOP, OR COLD ADHES
MOP/CLD ADH	MOP/TORCH	MOP/CLD ADH	TORCH	MOP/CLD ADH	MOP/CLD ADH	MOP/CLD ADH	MOP/CLD ADH	MOP/CLD ADH	MOP/CLD ADH
TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN
O	O	X O	O	O	O	O	X	X	X O
O	O	X O	O	O	O	O	X	X	X O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	X O				O	X	X	X O
O	O	X O	O	O	O	O	X	X	X O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	X O	O	O	O	O	X	X	O
O	O	O	O	O	O	O	X	X	O
O	O	O	O	O	O	O	X	X	O
O	O	X O	O	O	O	O	X	X	O
NONE 50 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120	NONE 40 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120
SF160PWH MF160WAL FT160CWH	MF160WAL	SF160PWH MF160WAL FT160CWH	FT160CWH MF160WAL	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH
TORCH OR HOT MOP	TORCH OR HOT MOP	TORCH OR HOT MOP	TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT ASPHALT OR TORCH	HOT ASPHALT OR TORCH	HOT ASPHALT OR TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1989	1984	1966 1983				1985		1984	1985
THOUSANDS	THOUSANDS	MILLIONS THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER	SALES MANAGER TECHNICAL MANAGER

Modified Bitumen Part 1: General Information

1. COMPANY NAME	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY	MBTECHNOLOGY
2. PRODUCT NAME	LAYFLAT SBS LF60P	SUPERFLEX SBS SF-160PWH	FASTORCH SBS FT-160CWH	FASTORCH SBS FT-160CSA	FASTORCH SBS FT-160GWH	FASTORCH SBS FT-120GSA	SUPERFLEX SBS SF160PWH PREMIUM 250
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	90	142	167	138	155	120	160
C. TOP SURFACE	SAND/SMOOTH	GRANULES	GRANULES	SAND/SMOOTH	GRANULES	SAND	GRANULES
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	POLYESTER & FIBERGLASS	POLYESTER & FIBERGLASS	FIBERGLASS	FIBERGLASS	POLYESTER
E. COLOR(S)	BLACK	VARIOUS	VARIOUS	BLACK	VARIOUS	BLACK	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.70	1.00	1.20	1.10	1.20	0.90	1.07
4. KINDS OF FIELD SURFACING REQUIRED	CAPSHEET, GRA- VEL, EMULSION	NONE	NONE	EMULSION, GRA- VEL, ACRYLIC	NONE	EMULSION, GRA- VEL, CAP SHEET	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	NAIL, MOP, OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH	TORCH	TORCH	TORCH	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP/CLD ADH	MOP/CLD ADH	TORCH	TORCH	TORCH	TORCH	MOP/CLD ADH
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIRED	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN	TO DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X O	O	O	X O	O	O	O
B. MINERAL FIBER	X O	O	O	X O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC							O
F. FIBERBOARD	X O	O	O	X O	O	O	O
G. PERLITE	X O	O	O	X O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	O	O	O	O	O	O	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	50 – 120	50 – 120	50 – 120	50 – 120	50 – 120	50 – 120	50 – 120
12. FLASHING MATERIAL	SF160PWH MF160WAL FT160CWH	SF160PWH MF160WAL FT160CWH	FT160CWH MF160WAL	FT160CWH MF160WAL	FT160CWH MF160WAL	FT160CWH MF160WAL	SAME MATERIAL
13. FLASHING METHOD	HOT ASPHALT OR TORCH	TORCH OR HOT MOP	TORCH	TORCH	TORCH	TORCH	HOT ASPHALT
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA		1985	1988	1988	1988		1985
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA			THOUSANDS	THOUSANDS			
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS		
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS							
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES MANAGER	SALES MANAGER	SALES MANAGER	SALES MANAGER	SALES MANAGER	SALES MANAGER	SALES MANAGER
22. FOR TECHNICAL INFORMATION, CONTACT:	TECHNICAL MANAGER	TECHNICAL MANAGER	TECHNICAL MANAGER	TECHNICAL MANAGER	TECHNICAL MANAGER	TECHNICAL MANAGER	TECHNICAL MANAGER
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

MFM BUILDING PRODUCTS CORP.	MODBIT CORP.	MODBIT CORP.	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
BITUFLEX PLUS	BITUTAK MB	BITUTAK MB MINERAL	MODIFIED PLUS G100 s/s [p/s] [p/p]	MODIFIED PLUS NP180s/s [p/s] [p/p]	MODIFIED PLUS NP180gM (T)	MODIFIED PLUS NP250gM4 (T4)	MODIFIED PLUS NP250gT5	MODIFIED PLUS G100gM	MODIFIED PLUS G100gMFR
APP 150	APP 152	APP	SBS 80	SBS 90	SBS 160	SBS 160	SBS 200	SBS 130	SBS 148
MODIFIED BITUMEN	SMOOTH	GRANULES	SMOOTH	SMOOTH	GRANULE	GRANULE	GRANULE	GRANULE	GRANULE
POLYESTER	POLYESTER	POLYESTER	NONWOVEN GLASS	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN GLASS	NONWOVEN GLASS
BLACK					BLACK/WHITE/ GREY/BROWN	BLACK/WHITE/ GREY/BROWN	BLACK/WHITE/ GREY/BROWN	BLACK/WHITE/ GREY/BROWN	WHITE/BLACK/ GREY/BROWN
0.85	0.89	1.02	0.57	0.57	1.04	1.06	1.20	0.97	1.15
NONE	NONE	NONE	GRANULE SHEET	GRANULE SHEET	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	HOT MOP	HOT MOP OR TORCH	MOP, TORCH, OR COLD ADHES	MOP, TORCH, OR COLD ADHES	TORCH	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES
TORCH									
	TORCH	TORCH	MOP/COLD ADH	MOP/COLD ADH	MOP/COLD ADH	MOP/TORCH/ADH	MOP/TORCH/ADH	MOP/TORCH/ADH	MOP/COLD ADH
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	X	X	X	X	X	X	X
O	O	O	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	X	X	X	X	O	X	X
O	O	O	X	X	X	X	O	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	X	O	X	O	O	O	O
O	X	X	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	O	O	X	X	X	X	X	X	X
NONE 20 – 120	NONE 14- 120	NONE 40 -120	SEE SPECS 20 – 115	SEE SPECS 20 – 115	SEE SPECS 20 – 115	SEE SPECS 20 – 115	SEE SPECS 20 – 115	SEE SPECS 20 – 115	SEE SPECS 20 – 115
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL			SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH	TORCH	TORCH			MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	TORCH	MOP, TORCH, OR COLD ADHESIVE	MOP OR COLD ADHESIVE
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
USA	USA	USA	GERMANY CANADA	GERMANY CANADA	GERMANY CANADA	GERMANY CANADA	GERMANY CANADA	CANADA CANADA	GERMANY CANADA
1985	1,997	1,997	1971 1985	1971 1988	1971 1988	1971 1988	1971 1988	1981 1985	1992
250,000			MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	THOUSANDS	THOUSANDS
DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
NO	1 NO	1 NO	7 NO	7 NO	7 NO	7 NO	7 NO	7 NO	7 NO
S FOSTER	D QUNADT 888/663-2488	D QUNADT 888/663-2488	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268
S FOSTER	K HUNT 888/663-2488	K HUNT 888/663-2488	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598
	X	X	X	X	X	X	X	X	

Modified Bitumen Part 1: General Information

1. COMPANY NAME	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
2. PRODUCT NAME	MODIFIED PLUS NP180gMFR (TFR)	MODIFIED PLUS NP250gMFR (TFR)	MODIFIED PLUS 170 MOP GRANULE	MODIFIED PLUS 170 TORCH GRANULE	MODIFIED PLUS 170 MOP SMOOTH	MODIFIED PLUS 170 TORCH SMOOTH	MODIFIED PLUS BASE S/S
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	160	160	160	140	140	56
C. TOP SURFACE	GRANULE	GRANULE	GRANULE	GRANULE	SMOOTH	SMOOTH	SMOOTH
D. REINFORCING MATERIAL	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN GLASS
E. COLOR(S)	WHITE/BLACK/ GREY/BROWN	WHITE/BLACK/ GREY/BROWN	BLACK/WHITE/ GREY/BROWN	BLACK/WHITE/ GREY/BROWN			
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.25	1.25					
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	GRAVEL OR REF-LECTIVE COAT.	GRAVEL OR REF-LECTIVE COAT.	GRANULE SHEET
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	MOP, TORCH, OR COLD ADHES	MOP, TORCH, OR COLD ADHES	HOT MOP OR COLD ADHES	TORCH	HOT MOP OR COLD ADHES	TORCH	HOT MOP OR COLD ADHES
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP/TORCH/ADH	MOP/TORCH/ADH	MOP/COLD ADH	TORCH	MOP/COLD ADH	TORCH	MOP/COLD ADH
D. PROTECTED ROOF MEMBRANE ASSEMBLY			X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X	X	X
B. MINERAL FIBER	X	X	X	X	X	X	X
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC							
F. FIBERBOARD	X	X	X	O	X	O	X
G. PERLITE	X	X	X	X	X	X	X
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	O	O	O	O	O	O	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	X	X	X	X	X	X	X
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS
11. WORKABLE TEMPERATURE RANGE (degrees F)	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115	20 – 115
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	MOP, TORCH, OR COLD ADHESIVE	MOP, TORCH, OR COLD ADHESIVE	MOP OR COLD ADHESIVE	TORCH	MOP OR COLD ADHESIVE	TORCH	MOP OR COLD ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	GERMANY	GERMANY	GERMANY	GERMANY	GERMANY	GERMANY	GERMANY
B. MANUFACTURE	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA	CANADA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA			1990	1990	1990	1990	1990
B. WITHIN USA	1992	1992	1990	1990	1990	1990	1990
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	7	7	7	7	7	7	7
20. LICENSED APPLICATOR AGREEMENT (yes/no)	NO	NO	NO	NO	NO	NO	NO
21. FOR SALES INFORMATION, CONTACT:	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268
22. FOR TECHNICAL INFORMATION, CONTACT:	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598
23. SEE MEMBRANE APPENDIX IF CHECKED			X	X	X	X	X

Modified Bitumen Part 1: General Information

PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	PERFORMANCE ROOF SYSTEMS INC.	POLYGLASS USA
DERBIGUM-XPS	DERBICOLOR XPS	DERBIGUM XPS FR	DERBICOLOR XPS FR	DERBIGUM GP	DERBICOLOR GP	DERBIGUM GP FR	DERBICOLOR GP FR	DERBIBASE	POLYFLEX
APP 160	APP 160	APP 160	APP 180	APP 150	APP 180	APP 160	APP 180	APP 80	APP 160
MODIFIED BITUMEN	SLATE	MODIFIED BITUMEN	SLATE	MODIFIED BITUMEN	SLATE	MODIFIED BITUMEN	SLATE	MODIFIED BITUMEN	SMOOTH
FIBRGLS LAMIN & POLYESTER SCRIM	FIBRGLS LAMIN & POLYESTER SCRIM	FIBRGLS LAMIN & POLYESTER SCRIM	FIBRGLS LAMIN & POLYESTER SCRIM	FIBRGLS MAT & POLYESTER SCRIM	FIBRGLS MAT & POLYESTER SCRIM	FIBRGLS MAT & POLYESTER SCRIM	FIBRGLS MAT & POLYESTER SCRIM	FIBERRGLASS MAT	POLYESTER
BLACK	VARIOUS	BLACK	VARIOUS	BLACK	VARIOUS	BLACK	VARIOUS	BLACK	BLACK
0.95	1.08	0.95	1.08	.93	1.06	.93	1.06	.45	0.90
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
								MECHANICAL	
TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TRCH OR MASTIC	TORCH X
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	O	O	O	O	O	X	O
O	O	O	O	O	O	O	O	O	O
	O	O	O	O					O
O	O	O	O	O	O	O	O	O	O
	O	O	O	O					O
O	O	O	O	O	O	O	O	X	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	X	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	X	O
X	O	X	O	X	O	X	O	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	X	O	X	O	X
NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	TORCH OR MASTIC	MASTIC OR MECHANICAL	TORCH
NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	ITALY USA
1981	1993	1993	1994	1978	1993	1994	1994	1993	1961 1991
									100 MILLION 3 MILLION
DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTR/DIRECT	DISTRIBUTORS 1 YES
YES	YES	YES	YES	YES	YES	YES	YES	YES	
CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	CUST SERVICE 800/722-9872 K. HUNT 800/727-9872	800/222-9782 800/222-9782
X	X	X	X	X	X	X	X	X	

Modified Bitumen Part 1: General Information

1. COMPANY NAME	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA
2. PRODUCT NAME	POLYFLEX 5	POLYBOND	POLYBOND G	POLYFLEX G	DIAMOND BACK	DUFLEX	DUFLEX 5
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	APP	APP	APP	APP	APP
B. THICKNESS (mils)	200	160	180	180	160	160	200
C. TOP SURFACE	SMOOTH	SMOOTH	MINERAL	MINERAL	MINERAL	SMOOTH	SMOOTH
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER, FIBERGLASS	POLYESTER, FIBERGLASS
E. COLOR(S)	BLACK	BLACK	VARIOUS	VARIOUS	BLACK	BLACK	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.10	0.90	1.05	1.05	0.90	0.90	1.10
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	O	O	O
B. MINERAL FIBER	O	O	O	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	O	O	O	O	O	O	O
G. PERLITE	O	O	O	O	O	O	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X O	X O	X O	X O	X O	X O	X O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O	X O	X O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	POLYFLEX	POLYFLEX	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1961	1961	1961	1961	1961	1961	1961
B. WITHIN USA	1991	1991	1991	1991	1991	1991	1991
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA	100 MILLION	80 MILLION	10 MILLION	MILLIONS	MILLIONS	MILLIONS	MILLIONS
B. WITHIN USA	1 MILLION	200,000	50,000	MILLIONS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	1	1	1	1	1	1	1
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782
22. FOR TECHNICAL INFORMATION, CONTACT:	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA
DUFLEX G	POLYGLASS BASE	POLYFLEX G-FR	POLYALL	POLYRAM	INSULROOFING	INSULROOFING GRANULAR	INSULBASE	ELASTOSHIELD TS4	ELASTOFLEX S6
APP 180	APP 80	APP 180	APP 160	APP 160	APP 160	APP 160	APP 80	SBS 180	SBS 120
MINERAL	SMOOTH	MINERAL	ALUMINUM	COPPER	1/2" INSULATION SMOOTH	1/2" INSULATION SMOOTH	1/2" INSULATION SMOOTH	MINERAL	SMOOTH
POLYESTER, FIBERGLASS	FIBERGLASS	POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
VARIOUS	BLACK	VARIOUS	ALUMINUM	COPPER	BLACK	BLACK	BLACK	VARIOUS	BLACK
1.05	.45	1.10	.90	.90	1.30	1.40	1.00	1.05	.80
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	HOT/ TORCH	HOT
					TORCH	TORCH	TORCH		
TORCH	TORCH	TORCH	TORCH	TORCH				HOT/TORCH	HOT
X	X	X	X	X	X	X	X	X	X
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
X O	X O	X O	X O	X O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
O	O	O	O	O	X	X	X	O	O
X O	X O	X O	X O	X O	X	X	X	O	O
NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	POLYFLEX	POLYFLEX	POLYFLEX	SAME MATERIAL	SAME MATERIAL
TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	TORCH	HOT	HOT
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA	ITALY USA
1961 1991	1961 1991	1961 1991	1961 1991	1961 1991	1961 1991	1961 1991	1961 1991	1961 1991	1961 1991
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
1 YES	1 YES	1 YES	1 YES	1 YES	1 YES	1 YES	1 YES	1 YES	1 YES
800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782
800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782

Modified Bitumen Part 1: General Information

1. COMPANY NAME	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA	POLYGLASS USA
2. PRODUCT NAME	ELASTOFLEX GS-6	ELASTOFLEX G S6-FR	ELASTOBASE	ELASTOBASE POLY	MODIBASE	ELASTOFLEX V	ELASTOFLEX VG
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	140	140	80	80	60	120	140
C. TOP SURFACE	MINERAL	MINERAL	SMOOTH	SMOOTH	SMOOTH	SMOOTH	MINERAL
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	FIBERGLASS	POLYESTER	FIBERGLASS	FIBERGLASS	FIBERGLASS
E. COLOR(S)	VARIOUS	VARIOUS	BLACK	BLACK	BLACK	BLACK	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	.85	.85	.80	.80	.60	.80	.90
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT	HOT	HOT/COLD/ MECHANICAL	HOT/COLD/ MECHANICAL	HOT/COLD/ MECHANICAL	HOT	HOT
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)			MECHANICAL	MECHANICAL	MECHANICAL		
C. FULLY ADHERED (method)	HOT	HOT	HOT/COLD	HOT/COLD	HOT/COLD	HOT	HOT
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	X	X	X	O	O
B. MINERAL FIBER	O	O	X	X	X	O	O
C. POLYSTYRENE	O	O	X	X	X	O	O
D. CELLULAR GLASS	O	O	X	X	X	O	O
E. PHENOLIC	O	O	X	X	X	O	O
F. FIBERBOARD	O	O	X	X	X	O	O
G. PERLITE	O	O	X	X	X	O	O
H. POLYISOCYANURATE	O	O	X	X	X	O	O
I. POLYURETHANE	O	O	X	X	X	O	O
J. GYPSUM	O	O	X	X	X	O	O
K. CONCRETE	O	O	X	X	X	O	O
L. WOOD PLANK	O	O	X	X	X	O	O
M. PLYWOOD	O	O	X	X	X	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	X	X	X	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	HOT	HOT	HOT/COLD	HOT/COLD	TORCH	HOT	HOT
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY	ITALY
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1961	1961	1961	1961	1961	1961	1961
B. WITHIN USA	1991	1991	1991	1991	1991	1991	1991
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	1	1	1	1	1	1	1
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782
22. FOR TECHNICAL INFORMATION, CONTACT:	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782	800/222-9782
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

POLYGLASS USA	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.
ELASTOFLEX VG-FR	PARADIENE 20	PARADIENE 20 HT	PARADIENE 20 PR	PARADIENE 20 EG	PARADIENE 30	PARADIENE 30 HT	PARADIENE 40 FR	PARAFOR 50 LT	VERAL (ALUM FACED)
SBS 140	SBS 91	SBS 91	SBS 91	SBS 118	SBS 130	SBS 130	SBS 150	SBS 180	SBS 138
MINERAL	PLAIN	PLAIN	PLAIN	PLAIN	MINERAL	MINERAL	MINERAL	MINERAL	ALUMINUM
FIBERGLASS	GLASS MAT	GLASS MAT, GLASS SCRIM	GLASS SCRIM, POLYESTER	GLASS MAT, GLASS SCRIM	GLASS MAT	GLASS MAT, GLASS SCRIM	GLASS MAT, GLASS SCRIM	POLYESTER, GLASS SCRIM	GLASS SCRIM
VARIOUS	BLACK	BLACK	BLACK	BLACK	VARIOUS	VARIOUS	VARIOUS	VARIOUS	ALUMINUM
.90	0.60	0.60	0.60	0.85	0.90	0.90	1.15	1.45	0.92
NONE	PARADIENE 30	PARADIENE 30	PARADIENE 30	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/ PA -311 ADHESIVE	HOT MOP/TORCH/ PA-311 ADHESIVE	HOT MOP OR TORCH
	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH				MOP/TOR/PA-311 AD	
HOT	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/PA-311 ADH	MOP/TOR/PA-311 AD	MOP OR TORCH
X	X	X	X		X	X	X		
POS DRAIN	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	1/4"	1/2"	1/2"
O	X	X	X	X	X	X	X	X	X
O	X	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
O	X O	X O	X O	X O	X O	X O	X O	X O	X O
O	O	O	O	O	O	O	O	O	O
O	X	X	X	X	X	X	X	X	X
O	X	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
NONE 40 – 120	40 – 120	NONE 40 – 120	40 – 120	40 – 120	NONE 40 – 120	NONE 40 – 120	40 – 120	NONE 40 – 120	40 – 120
SAME MATERIAL					VERAL	VERAL	VERAL	SAME/VERAL	SAME MATERIAL
HOT					TORCH	TORCH	TORCH	TORCH	TORCH
YES	NO	NO	NO		NO	NO	NO	NO	NO
ITALY USA	FRANCE USA	FRANCE USA	FRANCE USA	USA USA	FRANCE USA	FRANCE USA	FRANCE USA	FRANCE USA	FRANCE USA
1961 1991	1968 1979				1968 1979				
THOUSANDS THOUSANDS									
DISTRIBUTORS 1 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES	DIRECT 9 YES
800/222-9782	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070
800/222-9782	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070
	X	X	X	X	X	X	X	X	X

Modified Bitumen Part 1: General Information

1. COMPANY NAME	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.	SIPLAST, INC.
2. PRODUCT NAME	VERAL (COPPER)	VERAL (STAINLESS STEEL)	PARADIENE 20 HV	PARADIENE 20 TG	PARADIENE 20 HT TG	PARADIENE 20 PR TG	PARADIENE 20 EG TG
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	138	138	119	110	110	110	138
C. TOP SURFACE	COPPER	STAINLESS STEEL	PLAIN	PLAIN	PLAIN	PLAIN	PLAIN
D. REINFORCING MATERIAL	GLASS SCRIM	GLASS SCRIM	GLASS MAT	GLASS MAT	GLASS MAT, GLASS SCRIM	GLASS SCRIM, POLYESTER	GLASS MAT, GLASS SCRIM
E. COLOR(S)	COPPER	STAIN/STEEL	BLACK	BLACK	BLACK	BLACK	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.10	1.05	0.90	0.75	0.75	0.95	0.95
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	PARADIENE 30	PARADIENE 30 TG	PARADIENE 30 TG	PARADIENE 30 TG	PARADIENE 30 TG
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP/ PA -311 ADHESIVE	TORCH	TORCH	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)			MOP/PA-311 ADH	TORCH	TORCH	TORCH	TORCH
C. FULLY ADHERED (method)	MOP OR TORCH	MOP OR TORCH	MOP/PA-311 ADH	TORCH	TORCH	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY				X	X	X	X
8. MINIMUM SLOPE REQUIRED	1/2 "	1/2 "	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	O	O	O	O
B. MINERAL FIBER	X	X	X	O	O	O	O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	X O	X O	O	O	O	O	O
E. PHENOLIC	O	O	O	O	O	O	O
F. FIBERBOARD	X	X	X	O	O	O	O
G. PERLITE	X	X	X	O	O	O	O
H. POLYISOCYANURATE	X	X	X	X	X	X	X
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	O	O	O	X O	X O	X O	X O
L. WOOD PLANK	O	O	O	X O	X O	X O	X O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)					NONE		
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL					
13. FLASHING METHOD	TORCH	TORCH					
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO		NO	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	FRANCE	FRANCE	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	FRANCE	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA							
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	9	9	9	9	9	9	9
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070	J. MOLLENHOFF 972/869-0070
22. FOR TECHNICAL INFORMATION, CONTACT:	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070	K. WOLFORD 972/869-0070
23. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X	X

Modified Bitumen Part 1: General Information	
1.01	Section Includes
1.02	Related Sections
1.03	Notes
1.04	Quantities
1.05	Installation
1.06	Materials
1.07	Testing
1.08	Acceptance
1.09	Warranty
1.10	Other

[illegible]

Modified Bitumen Part 1: General Information

1. COMPANY NAME	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.
2. PRODUCT NAME	SOPRALENE 250 GRANULES	SOPRALENE 250 FR GRANULES	SOPRALENE FLAM 250	SOPRALENE FLAM 250 GRANULES	SOPRALENE FLAM 250 FR GRANULES	SOPRALENE 350	SOPRALENE 350 GRANULES
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	160	160	160	160	160	200
C. TOP SURFACE	CERAMIC GRANULES	SAND	PLAIN	CERAMIC GRANULES	CERAMIC GRANULES	SAND	CERAMIC GRANULES
D. REINFORCING MATERIAL	NONWOVEN POLYESTER	NONWOVEN POLYESTER	PLASTIC FILM	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONWOVEN POLYESTER
E. COLOR(S)	VARIOUS	BLACK	BLACK	VARIOUS	VARIOUS	BLACK	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.17	1.16	1.12	1.13	1.17	1.07	1.32
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	GRAVEL ALUMINUM	NONE	NONE	GRAVEL OR ALUMINUM	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	MOP	MOP	TORCH	TORCH	MOP	MOP/TORCH	TORCH OR SELF-ADHERE
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP	MOP	TORCH	TORCH	MOP	MOP/TORCH	MOP/TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	1/8:12	1/8:12	DEAD LEVEL	DEAD LEVEL	1/8:12	1/8:12	1/8:12
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X O	X O	O	O	X O	X O	X O
B. MINERAL FIBER	X O	X O	X	X O	X O	X O	X O
C. POLYSTYRENE	X O	X O	X	X O	X O	O	X O
D. CELLULAR GLASS	X O	X O	X	X O	X O	X O	X O
E. PHENOLIC	O	O	O		O		
F. FIBERBOARD	X O	X O	O	O	X O	X O	O
G. PERLITE	X O	X O	X	X O	X O	X O	X O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	X O	X O	X	X O	X O	X O	X O
K. CONCRETE	X O	X O	X	X O	X O	X O	X O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)				NONE		NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	35 – 120	35 – 120	0 -120	0 – 120	35 – 120	35 – 120	35 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	TORCH OR HOT MOP	TORCH OR HOT MOP	TORCH	TORCH	TORCH OR HOT MOP	HOT MOP, TORCH, OR COLD ADHESIVE	HOT MOP, TORCH, OR COLD ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE
B. MANUFACTURE	USA, CANADA	USA, CANADA	USA, CANADA	USA, CANADA	USA, CANADA	USA, CANADA	USA, CANADA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1975	1975	1,975	1975	1975	1975	1975
B. WITHIN USA	1984	1984	1,984	1984	1984	1984	1984
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	5	5	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066
22. FOR TECHNICAL INFORMATION, CONTACT:							
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.
SOPRALENE FLAM STICK	ELASTOPHENE	ELASTOPHENE FLAM	ELASTOPHENE GRANULES	ELASTOPHENE FLAM GRANULES	ELASTOPHENE PS	ELASTOPHENE 180	ELASTOPHENE 180 PS	ELASTOPHENE FLAM GRANULES FR	ELASTOPHENE GRANULES FR
SBS 120	SBS 90	SBS 120	SBS 136	SBS 148	SBS 90	SBS 90	SBS 90	SBS 148	SBS 136
PLAIN	SAND	PLASTIC FILM	CERAMIC GRANULES	CERAMIC GRANULES	PLASTIC FILM	PLAIN	SAND	CERAMIC GRANULES	CERAMIC GRANULES
NONWOVEN POLYESTER	FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS	FIBERGLASS	NONWOVEN POLYESTER	NONWOVEN POLYESTER	FIBERGLASS	FIBERGLASS
BLACK	BLACK	BLACK	VARIOUS	VARIOUS	BLACK	BLACK	BLACK	VARIOUS	VARIOUS
0.88	0.63	0.83	0.93	1.01	0.63	0.57	0.57	1.01	0.93
SOPRALENE GRANULES	ELASTOPHENE OR SOPRALENE GRAN	ELASTOPHENE OR SOPRALENE GRANS	NONE	NONE	ELASTOPHENE OR SOPRALENE GRAN	ELASTOPHENE OR SOPRALENE GRAN	ELASTOPHENE OR SOPRALENE GRANS	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	MOP OR COLD ADHESIVE	TORCH	MOP OR COLD ADHESIVE	TORCH	HOT MOP	MOP OR COLD ADHESIVE	HOT MOP	TORCH	HOT MOP
SELF-ADHERING	MOP OR ADHES	TORCH	MOP OR ADHES	TORCH	MOP	MOP OR ADHESIVE	MOP OR TORCH	TORCH	HOT MOP
1/8:12	1/8:12	DEAD LEVEL	1/8:12	DEAD LEVEL	1/8:12	1/8:12	1/8:12	1/8:12	1/8:12
O	X O	O	O	O	O	X O	O	O	O
X O	X O	X O	O	O	X O	X O	X O	O	O
X	O	O	O	O	O	O	O	O	O
X O	X O	X O	O	O	X O	X O	X O	O	O
O	X O	O	O	O	O	O	X O	O	O
X O	X O	X O	O	O	X O	X O	X O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X O	X O	X O	O	O	X O	X O	X O	O	O
X O	X O	X O	O	O	X O	X O	X O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O
O	O	X O	X O	X O	X O	O	O	O	O
NONE 35 – 120	NONE 35 – 120	NONE 0 – 120	NONE 0 – 120	NONE 0 – 120	NONE 0 – 120	NONE 0 – 120	NONE 0 – 120	NONE 0 – 120	NONE 35 – 120
SOPRALENE	SOPRALENE	SOPRALENE	SOPRALENE	SOPRALENE	SOPRALENE	SAME MATL OR SOPRALENE	SAME MATL OR SOPRALENE	ALUMINUM	ALUMINUM OR SOPRALENE
TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	HOT MOP OR TORCH	TORCH	TORCH OR HOT MOP
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA	FRANCE USA, CANADA
1975 1984	1972 1984	1972 1984	1972 1984	1972 1984	1972 1984	1972 1984	1972 1984	1972 1984	1975 1985
MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES	DISTR, DIRECT 5 YES
SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066	SALES MGR 800/356-3521 TECH MGR 330/334-0066

Modified Bitumen Part 1: General Information

1. COMPANY NAME	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.	SOPREMA, INC.
2. PRODUCT NAME	SOPRALAST 50 TV ALU	SOPRALAST TV COPPER	SOPRALAST TV STAINLESS	SOPRAFIX	SOPRALENE 350 PS	SOPRALENE 180 SP 3.5 mm	ELASTOPHENE HD
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	SBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	168	140	160	120	160	140	120
C. TOP SURFACE	ALUMINUM	COPPER	STAINLESS	PLASTIC FILM	PLASTIC FILM	SANDED	SANDED
D. REINFORCING MATERIAL	FIBERGLASS	FIBERGLASS	FIBERGLASS	POLYESTER	POLYESTER	POLYESTER	FIBERGLASS
E. COLOR(S)	ALUMINUM	COPPER	STAINLESS	BLACK	BLACK	BLACK	BLACK
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	.97	0.93	01.15	0.80	1.06		
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	GRAVEL ALUMINUM	GRAVEL ALUMINUM	GRAVEL ALUMINUM	GRAVEL ALUMINUM
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	TORCH	TORCH	HOT MOP	TORCH	HOT MOP
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)				MECH ATTACH			
C. FULLY ADHERED (method)	TORCH	TORCH	TORCH		HOT MOP	TORCH	HOT MOP
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIRED	1/2"	1/2"	1/2"	1/8:12	1/8:12	DEAD LEVEL	1/8:12
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	X O	X O	O	O
B. MINERAL FIBER	O	O	O	X O	X O	X O	X O
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	X O	X O	X O	X O
E. PHENOLIC							
F. FIBERBOARD	O	O	O	X O	X O	O	O
G. PERLITE	O	O	O	X O	X O	X O	X O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	X O	X O	X O	X O
K. CONCRETE	O	O	O	X O	X O	X O	X O
L. WOOD PLANK	O	O	O	X O	O	O	O
M. PLYWOOD	O	O	O	X O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	X O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	35 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SOPRALENE	SOPRALENE	SOPRALENE	SOPRALENE
13. FLASHING METHOD	TORCH	TORCH	TORCH				
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES				
15. COUNTRY OF:							
A. ORIGIN	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE	FRANCE
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1985	1985	1975	1975	1975	1975	1975
B. WITHIN USA				1984	1993	1985	1985
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	5	5	5	5	5	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES MGR 800/356-3521	SALES MGR 800/356-3521	SALES MGR 800/356-3521	SALES MGR 800/356-3521	SALES MGR 800/356-3521	SALES MGR 800/356-3521	SALES MGR 800/356-3521
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH MGR 330/334-0066	TECH MGR 330/334-0066	TECH MGR 330/334-0066	TECH MGR 330/334-0066	TECH MGR 330/334-0066	TECH MGR 330/334-0066	TECH MGR 330/334-0066
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

SOUTH-WESTERN PETROLEUM CORPORATION	SOUTH-WESTERN PETROLEUM CORPORATION	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.
SWEPCO UNI+SHIELD SYS 302	SWEPCO UNI+SHIELD II SYS 303	AWAPLAN PREMIUM	AWAPLAN 170	AWAPLAN PREMIUM FR	AWAPLAN 170 FR	AWAPLAN VERSA-SMOOTH	VERSA-CAP FR	AWAPLAN HEAT WELDING	AWAFLEX
APP 160	SBS 53	SBS 155	SBS 154	SBS 155	SBS 154	SBS 160	SBS 140	SBS 185	SBS 125
MODIFIED ASPHALT	MODIFIED ASPHALT	GRANULE	GRANULE	GRANULE	GRANULE	SMOOTH	GRANULE	GRANULE	GRANULE
POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	GLASS MAT	POLYESTER	POLYESTER
BLACK	BLACK	VARIOUS	VARIOUS	VARIOUS	VARIOUS	BLACK	VARIOUS	VARIOUS	WHITE/BLACK
0.90	0.33	1.04	0.99	1.04	0.99	1.0	0.87	1.04	0.76
SWEPCO COATING	SWEPCO COATING	NONE	NONE	NONE	NONE	AWAPLAN, COATING, GRAVEL	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	COLD ADHESIVE	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP	HOT MOP	HOT MOP OR TORCH	HOT MOP	TORCH	HOT MOP OR COLD ADHES
TORCH									
TORCH	COLD ADHES	HOT MOP/COLD	HOT MOP/COLD	HOT MOP	HOT MOP	MOP/TORCH/ADHS	HOT MOP/COLD	TORCH	HOT MOP/COLD
1/4"	1/4"	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
O	X	X	X	X	X	X	X	X	X
O	X	X	X	X	X	X	X	X	X
		O	O	O	O	O	O	O	O
X	O	X	X	X	X	X	X	X	X
O	O								
O	X	X	X	X	X	X	X	X	X
X	O	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
O	O								
O	O	X	X	X	X	X	X	X	X
X	O	O	O	O	O	O	O	O	O
O	O	X	X	X	X	X	X	X	X
O	O	X	X	X	X	X	X	X	X
X	O	X	X	X	X	X	X	X	X
NONE 5 – 125	NONE 40 – 125	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL OR VERSA-FLASH	SAME MATERIAL OR VERSA-FLASH	SAME MATERIAL OR VERSA-FLASH	SAME MATERIAL OR VERSA-FLASH	SAME MATERIAL OR VERSA-FLASH	AWAPLN PREM, AWAPLAN 170 OR VERSA-FLSH	SAME MATERIAL	SAME MATERIAL
TORCH	COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR TORCH	HOT MOP	HOT MOP OR TORCH	HOT MOP OR COLD ADHESIVE
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
USA	USA	W GERMANY USA	W GERMANY USA	W GERMANY USA	W GERMANY USA	W GERMANY USA	W GERMANY USA	W GERMANY USA	USA USA
1963 1981	1990 1993	1970 1978	1986	1988	1991	1986	1989	1981	1995
100,000 +	10,000 +								
DIRECT	DIRECT	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES	DISTRIBUTORS 27 YES
NO	NO								
R. KLEINTOP 800/877-9372	R. KLEINTOP 800/877-9372	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE
R. KLEINTOP 800/877-9372	R. KLEINTOP 800/877-9372	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691
		X	X	X	X	X	X	X	

Modified Bitumen Part 1: General Information

1. COMPANY NAME	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS INC.	TAMKO ROOFING PRODUCTS, INC	TEXAS REFINERY CORP.	TEXSA, S.A.	TEXSA, S.A.
2. PRODUCT NAME	AWAFLEX FR	SPEEDWELD APP GRANULATED	SPEEDWELD APP SMOOTH	VERSA-FLEX	MIGHTYPLATE	HIPER M.P.	MIN TEXAL-15 FP-S
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS	APP	APP	SBS	APP	APP	APP
B. THICKNESS (mils)	125	180	160	115	157	158	158
C. TOP SURFACE	GRANULE	GRANULE	SMOOTH	SMOOTH	MODIFIED BITUMEN	SMOOTH	MINERAL GRANULE
D. REINFORCING MATERIAL	POLYESTER	POLYESTER	POLYESTER	POLYESTER	NONWOVEN POLYESTER FABRIC	NONWOVEN POLY-ESTER & POLY-ETHYLENE FILM	NONWOVEN POLYESTER
E. COLOR(S)	WHITE/BLACK	WHITE/BLACK	BLACK	BLACK	BLACK	BLACK	GRAY/GREEN/RED
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.76	1.05	0.90	0.76	0.88	0.98	1.02
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	SPEEDWELD SP OR COLD COATNG	AWAPLAN GRANULE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HOT MOP OR COLD ADHES	TORCH	TORCH	HOT MOP OR COLD ADHES	TORCH	TORCH	TORCH
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)						TORCH	TORCH
C. FULLY ADHERED (method)	HOT MOP/COLD	TORCH	TORCH	HOT MOP/COLD	TORCH	TORCH	TORCH
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIRED	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	DEAD LEVEL	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	O		
B. MINERAL FIBER	X	X	X	X	O	X	X
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	X	X	X	X	O	X	X
E. PHENOLIC					O	X	
F. FIBERBOARD	X	X	X	X	O	X	X
G. PERLITE	X	X	X	X	O	X	X
H. POLYISOCYANURATE	O	O	O	O	O	X	X
I. POLYURETHANE					O	X	X
J. GYPSUM	X	X	X	X	O	X	X
K. CONCRETE	O	O	O	O	X	X	X
L. WOOD PLANK	X	X	X	X	O	O	
M. PLYWOOD	X	X	X	X	O	O	
N. EXISTING BUILT-UP MEMBRANE	X	X	X	X	X	X	X
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)					0 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SPEEDWELD APP GRAN OR SAME MAT'L W/ CTG	AWAFLEX. AWA 170 AWA PREM, VERSA-FLASH	SAME MATERIAL	SAME MATERIAL OR ANY APP CAP SHEET	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR COLD ADHESIVE	TORCH	TORCH	HOT MOP OR COLD ADHESIVE	TORCH	TORCH	TORCH
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	NO	NO	NONE	NO	NO	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	SPAIN	SPAIN
B. MANUFACTURE	USA	USA	USA	USA	USA	SPAIN	SPAIN
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA							
B. WITHIN USA	1,997	1995	1995	1997	1981	1984	1985
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA						THOUSANDS	THOUSANDS
B. WITHIN USA					MILLIONS		
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	27	27	27	27			
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES		
21. FOR SALES INFORMATION, CONTACT:	DIST OFFICE	DIST OFFICE	DIST OFFICE	DIST OFFICE	J. MC GEE	CUST SERVICE	CUST SERVICE
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	J. MC GEE	TECH SERVICE	TECH SERVICE
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.	TEXSA, S.A.
TEXAL-10 FV 3MM	TEXAL-15 FPS 4MM	MIN MOFLEX-20 FP-S	TEXSELF	M.P. PARKING	MINERAL M.P. 5KG FM	TEXSELF AL 45	TEXSELF ICE AND WATER SCREEN	TEXSELF GAS SCREEN	TEXSELF FP
SBS 120	SBS 158	SBS 158	SBS 60	SBS 170	SBS 158	SBS 80	SBS 60	SBS 80	SBS 80
SMOOTH	SMOOTH	MINERAL GRANULE	POLYETHYLENE	NONWOVEN POLYESTER	MINERAL GRANULE	ALUMINUM	POLYETHYLENE	SMOOTH	SMOOTH
FIBERGLASS	NONWOVEN POLYESTER	NONWOVEN POLYESTER	NONE	NONWOVEN POLYESTER	COMPOSITE: NONWOVEN + GLASS	NONE	NONE	POLYETHYLENE FILM + ALUM- INUM FOIL	NONWOVEN POLYESTER
BLACK	BLACK	GRAY/GREEN/ RED	BLACK	WHITE	GRAY/GREEN/ RED	ALUMINUM	BLACK	BLACK	BLACK
0.74	0.98	1.02	0.36	0.98	1.02	0.43	0.36	0.48	0.48
NONE	NONE	NONE	NONE	NONE	NONE		NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TORCH	TORCH	TORCH	SELF- ADHESIVE	TORCH	TORCH	SELF- ADHESIVE	SELF- ADHESIVE	SELF- ADHESIVE	SELF- ADHESIVE
TORCH	TORCH	TORCH			MECHANICAL				
TORCH	TORCH	TORCH	SELF-ADHERING	TORCH	TORCH	SELF-ADHERING	SELF-ADHERING	SELF-ADHERING	SELF-ADHERING
POS DRAIN	DEAD LEVEL	POS DRAIN	TO DRAIN					TO DRAIN	TO DRAIN
					O				
X	X	X	X	X	O	X	X	X	X
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	O	X	X	X	X
X	X		X	X	O	X	X	X	X
X	X	X	X	X	O	X	X	X	X
X	X	X	X	X	O	X	X	X	X
X	X	X	X	X	O	X	X	X	X
X	X	X		O	X	O	O	O	O
X	X	X	X	X	X	X	X	X	X
	O	O	X		O	X	X	X	X
	O	O	O		O	X	X	X	X
X	X	X	X	X	X	X	X	X	X
NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 50 – 120	NONE 40 – 120	NONE 40 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120	NONE 50 – 120
SAME MATERIAL OR ANY SBS CAP SHEET	SAME MATERIAL OR ANY SBS CAP SHEET	SAME MATERIAL	SELF-ADHESIVE TEXSELF CAP SHEET	ANY SBS CAP SHEET	ANY SBS CAP SHEET	SELF-ADHESIVE TEXSELF CAP SHEET	SELF-ADHESIVE TEXSELF CAP SHEET	SELF-ADHESIVE TEXSELF CAP SHEET	SELF-ADHESIVE TEXSELF CAP SHEET
TORCH	TORCH	TORCH	SELF-ADHERING	TORCH	TORCH	SELF-ADHERING	SELF-ADHERING	SELF-ADHERING	SELF-ADHERING
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN	SPAIN SPAIN
1991	1991	1991	1986	1994	1994	1994	1995	1995	1996
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS					
DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE	CUST SERVICE
TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE	TECH SERVICE

Modified Bitumen Part 1: General Information

1. COMPANY NAME	TREMCO INC.	TREMCO INC.	TREMCO INC.	TREMCO INC.	TREMCO INC.	TREMCO INC.	TRI-PLY
2. PRODUCT NAME	THERM MB 2C6S	THERM MB 2C2S	THERM MB LTD	THERM MB 4PFR	THERM MB 2PS	THERM MB HT BASE SHEET	KARIFALT 306
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	SBS/SEBS	SBS/SEBS	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	85	85	125	160	94		135
C. TOP SURFACE	SMOOTH	SMOOTH	GRANULE	GRANULE	SMOOTH	SMOOTH	GRANULES
D. REINFORCING MATERIAL	POLYESTER/ GLASS	POLYESTER/ GLASS	GLASS	POLYESTER	POLYESTER	GLASS	FIBERGLASS
E. COLOR(S)	BLACK	BLACK	VARIOUS	WHITE	BLACK	BLACK	VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	0.48	0.50	0.89	1.10	0.60	0.40	0.95
4. KINDS OF FIELD SURFACING REQUIRED	EMULSIONS OR GRAVEL	EMULSIONS OR GRAVEL	NONE	NONE	CAP SHEET	CAP SHEET	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	MOP MOD BIT/ COLD ADHES	HOT MOP OR COLD ADHES	MOP MOD BIT/ COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP OR COLD ADHES	HOT MOP
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	MOP/COLD ADHES	MOP/CLD ADHES	MOP/COLD ADHES	MOP/COLD ADHES	MOP/COLD ADHES	MOP/COLD ADHES	HOT MOP
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIRED	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X	X	O
B. MINERAL FIBER							O
C. POLYSTYRENE							O
D. CELLULAR GLASS							O
E. PHENOLIC							O
F. FIBERBOARD	X	X	X	X	X	X	O
G. PERLITE	X	X	X	X	X	X	O
H. POLYISOCYANURATE	O	O	O	O	O	O	O
I. POLYURETHANE	O	O	O	O	O	O	O
J. GYPSUM	O	O	O	O	O	O	O
K. CONCRETE	X	X	X	X	X	X	O
L. WOOD PLANK	O	O	O	O	O	O	O
M. PLYWOOD	O	O	O	O	O	O	O
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)							0 – 120
12. FLASHING MATERIAL	SAME MATE- RIAL, CSPE, OR COMP. MEMB.	SAME MATE- RIAL, CSPE, OR COMP. MEMB.	CSPE OR COMPARABLE MEMBRANE	CSPE, MOD. BIT. OR COMP. MEMBRANE	CSPE, MOD. BIT. OR COMP. MEMBRANE	CSPE, MOD. BIT. OR COMP. MEMBRANE	SAME MATERIAL
13. FLASHING METHOD	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP OR COLD ADHESIVE	HOT MOP
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	NO
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA				1990			
B. WITHIN USA	1987	1995	1990	1990			
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	14	14	14	14	14	14	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH DEPT	TECH DEPT	TECH DEPT	TECH DEPT	TECH DEPT	TECH DEPT	R. WHITE
23. SEE MEMBRANE APPENDIX IF CHECKED							X

Modified Bitumen Part 1: General Information	
1. Project Name:	Highway Rehabilitation Project - Phase 2
2. Location:	State Route 101, Mile 12.5, Santa Clara County, CA
3. Date of Revision:	10/26/2023
4. Revision Number:	01
5. Revision Description:	Initial specification and quantity takeoff.
6. Prepared By:	J. Smith
7. Checked By:	M. Jones
8. Approved By:	D. Brown
9. Scale:	As Shown
10. Notes:	See attached drawings for details and quantities.

[illegible]

Modified Bitumen Part 1: General Information

1. COMPANY NAME	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.
2. PRODUCT NAME	INTEC GBSP4FR	INTEC GBSP 250 FR	INTEC/FLEX M	INTEC/FLEX 190	INTEC/FLEX FR4.5	INTEC/FLEX S	INTEC/FLEX FR3 HS
3. PRODUCT DESCRIPTION							
A. TYPE OF MODIFIER	APP	APP	SBS	SBS	SBS	SBS	SBS
B. THICKNESS (mils)	160	177	160	160	160	138	150
C. TOP SURFACE	GRANULES	GRANULES	GRANULES	GRANULES	GRANULES	SMOOTH	GRANULES
D. REINFORCING MATERIAL	POLYESTER	POLYESTER COMPOSITE	POLYESTER	POLYESTER	FIBERGLASS	POLYESTER	GLASS MAT GLASS SCRIM
E. COLOR(S)	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS		VARIOUS
F. INSTALLED WEIGHT (lbs./ft ² without ballast)	1.05	1.1	1.05	0.95	1.05	0.85	0.93
4. KINDS OF FIELD SURFACING REQUIRED	NONE	NONE	NONE	NONE	NONE	CAP SHEET/ MOP GRAVEL	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TORCH	TORCH	MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE
7. TYPES OF ROOF SYSTEMS:							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)							
B. PARTIALLY ADHERED (method)							
C. FULLY ADHERED (method)	TORCH	TORCH	HOT MOP	HOT MOP	HOT MOP	MOP/ADHES	MOP/ADHES
D. PROTECTED ROOF MEMBRANE ASSEMBLY							
8. MINIMUM SLOPE REQUIRED	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	O	O	O	O	O	X O	X
B. MINERAL FIBER	O	O	O	O	O	X O	X
C. POLYSTYRENE	O	O	O	O	O	O	O
D. CELLULAR GLASS	O	O	O	O	O	X O	X O
E. PHENOLIC		O					
F. FIBERBOARD		O	O	O	O	X	X
G. PERLITE	O	O	O	O	O	X	X
H. POLYISOCYANURATE	O	O	O	O	O	X O	X O
I. POLYURETHANE	O	O	O	O	O	X O	X O
J. GYPSUM	O	O	O	O	O	X O	X O
K. CONCRETE	X O	O	O	O	O	X O	X O
L. WOOD PLANK		O	O	O	O	X O	X O
M. PLYWOOD	O	O	O	O	O	X O	X O
N. EXISTING BUILT-UP MEMBRANE	X O	O	O	O	O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	SEE SPECS	SEE SPECS	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
13. FLASHING METHOD	TORCH	TORCH	MOP/CEMENT	MOP/CEMENT	MOP/CEMENT	MOP/CEMENT	MOP/CEMENT
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	ITALY	USA				USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1976	1990	1985	1985	1985	1985	1985
B. WITHIN USA	1991	1990	1985	1985	1985	1985	1985
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							
B. WITHIN USA							
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	9	9	9	9	9	9	9
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/231-4631	800/231-4631	800/231-4631	800/231-4631	800/231-4631	800/231-4631	800/231-4631
22. FOR TECHNICAL INFORMATION, CONTACT:	800/624-6832	800/624-6832	800/624-6832	800/624-6832	800/624-6832	800/624-6832	800/624-6832
23. SEE MEMBRANE APPENDIX IF CHECKED							

Modified Bitumen Part 1: General Information

U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.	U S INTEC, INC.
INTEC/FLEX 190 FR	INTEC/FLEX 250 FR	INTEC/FLEX G4 CAP	FLEXBASE 60 FR	INTEC MODIFIED BASE PLUS
SBS	SBS	SBS	SBS	SBS
160	177	160	80	95
GRANULES	GRANULES	GRANULES	SMOOTH	SMOOTH
POLYESTER	POLYESTER COMPOSITE	FIBERGLASS	FIBERGLASS	FIBERGLASS
VARIOUS	VARIOUS	VARIOUS		
0.98	0.98	0.98	0.40	0.54
NONE	NONE	NONE	CAP SHEET/ MOP GRAVEL	CAP SHEET/ MOP GRAVEL
X	X	X	X	X
X	X	X	X	X
MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE	MOP/ ADHESIVE
MOP/ADHES	MOP/ADHES	MOP/ADHES	MOP/MECH FAS	MOP/MECH FAS
POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN	POS DRAIN
X	X	X	X	X
X	X	X	X	X
O	O	O	O	O
X O	X O	X O	X O	X O
X	X	X	X	X
X	X	X	X	X
O	O	O	X O	X O
O	O	O	X O	X O
O	O	O	X O	X O
O	O	O	X O	X O
O	O	O	X O	X O
O	O	O	X O	X O
O	O	O	X O	X O
NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120	NONE 40 – 120
SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL
MOP/CEMENT	MOP/CEMENT	MOP/CEMENT	MOP/CEMENT	MOP/CEMENT
YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA
1990 1990	1990 1990	1985 1985	1988 1988	1989 1989
DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES	DISTRIBUTORS 9 YES
800/231-4631	800/231-4631	800/231-4631	800/231-4631	800/231-4631
800/624-6832	800/624-6832	800/624-6832	800/624-6832	800/624-6832

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	AL-KOAT INC.	AL-KOAT INC.
2. PRODUCT NAME	AL-FLEX, G	AL-FLEX, S
3. PRODUCT DESCRIPTION		
Reinforcing	POLYESTER	POLYESTER
Top surface	GRANULE	SMOOTH
4. COMPLIES WITH:		
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 140; Type II: 150	160
Thickness (min., mils) Grade G	Type I: 160; Type II: 170	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100	
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	140	
Thickness (min., mils) Grade G	160	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90	
Bottom coating thickness (min., mils)	40	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80	
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40	
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90	
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15	
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50	
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80	105
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+7
Dimensional stability, % change, max.	1	
High temperature stability, F min.	230	
Granule embedment, Grade G only, max. loss, grams	2	
Water absorption, % max.	3.2	
Moisture content, % max.	1	
Low temperature unrolling, F max.	41	
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100	
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3	
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200	
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3	
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180	
Low temperature flexibility, before and after heat conditioning, F, max.	+32	
Dimensional stability, % change, max.	1	
High temperature stability, F min.	230	
Granule embedment, Grade G only, max. loss, grams	2	
Water absorption, % max.	3.2	
Moisture content, % max.	1	
Low temperature unrolling, F max.	41	
7. SEE MEMBRANE APPENDIX IF CHECKED		

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME		BITEC INC.	BITEC INC.
2. PRODUCT NAME		APM-4.5T	COMPABASE FA-2T
3. PRODUCT DESCRIPTION			
Reinforcing		POLYESTER	FIBERGLASS
Top surface		GRANULE	SMOOTH
4. COMPLIES WITH:			
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 140; Type II: 150		
Thickness (min., mils) Grade G	Type I: 160; Type II: 170	180	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100		
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	140		
Thickness (min., mils) Grade G	160		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90		
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15		
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80		
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+5	+14
Dimensional stability, % change, max.	1	0.05	0.0
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1		
Low temperature unrolling, F max.	41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180		
Low temperature flexibility, before and after heat conditioning, F, max.	+32		
Dimensional stability, % change, max.	1		
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1		
Low temperature unrolling, F max.	41		
7. SEE MEMBRANE APPENDIX IF CHECKED			

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME		DIBITEN	DIBITEN
2. PRODUCT NAME		DIBITEN BLACK GRANITE	DIBITEN MINERAL
3. PRODUCT DESCRIPTION			
Reinforcing		POLYESTER	POLYESTER
Top surface		GRANULE	GRANULE
4. COMPLIES WITH:			
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 140; Type II: 150		
Thickness (min., mils) Grade G	Type I: 160; Type II: 170	160	180
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100		
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	140		
Thickness (min., mils) Grade G	160		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90		
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90	160	160
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15	22	21
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80	66	100
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+14	+5
Dimensional stability, % change, max.	1	0.1	0.1
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2	0.4	0.5
Moisture content, % max.	1	0.2	0.2
Low temperature unrolling, F max.	41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180		
Low temperature flexibility, before and after heat conditioning, F, max.	+32		
Dimensional stability, % change, max.	1		
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1		
Low temperature unrolling, F max.	41		
7. SEE MEMBRANE APPENDIX IF CHECKED			

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	GAF MATERIALS CORP.	GARLAND CO. , INC. THE
2. PRODUCT NAME	RUBEROID TORCH 1	PITCH PLY SELF-ADHERED
3. PRODUCT DESCRIPTION Reinforcing Top surface	POLYESTER GRANULE	
4. COMPLIES WITH: ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)		
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	Type I: 140; Type II: 150 Type I: 160; Type II: 170 Type I: 70; Type II: 80 Type I: 85; Type II: 100 Type I: 30; Type II: 40	177
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	140 160 75 90 40	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 50; Type II: 80 Type I: 23; Type II: 40 Type I: 60; Type II: 90 Type I: 10; Type II: 15 Type I: 30; Type II: 50 Type I: 70; Type II: 80 +32 1 230 2 3.2 1 41	
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 65; Type II: 100 3 Type I: 150; Type II: 200 3 Type I: 120; Type II: 180 +32 1 230 2 3.2 1 41	
7. SEE MEMBRANE APPENDIX IF CHECKED		

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

127

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	WP HICKMAN SYSTEMS, INC.	ICA, INC.
2. PRODUCT NAME	WEATHERPLY MA + MA/FR	ICA PREMIUM APP SMOOTH
3. PRODUCT DESCRIPTION Reinforcing Top surface	POLYESTER GRANULE	POLYESTER SMOOTH
4. COMPLIES WITH: ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced) ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	Type I: 140; Type II: 150 Type I: 160; Type II: 170 Type I: 70; Type II: 80 Type I: 85; Type II: 100 Type I: 30; Type II: 40	160 120
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	140 160 75 90 40	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 50; Type II: 80 Type I: 23; Type II: 40 Type I: 60; Type II: 90 Type I: 10; Type II: 15 Type I: 30; Type II: 50 Type I: 70; Type II: 80 +32 1 230 2 3.2 1 41	110 25 100 +25 0.6
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 65; Type II: 100 3 Type I: 150; Type II: 200 3 Type I: 120; Type II: 180 +32 1 230 2 3.2 1 41	
7. SEE MEMBRANE APPENDIX IF CHECKED		

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME		JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
2. PRODUCT NAME		APPEX 5S	APPEX 4S
3. PRODUCT DESCRIPTION			
Reinforcing		POLYESTER	POLYESTER
Top surface		SMOOTH	SMOOTH
4. COMPLIES WITH:			
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 140; Type II: 150	200	160
Thickness (min., mils) Grade G	Type I: 160; Type II: 170		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100		
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	140		
Thickness (min., mils) Grade G	160		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90		
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90	127	121
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15	40	42
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80	165	149
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+21	+21
Dimensional stability, % change, max.	1	0.8	0.9
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2	0.05	0.7
Moisture content, % max.	1	0.1	0.15
Low temperature unrolling, F max.	41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180		
Low temperature flexibility, before and after heat conditioning, F, max.	+32		
Dimensional stability, % change, max.	1		
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1		
Low temperature unrolling, F max.	41		
7. SEE MEMBRANE APPENDIX IF CHECKED			

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.	KOPPERS INDUSTRIES INC.
2. PRODUCT NAME	CLASSIC FR PREMIUM	2040-M APP
3. PRODUCT DESCRIPTION		
Reinforcing	POLYESTER	POLYESTER
Top surface	SM. or GRAN.	GRANULE
4. COMPLIES WITH:		
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S Type I: 140; Type II: 150	160	
Thickness (min., mils) Grade G Type I: 160; Type II: 170		160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S Type I: 70; Type II: 80		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G Type I: 85; Type II: 100		
Bottom coating thickness (min., mils) Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S 140		
Thickness (min., mils) Grade G 160		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S 75		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G 90		
Bottom coating thickness (min., mils) 40		
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Type I: 50; Type II: 80		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Type I: 23; Type II: 40		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Type I: 60; Type II: 90	155	
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Type I: 10; Type II: 15	45	
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Type I: 30; Type II: 50		
Tear strength at 73.4 ±3.6 F, lbf, min Type I: 70; Type II: 80	175	
Low temperature flexibility, before and after heat conditioning, F, max. +32	+5	
Dimensional stability, % change, max. 1	0.2	
High temperature stability, F min. 230		
Granule embedment, Grade G only, max. loss, grams 2		
Water absorption, % max. 3.2	1.7	
Moisture content, % max. 1	0.05	
Low temperature unrolling, F max. 41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Type I: 65; Type II: 100		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. 3		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Type I: 150; Type II: 200		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. 3		
Tear strength at 73.4 ±3.6 F, lbf, min Type I: 120; Type II: 180		
Low temperature flexibility, before and after heat conditioning, F, max. +32		
Dimensional stability, % change, max. 1		
High temperature stability, F min. 230		
Granule embedment, Grade G only, max. loss, grams 2		
Water absorption, % max. 3.2		
Moisture content, % max. 1		
Low temperature unrolling, F max. 41		
7. SEE MEMBRANE APPENDIX IF CHECKED		

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	MOD BIT CORP.	PERFORMANCE ROOF SYSTEMS INC.
2. PRODUCT NAME	BITUTAK MB MINERAL	DERBIGUM XPS FR
3. PRODUCT DESCRIPTION Reinforcing Top surface	POLYESTER GRANULE	COMBINATION SMOOTH
4. COMPLIES WITH: ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)		
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	Type I: 140; Type II: 150 Type I: 160; Type II: 170 Type I: 70; Type II: 80 Type I: 85; Type II: 100 Type I: 30; Type II: 40	160
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	140 160 75 90 40	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 50; Type II: 80 Type I: 23; Type II: 40 Type I: 60; Type II: 90 Type I: 10; Type II: 15 Type I: 30; Type II: 50 Type I: 70; Type II: 80 +32 1 230 2 3.2 1 41	120 20 220 4.5
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 65; Type II: 100 3 Type I: 150; Type II: 200 3 Type I: 120; Type II: 180 +32 1 230 2 3.2 1 41	
7. SEE MEMBRANE APPENDIX IF CHECKED		

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME		POLYGLASS USA, INC.	POLYGLASS USA, INC.
2. PRODUCT NAME		POLYBOND	POLYBOND G
3. PRODUCT DESCRIPTION			
Reinforcing		POLYESTER	POLYESTER
Top surface		SMOOTH	GRANULE
4. COMPLIES WITH:			
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 140; Type II: 150	160	
Thickness (min., mils) Grade G	Type I: 160; Type II: 170		180
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100		
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	140		
Thickness (min., mils) Grade G	160		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90		
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90	100	100
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15	8	8
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80	75	75
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+32	+32
Dimensional stability, % change, max.	1	0.5	0.5
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1	0.1	0.1
Low temperature unrolling, F max.	41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100		
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3		
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200		
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3		
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180		
Low temperature flexibility, before and after heat conditioning, F, max.	+32		
Dimensional stability, % change, max.	1		
High temperature stability, F min.	230		
Granule embedment, Grade G only, max. loss, grams	2		
Water absorption, % max.	3.2		
Moisture content, % max.	1		
Low temperature unrolling, F max.	41		
7. SEE MEMBRANE APPENDIX IF CHECKED			

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.	POLYGLASS USA, INC.
POLYFLEX	POLYFLEX 5	POLYFLEX G	POLYFLEX G-FR	POLYALL	DIAMOND BACK	DUFLEX	DUFLEX 5
POLYESTER SMOOTH	POLYESTER SMOOTH	POLYESTER GRANULE	POLYESTER GRANULE	FIBERGLAS ALUMINUM	POLYESTER GRANULE	COMBINATION SMOOTH	COMBINATION SMOOTH
160	200	180	180		160		
						160	200
		100 10	100 10		100 8		
		80 +22 0.5	80 +22 0.5		75 +32 0.5		
		0.1	0.1		0.1		
						100 8 120 +22 0.5	100 8 120 +22 0.5
						0.1	0.1

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME		POLYGLASS USA, INC.	POLYGLASS USA, INC.
2. PRODUCT NAME "		DUFLEX G	POLYGLASS BASE
3. PRODUCT DESCRIPTION Reinforcing Top surface		COMBINATION GRANULE	FIBERGLASS SMOOTH
4. COMPLIES WITH: ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)			
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) Type I, Grade G (granule surfaced) Type I, Grade S (smooth surfaced) Type II, Grade G (granule surfaced) Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	Type I: 140; Type II: 150 Type I: 160; Type II: 170 Type I: 70; Type II: 80 Type I: 85; Type II: 100 Type I: 30; Type II: 40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Thickness (min., mils) Grade S Thickness (min., mils) Grade G Net mass per unit area (min., lbs./100 sq. ft.) Grade S Net mass per unit area (min., lbs./100 sq. ft.) Grade G Bottom coating thickness (min., mils)	140 160 75 90 40	180	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 50; Type II: 80 Type I: 23; Type II: 40 Type I: 60; Type II: 90 Type I: 10; Type II: 15 Type I: 30; Type II: 50 Type I: 70; Type II: 80 +32 1 230 2 3.2 1 41		
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min. Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Tear strength at 73.4 ±3.6 F, lbf, min Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % change, max. High temperature stability, F min. Granule embedment, Grade G only, max. loss, grams Water absorption, % max. Moisture content, % max. Low temperature unrolling, F max.	Type I: 65; Type II: 100 3 Type I: 150; Type II: 200 3 Type I: 120; Type II: 180 +32 1 230 2 3.2 1 41	100 8 120 +22 0.5	
7. SEE MEMBRANE APPENDIX IF CHECKED			

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

1. COMPANY NAME	TEXSA S.A.	TEXSA S.A.
2. PRODUCT NAME	HIPER M.P.	MIN TEXAL-15 FP-S
3. PRODUCT DESCRIPTION		
Reinforcing	COMBINATION	POLYESTER
Top surface	SMOOTH	GRANULE
4. COMPLIES WITH:		
ASTM D 6222-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polymer and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 140; Type II: 150	
Thickness (min., mils) Grade G	Type I: 160; Type II: 170	158
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 70; Type II: 80	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 85; Type II: 100	
Bottom coating thickness (min., mils)	Type I: 30; Type II: 40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	140	
Thickness (min., mils) Grade G	160	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	75	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	90	
Bottom coating thickness (min., mils)	40	
6A. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 50; Type II: 80	
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	Type I: 23; Type II: 40	
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 60; Type II: 90	132
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	Type I: 10; Type II: 15	40
Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min.	Type I: 30; Type II: 50	
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 70; Type II: 80	100
Low temperature flexibility, before and after heat conditioning, F, max.	+32	+16
Dimensional stability, % change, max.	1	0.5
High temperature stability, F min.	230	
Granule embedment, Grade G only, max. loss, grams	2	
Water absorption, % max.	3.2	0.2
Moisture content, % max.	1	0.1
Low temperature unrolling, F max.	41	
6B. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 73.4 ±3.6 F MD and XMD, before and after heat conditioning, lbf/in., min.	Type I: 65; Type II: 100	
Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min.	3	
Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min.	Type I: 150; Type II: 200	
Elongation at 0 ±3.6 F MD and XMD, at max. load, % min.	3	
Tear strength at 73.4 ±3.6 F, lbf, min	Type I: 120; Type II: 180	
Low temperature flexibility, before and after heat conditioning, F, max.	+32	
Dimensional stability, % change, max.	1	
High temperature stability, F min.	230	
Granule embedment, Grade G only, max. loss, grams	2	
Water absorption, % max.	3.2	
Moisture content, % max.	1	
Low temperature unrolling, F max.	41	
7. SEE MEMBRANE APPENDIX IF CHECKED		

APP Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6222-98 and ASTM D 6223-98

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		AL-KOAT INC.	
2. PRODUCT NAME		AL-KOAT PG-40	AL-KOAT PA-30
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	120
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		ALLIED SIGNAL, INC.	
2. PRODUCT NAME		INFINITEE 30 GMC	MILLENNIUM BASE SHEET
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	80
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		BARRETT COMPANY	
2. PRODUCT NAME		RAM 309 FR	RAM 309 HT
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

147

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		BITEC INC.	
2. PRODUCT NAME		SPM-4H/250	SPS-3H
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	120
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	73
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	108
Bottom coating thickness (min., mils)		40	80
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	85
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	60
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	-13
Dimensional stability, % max.		1	-23
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1.	COMPANY NAME	BITEC INC.	CELOTEX
2.	PRODUCT NAME	FS-40	SBS 170 CAP SHEET
3.	PRODUCT DESCRIPTION		
	Reinforcing (indicate polyester or combination)	POLYESTER	POLYESTER
	Top surface (indicate granule or smooth)	GRANULE	GRANULE
	COMPLIES WITH:		
4A.	ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B.	ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C.	ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A.	DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
	Thickness (min., mils) Grade S	Type I: 70; Type II: 80	
	Thickness (min., mils) Grade G	Type I: 110; Type II: 130	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 150	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75	
	Bottom coating thickness (heat welding application products min., mils)	40	
5B.	DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS		
	Thickness (min., mils) Grade S	80	60
	Thickness (min., mils) Grade G	Type I: 95; Type II: 105	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75	
	Bottom coating thickness (min., mils)	40	
5C.	DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
	Thickness (min., mils) Grade S	Type I: 85; Type II: 115	
	Thickness (min., mils) Grade G	130	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70	149
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	
	Bottom coating thickness (min., mils)	40	
6A.	PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125	
	Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75	
	Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	0.5	
	Compound stability at 225 F	no failures	
	Granule embedment, Grade G only, max., grams	2	
6B.	PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150	
	Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	0.5	
	Compound stability at 215 F	no failures	
	Granule embedment, Grade G only, max., grams	2	
6C.	PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100	
	Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	1	
	Compound stability at 215 F	no failures	
	Granule embedment, Grade G only, max., grams	2	
7.	SEE MEMBRANE APPENDIX IF CHECKED		

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1.	COMPANY NAME	DANOSA CARIBBEAN INC.	
2.	PRODUCT NAME	ESTERDAN R-36	GLASDAN AL-80-3
3.	PRODUCT DESCRIPTION		
	Reinforcing (indicate polyester or combination)		FIBERGLASS
	Top surface (indicate granule or smooth)	SMOOTH	ALUMINUM
	COMPLIES WITH:		
4A.	ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B.	ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C.	ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A.	DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
	Thickness (min., mils) Grade S	Type I: 70; Type II: 80	
	Thickness (min., mils) Grade G	Type I: 110; Type II: 130	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 50	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75	
	Bottom coating thickness (heat welding application products min., mils)	40	
5B.	DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS		
	Thickness (min., mils) Grade S	80	
	Thickness (min., mils) Grade G	Type I: 95; Type II: 105	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75	
	Bottom coating thickness (min., mils)	40	
5C.	DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
	Thickness (min., mils) Grade S	Type I: 85; Type II: 115	
	Thickness (min., mils) Grade G	130	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70	
	Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	
	Bottom coating thickness (min., mils)	40	
6A.	PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125	
	Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75	
	Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	0.5	
	Compound stability at 225 F	no failures	
	Granule embedment, Grade G only, max., grams	2	
6B.	PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150	
	Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	0.5	
	Compound stability at 215 F	no failures	
	Granule embedment, Grade G only, max. grams	2	
6C.	PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
	Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100	
	Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20	
	Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	
	Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50	
	Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60	
	Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	
	Low temperature flexibility, before and after heat conditioning, F, max.	0	
	Dimensional stability, % max.	1	
	Compound stability at 215 F	no failures	
	Granule embedment, Grade G only, max. grams	2	
7.	SEE MEMBRANE APPENDIX IF CHECKED		

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		FIRESTONE	
2. PRODUCT NAME		SBS BASE SHEET	SBS PREMIUM BASE SHEET
3. PRODUCT DESCRIPTION		FIBERGLASS SMOOTH	FIBERGLASS SMOOTH
Reinforcing (indicate polyester or combination)			
Top surface (indicate granule or smooth)			
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	90
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	54
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	70
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	1
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	30
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	2
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	35
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		0.5	0.5
Compound stability at 215 F		no failures	>225
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		FIRESTONE	
2. PRODUCT NAME		SBS FLASHING	SBS GLASS TORCH BASE
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	120
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	82
Bottom coating thickness (min., mils)		40	40
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	150
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	91
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	70
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	1
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	30
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	2
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	35
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		0.5	0
Compound stability at 215 F		no failures	225
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	70
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	20
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	50
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	35
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	55
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		1	1
Compound stability at 215 F		no failures	225
Granule embedment, Grade G only, max., grams		2	2
7. SEE MEMBRANE APPENDIX IF CHECKED			

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

157

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		GAF MATERIALS CORP.	
2. PRODUCT NAME		RUBEROID 30	RUBEROID 30 FR
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	130
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	130
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME	GAF	GARLAND CO.
2. PRODUCT NAME	ULTRACLAD SBS	STRESS PLY
3. PRODUCT DESCRIPTION		
Reinforcing (indicate polyester or combination)	FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)	FOIL	GRANULE
COMPLIES WITH:		
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 70; Type II: 80	
Thickness (min., mils) Grade G	Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)	40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	80	
Thickness (min., mils) Grade G	Type I: 95; Type II: 105	80
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)	40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 85; Type II: 115	
Thickness (min., mils) Grade G	130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)	40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 225 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 215 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	1	
Compound stability at 215 F	no failures	
Granule embedment, Grade G only, max., grams	2	
7. SEE MEMBRANE APPENDIX IF CHECKED		

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		GARLAND COMPANY	
2. PRODUCT NAME		STRESSPLY PLUS FR	STRESSPLY PLUS MINERAL
3. PRODUCT DESCRIPTION		FIBERGLASS GRANULE	FIBERGLASS GRANULE
Reinforcing (indicate polyester or combination)			
Top surface (indicate granule or smooth)			
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	80
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	135
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME	W R GRACE	GS ROOFING
2. PRODUCT NAME	PRMA MEMBRANE	FLINTLASTIC GMS PREMIUM
3. PRODUCT DESCRIPTION		
Reinforcing (indicate polyester or combination)		POLYESTER
Top surface (indicate granule or smooth)	SMOOTH	GRANULE
COMPLIES WITH:		
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 70; Type II: 80	
Thickness (min., mils) Grade G	Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)	40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	80	
Thickness (min., mils) Grade G	Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)	40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 85; Type II: 115	
Thickness (min., mils) Grade G	130	180
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	105
Bottom coating thickness (min., mils)	40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 225 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 215 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.	0	0
Dimensional stability, % max.	1	0.5
Compound stability at 215 F	no failures	250
Granule embedment, Grade G only, max., grams	2	2.0
7. SEE MEMBRANE APPENDIX IF CHECKED		

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

165

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		GS ROOFING PRODUCTS	
2. PRODUCT NAME		FLEXIGLAS PREMIUM CAP 960	FLINTLASTIC GTS
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	POLYESTER
Top surface (indicate granule or smooth)		GRANULES	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	180
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		0.5	0.1
Compound stability at 215 F		no failures	250
Granule embedment, Grade G only, max., grams		2	2.0
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		1	0.5
Compound stability at 215 F		no failures	250
Granule embedment, Grade G only, max., grams		2	2.0
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		W P HICKMAN INC.	
2. PRODUCT NAME		PERFORMANCE PLY MS + MS/FR	WEATHER PLY MA + MA/FR
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTR	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Budadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	120
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	120
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		IKO INDUSTRIES INC.	
2. PRODUCT NAME		TORCHFLEX TP-250-CAP	TORCHFLEX TP-250-CAP (5mm)
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 70; Type II: 80		
Thickness (min., mils) Grade G	Type I: 110; Type II: 130		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 150		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75		
Bottom coating thickness (heat welding application products min., mils)	40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	80		
Thickness (min., mils) Grade G	Type I: 95; Type II: 105		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75		
Bottom coating thickness (min., mils)	40		
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 85; Type II: 115		
Thickness (min., mils) Grade G	130	158	196
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	99	119
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125		
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80		
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75		
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90		
Low temperature flexibility, before and after heat conditioning, F, max.	0		
Dimensional stability, % max.	0.5		
Compound stability at 225 F	no failures		
Granule embedment, Grade G only, max., grams	2		
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150		
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80		
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110		
Low temperature flexibility, before and after heat conditioning, F, max.	0		
Dimensional stability, % max.	0.5		
Compound stability at 215 F	no failures		
Granule embedment, Grade G only, max., grams	2		
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100		
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	114	114
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	123	123
Low temperature flexibility, before and after heat conditioning, F, max.	0	-22	-15
Dimensional stability, % max.	1	0.5	0.5
Compound stability at 215 F	no failures	no failures	no failures
Granule embedment, Grade G only, max., grams	2	0.4	0.4
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		JOHNS MANVILLE	
2. PRODUCT NAME		DYNAGLAS	DYNAPLY
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	COMBINATION
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	125
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	90
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	150
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	100
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	125
Low temperature flexibility, before and after heat conditioning, F, max.		0	-10
Dimensional stability, % max.		0.5	0.2
Compound stability at 225 F		no failures	no failures
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	95
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	4
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	58
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	5
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	100
Low temperature flexibility, before and after heat conditioning, F, max.		0	-10
Dimensional stability, % max.		0.5	0.2
Compound stability at 215 F		no failures	no failures
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

JOHNS MANVILLE INTERNATIONAL INC.							
DYNAGLAS FR	DYNALASTIC 250	DYNALASTIC 180	DYNALASTIC 180 FR	DYNAGLAS 30 FR	DYNABASE	DYNALASTIC 180S	SBS 170
FIBERGLASS GRANULE	POLYESTER GRANULE	POLYESTER GRANULE	POLYESTER GRANULE	FIBERGLASS GRANULE	FIBERGLASS GRANULE	POLYESTER GRANULE	POLYESTER GRANULE
150				125	100		
100				90	90		
	158	150	150			118	145
	114	101	101			90	90
95				85	70		
4				3	4		
55				50	41		
5				5	5		
100				90	90		
-10				-10	-10		
0.2				0.2	0.2		
no failures				no failures	no failures		
	115	80	80			80	70
	45	35	35			35	30
		54	50			54	52
	94	57	48			57	57
	120	80	80			80	70
	-10	-10	-10			-10	-10
	4.7	4.7	0.7			0.7	0.7
	no failures	no failures	no failures			no failures	no failures

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		JOHNS MANVILLE	
2. PRODUCT NAME		DYNALASTIC 250 FR	DYNAMAX
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	COMBINATION
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 150	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	99
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	115
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	300
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	4
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	308
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	7
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	350
Low temperature flexibility, before and after heat conditioning, F, max.		0	-15
Dimensional stability, % max.		0.5	0.2
Compound stability at 225 F		no failures	no failures
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	15
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	45
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	125
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	62
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	120
Low temperature flexibility, before and after heat conditioning, F, max.		0	-10
Dimensional stability, % max.		1	0.7
Compound stability at 215 F		no failures	no failures
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME	KOPPERS	MALARKEY
2. PRODUCT NAME	2042 FR BASE	PREMIUM SBS 601
3. PRODUCT DESCRIPTION		
Reinforcing (indicate polyester or combination)	FIBERGLASS	COMBINATION
Top surface (indicate granule or smooth)	GRANULE	GRANULE
COMPLIES WITH:		
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)		
Type I, Grade G (granule surfaced)		
Type I, Grade S (smooth surfaced)		
Type II, Grade G (granule surfaced)		
Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 70; Type II: 80	
Thickness (min., mils) Grade G	Type I: 110; Type II: 130	120
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)	40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS		
Thickness (min., mils) Grade S	80	
Thickness (min., mils) Grade G	Type I: 95; Type II: 105	112
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75	70
Bottom coating thickness (min., mils)	40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS		
Thickness (min., mils) Grade S	Type I: 85; Type II: 115	
Thickness (min., mils) Grade G	130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)	40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 225 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	0.5	
Compound stability at 215 F	no failures	
Granule embedment, Grade G only, max., grams	2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS		
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.	0	
Dimensional stability, % max.	1	
Compound stability at 215 F	no failures	
Granule embedment, Grade G only, max., grams	2	
7. SEE MEMBRANE APPENDIX IF CHECKED		

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

177

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		MB TECHNOLOGY	
2. PRODUCT NAME		FIREGRD FASTORCH SBS FG FT 160 CWH	FIREGUARD SBS FG 160 CWH
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		COMBINATION	COMBINATION
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 70; Type II: 80		
Thickness (min., mils) Grade G	Type I: 110; Type II: 130	167	154
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 45; Type II: 50		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 60; Type II: 75		
Bottom coating thickness (heat welding application products min., mils)	40		
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S	80		
Thickness (min., mils) Grade G	Type I: 95; Type II: 105		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	45		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 65; Type II: 75		
Bottom coating thickness (min., mils)	40		
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S	Type I: 85; Type II: 115		
Thickness (min., mils) Grade G	130		
Net mass per unit area (min., lbs./100 sq. ft.) Grade S	Type I: 54; Type II: 70		
Net mass per unit area (min., lbs./100 sq. ft.) Grade G	Type I: 75; Type II: 90		
Bottom coating thickness (min., mils)	40		
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 125		
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 75; Type II: 80		
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 26; Type II: 75		
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 9; Type II: 30		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 65; Type II: 90		
Low temperature flexibility, before and after heat conditioning, F, max.	0		
Dimensional stability, % max.	0.5		
Compound stability at 225 F	no failures		
Granule embedment, Grade G only, max., grams	2		
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 150		
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning	Type I: 1; Type II: 2		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 30; Type II: 80		
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 2; Type II: 4		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured	Type I: 3; Type II: 40		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning	Type I: 3; Type II: 20		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 35; Type II: 110		
Low temperature flexibility, before and after heat conditioning, F, max.	0		
Dimensional stability, % max.	0.5		
Compound stability at 215 F	no failures		
Granule embedment, Grade G only, max., grams	2		
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 70; Type II: 100		
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning	20		
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.	Type I: 50; Type II: 100		
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning	Type I: 35; Type II: 50		
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning	Type I: 38; Type II: 60		
Tear strength at 73.4 ± 3.6 F, lbf, min.	Type I: 55; Type II: 70		
Low temperature flexibility, before and after heat conditioning, F, max.	0		
Dimensional stability, % max.	1		
Compound stability at 215 F	no failures		
Granule embedment, Grade G only, max., grams	2		
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		MB TECHNOLOGY	
2. PRODUCT NAME		FASTORCH SBS FT 160 GWH	FASTORCH SBS FT 120 GSA
3. PRODUCT DESCRIPTION		FIBERGLASS GRANULE	FIBERGLASS GRANULE
Reinforcing (indicate polyester or combination)			
Top surface (indicate granule or smooth)			
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	155
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	120
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		MONSEY BAKOR	
2. PRODUCT NAME		MODIFIED PLUS NP 180gMFR (TFR)	MODIFIED PLUS NP 250gMFR (TFR)
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 10	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		POLYGLASS USA	
2. PRODUCT NAME		ELASTOFLEX GS 6-FR	ELASTOBASE
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	80
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	140
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SIPLAST, INC.	
2. PRODUCT NAME		PARADIENE 20 EG	PARADIENE 30
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)		SMOOTH	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	118
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	130
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	80
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	82
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	150
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	70
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	4
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	3
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	80
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	30
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	5
Low temperature flexibility, before and after heat conditioning, F, max.		120	40
Dimensional stability, % max.		0	-5
Compound stability at 215 F		0.1	0.1
Granule embedment, Grade G only, max., grams		no failures	no failures
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 38; Type II: 60	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 55; Type II: 70	
Tear strength at 73.4 ± 3.6 F, lbf, min.		0	
Low temperature flexibility, before and after heat conditioning, F, max.		1	
Dimensional stability, % max.		no failures	
Compound stability at 215 F		2	
Granule embedment, Grade G only, max., grams			
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SIPLAST, INC.	
2. PRODUCT NAME		PARADIENE 20 HT TG	PARADIENE 20 PR TG
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	COMBINATION
Top surface (indicate granule or smooth)		SMOOTH	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	110
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	63
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	70
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	110
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	63
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	70
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	150
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	4
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	80
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	5
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	120
Low temperature flexibility, before and after heat conditioning, F, max.		0	0
Dimensional stability, % max.		0.5	0.2
Compound stability at 225 F		no failures	no failures
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	150
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	4
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	80
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	5
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	120
Low temperature flexibility, before and after heat conditioning, F, max.		0	-5
Dimensional stability, % max.		0.5	0.1
Compound stability at 215 F		no failures	no failures
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SOPREMA, INC.	
2. PRODUCT NAME		SOPRALENE 250	SOPRALENE FLAM 250
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	120
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	98
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	101
Bottom coating thickness (min., mils)		40	40
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	115
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	15
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	100
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	55
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	125
Low temperature flexibility, before and after heat conditioning, F, max.		0	-5
Dimensional stability, % max.		1	0.3
Compound stability at 215 F		no failures	250
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SOPREMA, INC.	
2. PRODUCT NAME		SOPRALENE 180 FR GRANULE	SOPRALENE FLAM 180 FR GRANULE
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	101
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	85
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	15
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	65
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	50
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	87
Low temperature flexibility, before and after heat conditioning, F, max.		0	-5
Dimensional stability, % max.		1	0.5
Compound stability at 215 F		no failures	250
Granule embedment, Grade G only, max., grams		2	1
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SOPREMA, INC.	
2. PRODUCT NAME		SOPRALAST 50 TV ALU	SOPRALAST TV COPPER
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)		ALUMINUM	COPPER
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		SOPREMA INC.	
2. PRODUCT NAME		COLPHENE HR GRANULES	COLPHENE HR FR GRANULES
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	140
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	140
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	85
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	175
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	10
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	130
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	8
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	130
Low temperature flexibility, before and after heat conditioning, F, max.		0	-5
Dimensional stability, % max.		0.5	0
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	1
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

197

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		TAMKO ROOFING	
2. PRODUCT NAME		AWAPLAN HEAT WELDING	AWAFLEX
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	POLYESTER
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)	Type I, Grade G (granule surfaced)		
	Type I, Grade S (smooth surfaced)		
	Type II, Grade G (granule surfaced)		
	Type II, Grade S (smooth surfaced)		
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	185
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	125
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

199

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		TEXSA, S.A.	
2. PRODUCT NAME		TEXSELF ICE & WATER SCREEN	TEXSELF GAS SCREEN
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)			
Top surface (indicate granule or smooth)			SMOOTH
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

201

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		TRI-PLY	
2. PRODUCT NAME		KARIFALT 308	KARIFALT 307 FR
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		POLYESTER	FIBERGLASS
Top surface (indicate granule or smooth)		GRANULE	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	177
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	150
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max., grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

SBS Modified Bitumens Part 2: Test Results

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

1. COMPANY NAME		U S INTEC, INC.	
2. PRODUCT NAME		INTEC MODIFIED BASE PLUS	INTEC/FLEX M
3. PRODUCT DESCRIPTION			
Reinforcing (indicate polyester or combination)		FIBERGLASS	POLYESTER
Top surface (indicate granule or smooth)		SMOOTH	GRANULE
COMPLIES WITH:			
4A. ASTM D 6162-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4B. ASTM D 6153-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Fiber Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
4C. ASTM D 6164-97 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate type and grade, or NA)			
Type I, Grade G (granule surfaced)			
Type I, Grade S (smooth surfaced)			
Type II, Grade G (granule surfaced)			
Type II, Grade S (smooth surfaced)			
5A. DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 70; Type II: 80	
Thickness (min., mils) Grade G		Type I: 110; Type II: 130	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 45; Type II: 50	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 60; Type II: 75	
Bottom coating thickness (heat welding application products min., mils)		40	
5B. DIMENSIONS AND MASSES OF SHEET MATERIALS: GLASS FIBER REINFORCEMENTS			
Thickness (min., mils) Grade S		80	95
Thickness (min., mils) Grade G		Type I: 95; Type II: 105	
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		45	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 65; Type II: 75	
Bottom coating thickness (min., mils)		40	
5C. DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS			
Thickness (min., mils) Grade S		Type I: 85; Type II: 115	
Thickness (min., mils) Grade G		130	160
Net mass per unit area (min., lbs./100 sq. ft.) Grade S		Type I: 54; Type II: 70	
Net mass per unit area (min., lbs./100 sq. ft.) Grade G		Type I: 75; Type II: 90	
Bottom coating thickness (min., mils)		40	
6A. PHYSICAL PROPERTIES: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 125	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 75; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 26; Type II: 75	
Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 9; Type II: 30	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 65; Type II: 90	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 225 F		no failures	
Granule embedment, Grade G only, max., grams		2	
6B. PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 150	
Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning		Type I: 1; Type II: 2	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 30; Type II: 80	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 2; Type II: 4	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured		Type I: 3; Type II: 40	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning		Type I: 3; Type II: 20	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 35; Type II: 110	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		0.5	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
6C. PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS			
Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 70; Type II: 100	
Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning		20	
Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in.		Type I: 50; Type II: 100	
Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning		Type I: 35; Type II: 50	
Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning		Type I: 38; Type II: 60	
Tear strength at 73.4 ± 3.6 F, lbf, min.		Type I: 55; Type II: 70	
Low temperature flexibility, before and after heat conditioning, F, max.		0	
Dimensional stability, % max.		1	
Compound stability at 215 F		no failures	
Granule embedment, Grade G only, max. grams		2	
7. SEE MEMBRANE APPENDIX IF CHECKED			

SBS Modified Bitumens Part 2: Test Results	
--	--

Test description and suggested values as specified in ASTM D 6162-97, D 6163-97, AND D 6164-97

[illegible]

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
COMPANY NAME AL-KOAT, INC.					
NEW/REPLACEMENT					
NONNAILABLE					
AK 01, APP	1	NONE	AL-FLEX-S		
AK 01, APP	1	NONE	AL-FLEX-G		
AK 01, SBS	1	NONE	AL-KOAT, PG-45T		
NEW/REPLACEMENT					
NAILABLE					
AK 11, APP	2	G-2 BASE	AL-FLEX-S		
AK 11, APP	2	G-2 BASE	AL-FLEX-G		
AK 11, APP	2	NONE	AL-KOAT, VA-20	AL-FLEX-S	
AK 11, APP	2	NONE	AL-KOAT, VA-20	AL-FLEX-G	
AK 11, SBS	2	NONE	AL-KOAT, VA-20	AL-KOAT, PG-45T	
AK 11, SBS	2	NONE	AL-KOAT, VA-30T	AL-KOAT, PG-45T	
NEW/REPLACEMENT					
INSULATED					
AK 12, APP	2	G-2 BASE	AL-FLEX-S		
AK 12, APP	2	G-2 OR AL-KOAT, VA-20	AL-FLEX-G		
AK 12, SBS	2	G-2 OR AL-KOAT, VA-20	AL-KOAT PG-40, SBS		
AK 12, SBS	2	G-2 OR AL-KOAT, VA-20	AL-KOAT VG-30, SBS		
AK 12, SBS	2	G-2 OR AL-KOAT, VA-20	AL-KOAT PG-45T		
AK 12, SBS	2	G-2 OR AL-KOAT, VA-20	AL-KOAT VG-35T		
AK 13, SBS	3	G-2 BASE	AL-KOAT VA-20	AL-KOAT PG-45T	
AK 13, SBS	3	G-2 BASE	AL-KOAT VA-20	AL-KOAT PG-40	
AK 13, SBS	3	G-2 BASE	AL-KOAT VA-20	AL-KOAT VG-35T	
AK 13, SBS	3	G-2 BASE	AL-KOAT VA-20	AL-KOAT VG-30	
AK 13, SBS	3	AL-KOAT, VA-20	AL-KOAT PA-30	AL-KOAT PG-45T	
AK 13, SBS	3	AL-KOAT, VA-20	AL-KOAT PA-30	AL-KOAT PG-40	
RECOVER					
EXISTING ROOF	See New/Replacement: Nailable and Nonnailable				
RECOVER					
EXISTING ROOF					
INSULATION ADDED	See New/Replacement: Insulated				

COMPANY NAME **ALLIED SIGNAL, INC.**

NEW/REPLACEMENT					
NONNAILABLE					
M-100-MN-NN	2	BLACK ARMOR-ORGANIC	MILLENNIUM GMC		
M-120-MP-NN	3	2 BLACK ARMOR TC GLASS IV	MILLENNIUM GMC		
M-140-MP-NN	3	BLACK ARMOR ORGANIC	MILLENNIUM BASE	MILLENNIUM GMC	
M-145-MP-NN	3	MILLENNIUM BASE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-150-MP-NN	2	NONE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-160-MP-NN	4	3 BLACK ARMOR TC GLASS IV	MILLENNIUM GMC		
M-100-C-NN	2	MILLENNIUM BASE	MILLENNIUM BMC		
M-140-C-NN	3	MILLENNIUM BASE	MILLENNIUM BASE	MILLENNIUM GMC	
M-145-C-NN	3	MILLENNIUM BASE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-150-C-NN	2	NONE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-100-MP-N	2	BLACK ARMOR ORGANIC	MILLENNIUM GMC		
M-120-MP-NN	4	BLACK ARMOR ORGANIC BASE & 2 BLACK ARMOR TC GLASS IV	MILLENNIUM GMC		
M-140-MP-N	3	BLACK ARMOR ORGANIC BASE	MILLENNIUM BASE SHEET	MILLENNIUM GMC	
M-145-MP-NN	3	MILLENNIUM BASE SHEET	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-160-MP-NN	5	BLACK ARMOR BASE & 3 BLACK ARMOR GLASS IV	MILLENNIUM GMC		
M-100-C-N	2	MILLENNIUM BASE SHEET	MILLENNIUM GMC		
M-140-C-N	3	MILLENNIUM BSE SHEET	MILLENNIUM BASE SHEET	MILLENNIUM GMC	
M-145-C-N	3	MILLENNIUM BASE SHEET	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
I-100-MA-NN	2	BLACK ARMOR BASE SHEET	INFINITEE 30 GMC		
I-105-PM-NN	2	POLYMOP BASE SHEET	INFINITEE 30 GMC		
I-120-MA-NN	3	2 BLK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-125-PM-NN	3	2 POLYMOP PLY TYPE IV	INFINITEE 30 GMC		
I-130-MA-NN	2	NONE	INFINITEE 20 5M	INFINITEE 30 GMC	
I-135-PM-NN	2	NONE	INFINITEE 20 5M	INFINITEE 30 GMC	
I-140-MA-NN	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M		
I-145-PM-NN	3	POLYMOP BASE SHEET	INFINITEE 20 5M		
I-160-MA-NN	4	3 BLK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-165-PM-NN	4	3 POLYMOP TYPE IV	INFINITEE 30 GMC		
I-100-C-NN	2	BLACK ARMOR BASE	INFINITEE 30 GMC		
I-105-C-NN	2	POLYMOP BASE SHEET	INFINITEE 30 GMC		
I-140-C-NN	3	BLACK ARMOR BSE	POLYMOP BASE SHEET	INFINITEE 30 GMC	
I-145-C-NN	3	POLYMOP BASE SHEET	POLYMOP BASE SHEET	INFINITEE 30 GMC	
I-150-C-NN	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M	INFINITEE 30 GMC	
I-145-T-NN	3	BLACK ARMOR BASE SHEET	INFINITEST	INFINITEE GTC	
NEW/REPLACEMENT					
NAILABLE					
I-100-MA-N	2	BLACK ARMOR BASE SHEET	INFINITEE 30 GMC		
I-105-PM-N	2	POLYMOP BASE SHEET	INFINITEE 30 GMC		
I-120-MA-N	4	BLACK ARMOR BASE SHEET & 2 BLK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-125-PM-N	4	POLYMOP BASE SHEET & 2 POLY MOP PLY IV	INFINITEE 30 GMC		

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
I-140-MA-N	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M	INFINITEE 30 GMC	
I-145-PM-N	3	POLY MOP BASE SHEET	INFINITEE 20 5M	INFINITEE 30 GMC	
I-160-MA-N	5	BLACK ARMOR BASE SHEET & 3 BLACK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-165-PM-N	5	POLYMOP BASE SHEET & 3 POLYMOP PLY IV	INFINITEE 30 GMC		
I-100-C-N	2	BLACK ARMOR BASE SHEET	INFINITEE 30 GMC		
I-105-C-N	2	POLYNOIP BASE SHEET	INFINITEE 30 GMC		
I-140-C-N	3	BLACK ARMOR BASE SHEET	POLY MOP BASE SHEET	INFINITEE 30 GMC	
I-145-C-N	3	POLYMOP BSAE SHEET	POLYMOP BSAE SHEET	INFINITEE 30 GMC	
I-150-C-N	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M	INFINITEE 30 GMC	
I-100-T-N	2	BLACK ARMOR BASE SHEET	INFINITEE GTC		
I-140-T-N	3	BLACK ARMOR BASE SHEET	INFINITEE ST	INFINITEE GRLO	
NEW/REPLACEMENT INSULATED					
M-100-MN-NN	2	BLACK ARMOR-ORGANIC	MILLENNIUM GMC		
M-120-MP-NN	3	2 BLACK ARMOR TC GLASS IV	MILLENNIUM GMC		
M-140-MP-NN	3	BLACK ARMOR ORGANIC	MILLENNIUM BASE	MILLENNIUM GMC	
M-145-MP-NN	3	MILLENNIUM BASE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-150-MP-NN	2	NONE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-160-MP-NN	4	3 BLACK ARMOR TC GLASS IV	MILLENNIUM GMC		
M-100-C-NN	2	MILLENNIUM BASE	MILLENNIUM BMC		
M-140-C-NN	3	MILLENNIUM BASE	MILLENNIUM BASE	MILLENNIUM GMC	
M-145-C-NN	3	MILLENNIUM BASE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
M-150-C-NN	2	NONE	MILLENNIUM SMOOTH MOP	MILLENNIUM GMC	
I-100-MA-NN	2	BLACK ARMOR BASE SHEET	INFINITEE 30 GMC		
I-105-PM-NN	2	POLYMOP BASE SHEET	INFINITEE 30 GMC		
I-120-MA-NN	3	2 BLK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-125-PM-NN	3	2 POLYMOP PLY TYPE IV	INFINITEE 30 GMC		
I-130-MA-NN	2	NONE	INFINITEE 20 5M	INFINITEE 30 GMC	
I-135-PM-NN	2	NONE	INFINITEE 20 5M	INFINITEE 30 GMC	
I-140-MA-NN	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M		
I-145-PM-NN	3	POLYMOP BASE SHEET	INFINITEE 20 5M		
I-160-MA-NN	4	3 BLK ARMOR TYPE IV GLASS	INFINITEE 30 GMC		
I-165-PM-NN	4	3 POLYMOP TYPE IV	INFINITEE 30 GMC		
I-100-C-NN	2	BLACK ARMOR BASE	INFINITEE 30 GMC		
I-105-C-NN	2	POLYMOP BASE SHEET	INFINITEE 30 GMC		
I-140-C-NN	3	BLACK ARMOR BSE	POLYMOP BASE SHEET	INFINITEE 30 GMC	
I-145-C-NN	3	POLYMOP BASE SHEET	POLYMOP BASE SHEET	INFINITEE 30 GMC	
I-150-C-NN	3	BLACK ARMOR BASE SHEET	INFINITEE 20 5M	INFINITEE 30 GMC	
I-145-T-NN	3	BLACK ARMOR BASE SHEET	INFINITEE ST	INFINITEE GTC	
NEW/REPLACEMENT NAILABLE					
RECOVER EXISTING ROOF					
RECOVER EXISTING ROOF INSULATED ADDED					

COMPANY NAME **ANDEK CORP.**

NEW/REPLACEMENT NONNAILABLE					
B.P. 27	2	NONE	FLASHBAND R.F.	FLASHBAND-28	
NEW/REPLACEMENT INSULATED					
B.P. 23	2	NONE	FLASHBAND R.F.	FLASHBAND-28	
NEW/REPLACEMENT NAILABLE					
B.P. 21	2	NONE	FLASHBAND R.F.	FLASHBAND-28	
RECOVER EXISTING ROOF					
B.P. 17	1	NONE	FLASHBAND-28		
RECOVER EXISTING ROOF INSULATED ADDED					
B.P. 14	1	NONE	FLASHBAND-28		

COMPANY NAME **BITEC INC.**

NEW/REPLACEMENT NONNAILABLE					
APS-4T.1	2	BETA BASE	APS-4T		
APM-4T.1	2	BETA BASE	APM-4T		
APM-4.5T.1	2	BETA BASE	APM-4.5T		
SPM-4.5T.1	2	BETA BASE	SPM-4.5T		
SPM-3.5H.1	2	BETA BASE	SPM-3.5H		
SFM-3.5H.1	2	BETA BASE	SFM-3.5H		
SPM-4H.1	2	BETA BASE	SPM-4H		
SPS-3H.1	2	BETA BASE	SPS-3H		
APM-4T.1.15	3	BETA BASE	FA-2T	APS-4T	

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET
COMPANY NAME BITEC INC.					
APM-4T.1.15	3	BETA BASE	FA-2T	APM-4T	
APM4.5T.1.15	3	BETA BASE	FA-2T	APM-4.5T	
SPM4.5T.1.15	3	BETA BASE	PS-2H OR FS-2H	SPM-4.5T	
SPM3.5H.1.15	3	BETA BASE	PS-2H OR FS-2H	SPM-3.5H	
SFM3.5H.1.15	3	BETA BASE	PS-2H OR FS-2H	SFM-3.5H	
SPM-4H.1.15	3	BETA BASE	PS-2H OR FS-2H	SPM-4H	
SPS-3H.1.20	3	BETA BASE	SPS-3H	SPS-3H GRAVEL	
SPS-3H.1.20	3	NONE	PS-2H OF FS-2H	SPS-3H	SPS-3H GRAVEL
APS-4T.1.20	3	BETA BASE	APS-4T	APS-4T	
APS-4T.1.20	3	NONE	FA-2T	APS-4T	APS-4T
APM-4T.1.20	3	BETA BASE	APS-4T	APM-4T	
APM-4T.1.20	3	NONE	FA-2T	APS-4T	APM-4T
APM4.5T.1.20	3	BETA BASE	APS-2T	APM-4.5T	
APM4.5T.1.20	3	NONE	FA-2T	APS-2T	APM-4.5T
SPM4.5T.1.20	3	BETA BASE	SPS-3H	SPM-4.5T	
SPM4.5T.1.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-4.5T
SPM3.5H.1.20	3	BETA BASE	SPS-3H	SPM-3.5H	
SPM3.5H.1.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-3.5H
SFM3.5H.1.20	3	BETA BASE	SPS-3H	SFM-3.5H	
SFM3.5H.1.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SFM-3.5H
SPM-4H.1.20	3	BETA BASE	SPS-3H	SPM-4H	
SPM-4H.1.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-4H
NEW/REPLACEMENT					
NAILABLE					
APS-4T.2	2	BETA BASE	APS-4T		
APM-4T.2	2	BETA BASE	APM-4T		
APM-4.5T.2	2	BETA BASE	APM-4.5T		
SPM-4.5T.2	2	BETA BASE	SPM-4.5T		
SPM-3.5H.2	2	BETA BASE	SPM-3.5H		
SFM-3.5H.2	2	BETA BASE	SFM-3.5H		
SPM-4H.2	2	BETA BASE	SPM-4H		
SPS-3H.2	2	BETA BASE	SPS-3H		
APM-4T.2.15	3	BETA BASE	FA-2T	APS-4T	
APM-4T.2.15	3	BETA BASE	FA-2T	APM-4T	
APM4.5T.2.15	3	BETA BASE	FA-2T	APM-4.5T	
SPM4.5T.2.15	3	BETA BASE	PS-2H OR FS-2H	SPM-4.5T	
SPM3.5H.2.15	3	BETA BASE	PS-2H OR FS-2H	SPM-3.5H	
SFM3.5H.2.15	3	BETA BASE	PS-2H OR FS-2H	SFM-3.5H	
SPM-4H.2.15	3	BETA BASE	PS-2H OR FS-2H	SPM-4H	
NEW/REPLACEMENT					
NAILABLE (CONT'D)					
SPS-3H.2.20	3	BETA BASE	SPS-3H	SPS-3H GRAVEL	
SPS-3H.2.20	3	NONE	PS-2H OF FS-2H	SPS-3H	SPS-3H GRAVEL
APS-4T.2.20	3	BETA BASE	APS-4T	APS-4T	
APS-4T.2.20	3	NONE	FA-2T	APS-4T	APS-4T
APM-4T.2.20	3	BETA BASE	APS-4T	APM-4T	
APM-4T.2.20	3	NONE	FA-2T	APS-4T	APM-4T
APM4.5T.2.20	3	BETA BASE	APS-2T	APM-4.5T	
APM4.5T.2.20	3	NONE	FA-2T	APS-2T	APM-4.5T
SPM4.5T.2.20	3	BETA BASE	SPS-3H	SPM-4.5T	
SPM4.5T.2.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-4.5T
SPM3.5H.2.20	3	BETA BASE	SPS-3H	SPM-3.5H	
SPM3.5H.2.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-3.5H
SFM3.5H.2.20	3	BETA BASE	SPS-3H	SFM-3.5H	
SFM3.5H.2.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SFM-3.5H
SPM-4H.2.20	3	BETA BASE	SPS-3H	SPM-4H	
SPM-4H.2.20	3	NONE	PS-2H OR FS-2H	SPS-3H	SPM-4H
NEW/REPLACEMENT					
INSULATED	See New Replacement, Nailable and Nonnailable				
RECOVER					
EXISTING ROOF	See New Replacement, Nailable and Nonnailable				
RECOVER					
EXISTING ROOF					
INSULATION ADDED	See New Replacement, Nailable and Nonnailable				

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET

COMPANY NAME **CELOTEX CORP.**

NEW/REPLACEMENT					
NONNAILABLE					
and					
NEW/REPLACEMENT					
INSULATED					
SBS-4-C-M	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-3-C-M	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-2-C-M	2	D 4601 TYPE II BASE SHEET	SBS 250 CAP SHEET		
SBS-DP-4-C-M	4	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
SBS-DP-3-C-M	3	D 4601 TYPE II BASE SHEET	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
SBS-DP-2-C-M	2		SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
APP-4-C-M	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-4-C-S	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	APP 4S CAP SHEET		
APP-3-C-M	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-3-C-S	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	APP 4S CAP SHEET		
APP-2-C-M	2	D 4601 TYPE II BASE SHEET	APP 4M CAP SHEET		
APP-2-C-S	2	D 4601 TYPE II BASE SHEET	APP 4S CAP SHEET		
NEW/REPLACEMENT					
NAILABLE					
SBS-4-W-M	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-3-W-M	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-2-W-M	2	D 4601 TYPE II BASE SHEET	SBS 250 CAP SHEET		
SBS-DP-4-W-M	4	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
SBS-DP-3-W-M	3	D 4601 TYPE II BASE SHEET	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
SBS-DP-2-W-M	2		SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
APP-4-W-M	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-4-W-S	4	D 4601 TYPE II BASE SHEET & 2 TYPE VI PLY SHEETS	APP 4S CAP SHEET		
APP-3-W-M	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-3-W-S	3	D 4601 TYPE II BASE SHEET & 1 TYPE VI PLY SHEETS	APP 4S CAP SHEET		
APP-2-W-M	2	D 4601 TYPE II BASE SHEET	APP 4M CAP SHEET		
APP-2-W-S	2	D 4601 TYPE II BASE SHEET	APP 4S CAP SHEET		
SBS-H+3-W-M	4	HYDRO-STOP VAP. BARRIER & 2 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-H+2-W-M	3	HYDRO-STOP VAP. BARRIER & 1 TYPE VI PLY SHEETS	SBS 250 CAP SHEET		
SBS-H+2-IV-W-M	3	HYDRO-STOP VAP. BARRIER & 1 TYPE IV PLY SHEETS	SBS 250 CAP SHEET		
SBS-DP-H+3-W-M	4	HYDRO-STOP VAP. BARRIER & 1 TYPE VI PLY SHEETS	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
SBS-DP-H+2-W-M	3	HYDRO-STOP VAP. BARRIER	SBS DUEL PLY FR BASE SHEET	SBS DUEL PLY FR CAP SHEET	
APP-H+3-W-M	4	HYDRO-STOP VAP. BARRIER & 2 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-H+3-W-S	3	HYDRO-STOP VAP. BARRIER & 1 TYPE VI PLY SHEETS	APP 4/S CAP SHEET		
APP-H+2-W-M	3	HYDRO-STOP VAP. BARRIER & 1 TYPE VI PLY SHEETS	APP 4M CAP SHEET		
APP-H+2-W-S	3	HYDRO-STOP VAP. BARRIER & 1 TYPE VI PLY SHEETS	APP 4/S CAP SHEET		
APP-H+2-IV-W-M	3	HYDRO-STOP VAP. BARRIER & 1 TYPE IV PLY SHEETS	APP 4M CAP SHEET		
APP-H+2-IV-W-S	3	HYDRO-STOP VAP. BARRIER & 1 TYPE IV PLY SHEETS	APP 4/S CAP SHEET		
RECOVER					
EXISTING ROOF					
INSULATION ADDED	See New/Replacement, Insulated				

Company Name **DANOSA CARIBBEAN, INC.**

NEW/REPLACEMENT					
NONNAILABLE					
1-RC	2		GLASDAN R-36	GLASDAN AL-80-3	
3-RC	2		ESTERDAN R-36	ESTERDAN RM	
6-RC	1		GLASDAN AL-80		
7-RC	1		ESTERDAN RM-5		
8-RC	2		GLASDAN R-36	ESTERDAN RM	
9-RC	2		GLASDAN R-36	GLASDAN RM	
9-RC	2	BASEDAN IV	GLASDAN RM		

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET

Company Name **DANOSA CARIBBEAN, INC.**

NEW/REPLACEMENT					
INSULATED,					
RECOVER					
EXISTING ROOF, AND					
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
1-ID	3	BASEDAN II	ESTERDAN R-36	ESTERDAN RM	
4-ID	3	BASEDAN II	GLASDAN R-36	ESTERDAN RM	
NEW/REPLACEMENT					
NAILABLE					
1-LW	3	BASEDAN II	ESTERDAN R-36	ESTERDAN RM	
3-LW	3	BASEDAN II	GLASDAN R-36	ESTERDAN RM	
1-WP	3	BASEDAN II	ESTERDAN R-36	ESTERDAN RM	
2-WP	2	BASEDAN II	ESTERDAN RM-5		
3-WP	3	BASEDAN II	GLASDAN R-36	ESTERDAN RM	
5-ID (H/A)	3	BASEDAN II	ESTERDAN RM		

Company Name **DIBITEN**

NEW/REPLACEMENT					
NONNAILABLE					
403	1	NONE	POLY/4		
453	1	NONE	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
403-2	2	NONE	POLY/4	POLY/4	
453-2	2	NONE	POLY/4	POLY/4.5 GRANULAR OR BLACK	
503	2	NONE	POLY/4	GRANITE	
NEW/REPLACEMENT					
INSULATED					
and					
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
402	2	FIBERGLASS	POLY/4		
452	2	FIBERGLASS	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
404	2	FIBERGLASS	DIBITEN POLY/4		
454	2	FIBERGLASS	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
402-2	3	FIBERGLASS	POLY/4	POLY/4	
452-2	3	FIBERGLASS	POLY/4	POLY/4.5 GRANULAR OR BLACK GRANITE	
404-2	3	FIBERGLASS	POLY/4		
454-2	3	FIBERGLASS	POLY/4	POLY/4.5 GRANULAR OR BLACK GRANITE	
502	2	FIBERGLASS	POLY/5		
504	2	FIBERGLASS	POLY/5		
NEW/REPLACEMENT					
NAILABLE					
401	2	APPROVED	POLY/4		
451	2	APPROVED	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
401-2	3	APPROVED	POLY/4	POLY/4	
451-2	3	APPROVED	POLY/4	POLY/4.5 GRANULAR OR BLACK GRANITE	
501	2	APPROVED	POLY/5		
RECOVER					
EXISTING ROOF					
R405	2	FIBERGLASS	POLY/4		
R455	2	FIBERGLASS	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
R406	2	FIBERGLASS	POLY/4		
R456	2	FIBERGLASS	POLY/4.5 GRANULAR, DIBITEN MINERAL, OR BLACK GRANITE		
R505	2	FIBERGLASS	POLY/5		
R506	2	FIBERGLASS	POLY/5		

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name FIRESTONE BUILDING PRODUCTS					
NEW/REPLACEMENT					
INSULATED					
I-M16-C	2	MB BASE SHEET	APP160		
I-M17-C	2	MB BASE SHEET	APP170		
I-M18-M	2	MB BASE SHEET	APP180		
I-M18FR-M	2	MB BASE SHEET	APP180 FR		
I-M16-18-M	3	MB BASE SHEET	APP160	APP180	
I-M16-18FR-M	3	MB BASE SHEET	APP160	APP180 FR	
I-M30-M	2	MB BASE SHEET	SBS		
I-M31-M	2	MB BASE SHEET	SBS FR		
I-M32-G	2	MB BASE SHEET	SBS SMOOTH		
I-M33-M	2	MB BASE SHEET	SBS PREMIUM		
I-M36-M	2	MB BASE SHEET	SBS PREMIUM FR	SBS	
I-M41-M	2	MB BASE SHEET	SBS TORCH		
I-S34-M	2		SBS BASE SHEET	SBS SMOOTH	
I-S35-M	2		SBS BASE SHEET	SBS PREMIUM	
I-X34-M	2		SBS PREMIUM BASE SHEET	SBS PREMIUM FR	
I-X35-M	2		SBS PREMIUM BASE SHEET		
I-3233-M	2		SBS SMOOTH	SBS GLASS	
I-3236-M	2		SBS SMOOTH	SBS GLASS FR	
I-46-42-M	2		SBS GLASS TORCH BASE	SBS GLASS FR TORCH	
I-46-41-M	2		SBS GLASS TORCH BASE	SBS FR TORCH	
I-45-42-M	2		SBS POLY TORCH BASE	SBS GLASS FR TORCH	
I-45-41-M	2		SBS POLY TORCH BASE	SBS FR TORCH	
NEW/REPLACEMENT					
NAILABLE					
W-M16-C	2	MB BASE SHEET	APP160		
W-M17-C	2	MB BASE SHEET	APP170		
W-M-18-M	2	MB BASE SHEET	APP180		
W-M-18FR-M	2	MB BASE SHEET	APP180FR		
W-M16-18-M	3	MB BASE SHEET	APP160	APP180	
W-M16-18FR-M	3	MB BASE SHEET	APP160	APP180FR	
W-M30-M	2	MB BASE SHEET	SBS		
W-M31-M	2	MB BASE SHEET	SBS FR		
W-M32-G	2	MB BASE SHEET	SBS SMOOTH		
W-M33-M	2	MB BASE SHEET	SBS PREMIUM		
W-M36-M	2	MB BASE SHEET	SBS PREMIUM FR		
W-M40-M	2	MB BASE SHEET	SBS TORCH		
W-MS34-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS	
W-MS35-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS FR	
W-MX34-M	3	MB BASE SHEET	SBS PREMIUM BASE SHEET	SBS GLASS	
W-MX35-M	3	MB BASE SHEET	SBS PREMIUM BASE SHEET	SBS GLASS FR	
W-M32-33-M	3	MB BASE SHEET	SBS SMOOTH	SBS PREMIUM	
W-M32-36-M	3	MB BASE SHEET	SBS SMOOTH	SBS PREMIUM FR	
W-M-46-42-M	2	MB BASE SHEET	SBS GLASS TORCH BASE	SBS GLASS FR TORCH	
W-M-46-41-M	2	MB BASE SHEET	SBS GLASS TORCH BASE	SBS FR TORCH	
W-M-45-42-M	2	MB BASE SHEET	SBS POLY TORCH BASE	SBS GLASS FR TORCH	
W-M-45-41-M	2	MB BASE SHEET	SBS POLY TORCH BASEQ	SBS FR TORCH	
NEW/REPLACEMENT					
NONNAILABLE					
C-PM-16-C	2	MB BASE SHEET	APP160		
C-PM-17-C	2	MB BASE SHEET	APP170		
C-PM-18-M	2	MB BASE SHEET	APP180		
C-PM-18FR-M	2	MB BASE SHEET	APP180FR		
C-PM16-18-M	3	MB BASE SHEET	APP160	APP180	
C-PM16-18FR-M	3	MB BASE SHEET	APP160	APP180FR	
C-PM-30-M	2	MB BASE SHEET	SBS		
C-PM-31-M	2	MB BASE SHEET	SBS FR		
C-PM-32-G	2	MB BASE SHEET	SBS SMOOTH		
C-PM-33-M	2	MB BASE SHEET	SBS PREMIUM		
C-PS-36-M	2	MB BASE SHEET	SBS PREMIUM FR		
C-PS-40-M	2	MB BASE SHEET	SBS TORCH		
C-PS-34-M	2		SBS BASE SHEET	SBS GLASS	
C-PS-35-M	2		SBS BASE SHEET	SBS GLASS FR	
C-PX-34-M	2		SBS PREMIUM BASE SHEET	SBS GLASS	
C-PX-35-M	2		SBS PREMIUM BASE SHEET	SBS GLASS FR	
C-P32-33-M	2		SBS SMOOTH	SBS PREMIUM	
C-P32-36-M	2		SBS SMOOTH	SBS PREMIUM FR	
L-M-16-C	2	MB BASE SHEET	APP160		
L-M-17-C	2	MB BASE SHEET	APP170		
L-M-18-M	2	MB BASE SHEET	APP180		
L-M-18FR-M	2	MB BASE SHEET	APP180FR		
L-M16-18-M	3	MB BASE SHEET	APP160	APP180	
L-M16-18FR-M	3	MB BASE SHEET	APP160	APP180FR	
L-M30-M	2	MB BASE SHEET	SBS		
L-M31-M	2	MB BASE SHEET	SBS FR		
L-M32-G	2	MB BASE SHEET	SBS SMOOTH		
L-M33-M	2	MB BASE SHEET	SBS PREMIUM		
L-M36-M	2	MB BASE SHEET	SBS PREMIUM FR		
L-MS-34-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS	
L-MS-35-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS FR	

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLYS IN MEMBRANE	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.	ASSEMBLY	BITUMEN SHEET	FIRST SHEET	SECOND SHEET	THIRD SHEET

Company Name **FIRESTONE BUILDING PRODUCTS**

NEW/REPLACEMENT					
NONNAILABLE					
L-MX-34-M	3	MB BASE SHEET	SBS PREMIUM BASE SHEET	SBS GLASS	
L-MX-35-M	3	MB BASE SHEET	SBS PREMIUM BASE SHEET	SBS GLASS FR	
L-M32-33-M	3	MB BASE SHEET	SBS SMOOTH	SBS PREMIUM	
L-M32-36-M	3	MB BASE SHEET	SBS SMOOTH	SBS PREMIUM FR	
C-P-46-42-M	2		SBS GLASS TORCH BASE	SBS GLASS FR TORCH	
C-P-46-41-M	2		SBS GLASS TORCH BASE	SBS FR TORCH	
C-P-45-42-M	2		SBS POLY TORCH BASE	SBS GLASS FR TORCH	
C-P-45-41-M			SBS POLY TORCH BASE	SBS FR TORCH	
RECOVER					
EXISTING ROOF					
E-M16-C	2	MB BASE SHEET	APP160		
E-M17-C	2	MB BASE SHEET	APP170		
E-M18-M	2	MB BASE SHEET	APP180		
E-M18FR-M	2	MB BASE SHEET	APP180 FR		
E-M30-M	2	MB BASE SHEET	SBS		
E-M31-M	2	MB BASE SHEET	SBS FR		
E-M32-G	2	MB BASE SHEET	SBS SMOOTH		
E-M33-M	2	MB BASE SHEET	SBS PREMIUM		
E-M36-M	2	MB BASE SHEET	SBS PREMIUM FR		
E-M40-M	2	MB BASE SHEET	SBS TORCH		
E-MS-34-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS	
E-MS-35-M	3	MB BASE SHEET	SBS BASE SHEET	SBS GLASS FR	
RECOVER					
EXISTING ROOF INSULATION ADDED					
I-M16-C	2	MB BASE SHEET	APP160		
I-M17-C	2	MB BASE SHEET	APP170		
I-M18-M	2	MB BASE SHEET	APP180		
I-M18FR-M	2	MB BASE SHEET	APP180 FR		
I-M30-M	2	MB BASE SHEET	SBS		
I-M31-M	2	MB BASE SHEET	SBS FR		
I-M32-G	2	MB BASE SHEET	SBS SMOOTH		
I-M33-M	2	MB BASE SHEET	SBS PREMIUM		
I-M36-M	2	MB BASE SHEET	SBS PREMIUM FR		
I-M40-M	2	MB BASE SHEET	SBS TORCH		
I-S34-M	2	MB BASE SHEET	SBS GLASS		
I-S35-M	2	MB BASE SHEET	SBS GLASS FR		

Company Name **GAF MATERIALS CORPORATION**

NEW/REPLACEMENT					
NONNAILABLE					
NN-0-1-TS	1	NONE	RUBEROID TORCH (SMOOTH)		
NN-1-1-TG	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (GRANULE)		
NN-1-1-MG	2	GAFGLAS 75 BASE SHEET	RUBEROID MOP (GRANULE)		
NN-1-1-MGFR	2	GAFGLAS 75 BASE SHEET	RUBEROID 170 FR		
NN-1-1-MSG	2	GAFGLAS 75 BASE SHEET	RUBEROID MOP SMOOTH (GRAVEL)		
NN-1-1-TS	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (SMOOTH)		
NN-01-TG	1	NONE	RUBEROID TORCH GRANULE		
NN-01-TSC	1	NONE	RUBEROID TORCH		
NN-1-1-TSC	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH		
NN-1-2-20/30	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30	
NN-1-2-20/30 FR	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30 FR	
NEW/REPLACEMENT					
INSULATED					
I-1-1-TG	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (GRANULE)		
I-2-1-TG	3	2 GAFGLAS PLY 4 OR 6	RUBEROID TORCH (GRANULE)		
I-1-2-TGPFR	3	GAFGLAS 75 BASE SHEET	RUBEROID TORCH	RUBEROID TORCH FR	
I-2-1-TGPFR	3	GAFGLAS 75 BASE SHEET AND 1 PLY 4 OR PLY 6	RUBEROID TORCH FR		
I-2-1-MGPFR	3	GAFGLAS 75 BASE SHEET AND 1 PLY 4 OR PLY 6	RUBEROID MOP FR		
I-0-2-20-MGPFR	2	NONE	RUBEROID 20 (SMOOTH)	RUBERIOD MOP FR	
I-3-1-TGPFR	4	3 GAFGLAS PLY 4 OR 6	RUBEROID TORCH FR		
I-3-1-MGPFR	4	3 GAFGLAS PLY 4 OR 6	RUBEROID MOP FR		
I-1-2-20-MGP	3	GAFGLAS 75 BASE SHEET	RUBEROID MOP 20	RUBEROID MOP PLUS	
I-1-2-MGPFR	3	GAFGLAS 75 BASE SHEET	RUBEROID MOP (SMOOTH)	RUBEROID MOP FR	
I-1-1-TSC	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (SMOOTH)		
I-2-1-TGP	3	2 GAFGLAS PLY 6	RUBEROID TORCH PLUS		
I-1-2-TGP	3	GAFGLAS 75 BASE SHEET	RUBEROID TORCH PLUS		
I-0-2-MGP	2	NONE	RUBEROID MOP 20	RUBEROID MOP PLUS	
I-1-2-20/30	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30	
I-1-2-20/30 FR	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30 FR	
I-0-2-20/30	2	NONE	RUBEROID 20	RUBEROID 30	
I-0-2-20/30 FR	2	NONE	RUBEROID 20	RUBEROID 30 FR	
I-1-2-20/MG	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID MOP (GRANULE)	
I-1-2-20/MGP	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID MOP PLUS	
I-1-2-20/MGPFR	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID MOP FR	
I-1-1-MGFR	2	GAFGLAS BASE SHEET	RUBEROID MOP 170FR		
I-1-1-MGP	2	GAFGLAS BASE SHEET	RUBEROID MOP PLUS		
I-2-1-MG	3	GAFGLAS PLY 4 OR 6	RUBEROID MOP (GRANULE)		
I-2-1-MGFR	3	GAFGLAS PLY 4 OR 6	RUBEROID MOP 170FR		
I-0-2-20/MG	2	NONE	RUBEROID 20	RUBEROID MOP (GRANULE)	

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET
MANUFACTURER'S SPECIFICATION NO.					
Company Name GAF MATERIALS CORPORATION					
NEW/REPLACEMENT					
INSULATED (CONT'D)					
I-O-2-20/MGP	2	NONE	RUBEROID 20	RUBEROID MOP PLUS	
I-O-2-20/MGFR	2	NONE	RUBEROID 20	RUBEROID MOP FR	
NEW/REPLACEMENT					
NAILABLE					
N-1-1-TG	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (GRANULE)		
N-1-1-MG	2	GAFGLAS 75 BASE SHEET	RUBEROID MOP (GRANULE)		
N-1-1-TS	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH (SMOOTH)		
N-1-1-TSC	2	GAFGLAS 75 BASE SHEET	RUBERIOD TORCH (SMOOTH)		
N-1-1-M170FR	2	GAFGLAS 75 BASE SHEET	RUBEROID MOP 170 FR		
N-1-1-MG	3	GAFGLAS 75 BASE SHEET	RUBERIOD MOP (GRANULE)		
N-1-2-MGP	3	GAFGLAS 75 BASE SHEET	RUBEROID MOP (SMOOTH)	RUBEROID MOP PLUS	
N-1-2-MGPFR	3	GAFGLAS 75 BASE SHEET	RUBEROID MOP (SMOOTH)	RUBEROID MOP FR	
N-1-2-TGP	3	STRATAVENT	RUBEROID TORCH SMOOTH	RUBEROID TORCH PLUS	
N-1-2-TGPFR	3	STRATAVENT	RUBEROID TORCH SMOOTH	RUBEROID TORCH FR	
N-2-1-MGP	3	GAFGLAS 75 BASE SHEET	RUBEROID MOP PLUS		
		AND 1 PLY 4 OR PLY 6			
N-2-1-MGPFR	3	GAFGLAS STRATAVENT	RUBEROID MOP FR		
		AND 1 PLY 4 OR PLY 6			
N-2-1-TGP	3	GAFGLAS STRATAVENT	RUBEROID TORCH PLUS		
		AND GAFGLAS PLY 6			
N-2-1-TGPFR	3	GAFGLAS STRATAVENT	RUBEROID TORCH FR		
		AND GAFGLAS PLY 6			
N-2-(20/P6)-1-M6P	3	GAFGLAS PLY 6	RUBEROID 20	RUBEROID MOP PLUS	
N-2-(20/P6)-1-M6PFR	3	GAFGLAS PLY 6	RUBEROID 20	RUBEROID MOP FR	
N-3-1-MGP	4	GAFGLAS STRATAVENT	RUBEROID MOP PLUS		
		AND 2 PLY 4 OR PLY 6			
N-3-1-MGPFR	4	GAFGLAS STRATAVENT	RUBEROID MOP FR		
		AND 2 PLY 4 OR PLY 6			
N-3-1-TGP	4	GAFGLAS STRATAVENT	RUBEROID TORCH PLUS		
		AND 2 GAFGLAS PLY 6			
N-3-1-TGPFR	4	GAFGLAS STRATAVENT	RUBEROID TORCH FR		
		AND 2 GAFGLAS PLY 6			
N-1-2-20/30	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30	
		OR 1 PLY 4 OR PLY 6			
N-1-2-20/30 FR	3	GAFGLAS 75 BASE SHEET	RUBEROID 20	RUBEROID 30 FR	
		OR 1 PLY 4 OR PLY 6			
N-1-2-20/MG	3	GAFGLAS STRATAVENT	RUBEROID 20	RUBEROID MOP (GRANULE)	
		BASE SHEET			
N-1-2-20/MGP	3	GAFGLAS STRATAVENT	RUBEROID 20	RUBEROID MOP PLUS	
		BASE SHEET			
N-1-2-20/MGPFR	3	GAFGLAS STRATAVENT	RUBEROID 20	RUBEROID MOP FR	
		BASE SHEET			
RECOVER					
EXISTING ROOF					
R-1-1-TG	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH		
R-1-1-MG	2	GAFGLAS 75 BASE SHEET	RUBEROID MOP		
R-1-1-MSG	2	GAFGLAS STRATAVENT	RUBEROID MOP SMOOTH (GRAVEL)		
R-1-1-TS	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH		
R11M6FR	2	GAFGLAS STRATAVENT	RUBEROID MOP 170FR		
R-0-1-TG	1	NONE	RUBEROID TORCH		
R-0-1-TS	1	NONE	RUBEROID TORCH		
R-1-1-TSC	2	GAFGLAS 75 BASE SHEET	RUBEROID TORCH		

Company Name **W. R. GRACE & COMPANY**

NEW/REPLACEMENT					
NONAVAILABLE					
PRMA	1 OR 2	NONE	PRMA MEMBRANE		

Company Name **GS ROOFING PRODUCTS INC.**

NEW/REPLACEMENT					
AVAILABLE					
STA-N-B2	2	GLASBASE		FLINTLASTIC STA	FLINTLASTIC STA
STA-N-B3	3		FLEXIGLAS BASE	FLINTLASTIC STA	FLINTLASTIC STA
STA-N-B4	4		FLEXIGLAS BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC STA
GTA-N-B2	2	GLASBASE		FLINTLASTIC STA	
GTA-N-B3	3		FLEXIGLAS BASE	FLINTLASTIC STA	FLINTLASTIC GTA
GTA-N-B4	4		FLEXIGLAS BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC GTA
GTAFR-N-B2	2	GLASBASE		FLINTLASTIC GTA-FR	
GTAFR-N-B3	3		FLEXIGLAS BASE	FLINTLASTIC STA	FLINTLASTIC GTA-FR
GTAFR-N-B4	4		FLEXIGLAS BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC GTA-FR
GMS-N-B2	2	GLASBASE		FLINTLASTIC GMS	
GMS-N-B3	3		FLEXIGLAS BASE	FLINTGLAS PLY IV	FLINTLASTIC GMS
GMS-N-B4	4		FLEXIGLAS BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC GMS
FRP-N-B2	2	GLASBASE		FLINTLASTIC FR-P	
FRP-N-B3	3		FLEXIGLAS BASE	FLINTLASTIC PLY IV	FLINTLASTIC FR-P
FRP-N-B4	4		FLEXIGLAS BASE	FLINTLASTIC PLY IV (2 PLIES)	FLINTLASTIC FR-P
GTS-N-B2	2	GLASBASE		FLINTLASTIC GTS	
GTS-N-B3	3		FLEXIGLAS BASE	FLINTGLAS PLY IV	FLINTLASTIC GTS
GTS-N-B4	4		FLEXIGLAS BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC GTS
FRBC-N-B3	3	GLASBASE		FLEXIGLAS FR BASE	FLINTLASTIC FR CAP
FRBC-N-B4	4		FLEXIGLAS FR BASE	FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC FR CAP

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE		TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.				FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name GS ROOFING PRODUCTS INC.						
NEW/REPLACEMENT		2	GLASBASE	FLEXIGLAS BASE FLEXIGLAS BASE	FLINTLASTIC STA FLINTLASTIC STA FLINTGLAS PLY IV (2 PLIES) FLINTLASTIC GTA FLINTLASTIC STA FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC STA FLINTLASTIC STA FLINTLASTIC GTA FLINTLASTIC GTA
NONNAILABLE						
STA-C-B2						
STA-C-B3						
STA-C-B4						
GTA-C-B2						
GTA-C-B3						
GTA-C-B4						
NEW/REPLACEMENT		2	GLASBASE	FLEXIGLAS BASE FLEXIGLAS BASE	FLINTLASTIC GTA-FR FLINTLASTIC STA FLINTGLAS PLY IV (2 PLIES) FLINTLASTIC GMS FLINTGLAS PLY IV FLINTGLAS PLY IV (2 PLIES) FLINTLASTIC FR-P FLINTLASTIC PLY IV FLINTLASTIC PLY IV (2 PLIES) FLINTLASTIC GTS FLINTGLAS PLY IV FLINTGLAS PLY IV (2 PLIES) FLINTLASTIC FR CAP FLEXIGLAS FR BASE FLINTGLAS PLY IV (2 PLIES)	FLINTLASTIC GTA-FR FLINTLASTIC GTA-FR FLINTLASTIC GMS FLINTLASTIC GMS FLINTLASTIC FR-P FLINTLASTIC FR-P FLINTLASTIC GTS FLINTLASTIC GTS FLINTLASTIC GTS FLINTLASTIC FR CAP FLINTLASTIC FR CAP FLINTLASTIC FR CAP
NONNAILABLE (CONT'D)						
GTAFR-C-B2						
GTAFR-C-B3						
GTAFR-C-B4						
GMS-C-B2						
GMS-C-B3						
GMS-C-B4						
FRP-C-B2						
FRP-C-B3						
FRP-C-B4						
GTS-C-B2						
GTS-C-B3						
GTS-C-B4						
FRBC-C-B2						
FRBC-C-B3						
FRBC-C-B4						
NEW/REPLACEMENT		See description of the following specs under				
INSULATION		NEW/REPLACEMENT NAILABLE AND NONNAILABLE				
STA-N-B2/IN		GMS-C-B2/IC				
STA-N-B3/IN		GMS-C-B3/IC				
STA-N-B4/IN		GMS-C-B4/IC				
STA-C-B2/IC		FRP-N-B2/IN				
STA-C-B3/IC		FRP-N-B3/IN				
STA-C-B4/IC		FRP-N-B4/IN				
GTA-N-B2/IN		FRP-C-B2/IC				
GTA-N-B3/IN		FRP-C-B3/IC				
GTA-N-B4/IN		FRP-C-B4/IC				
GTA-C-B2/IC		GTS-N-B2/IN				
GTA-C-B3/IC		GTS-N-B3/IN				
GTA-C-B4/IC		GTS-N-B4/IN				
GTAFR-N-B2/IN		GTS-C-B2/IC				
GTAFR-N-B3/IN		GTS-C-B3/IC				
GTAFR-N-B4/IN		GTS-C-B4/IC				
GTAFR-C-B2/IC		FRBC-N-B3/IN				
GTAFR-C-B3/IC		FRBC-N-B4/IN				
GTAFR-C-B4/IC		FRBC-C-B2/IN				
GMS-N-B2/IN		FRBC-C-B3/IN				
GMS-N-B3/IN		FRBC-C-B4/IN				
GMS-N-B4/IN		& (All New/Replacement Specs /IS)				
RECOVER		See description of the following specs under				
EXISTING ROOF		NEW/REPLACEMENT NAILABLE AND NONNAILABLE				
STA-N-B2/RN		GMS-N-B2/RN	FRBC-N-B3/RN			
STA-N-B3/RN		GMS-N-B3/RN	FRBC-N-B4/RN			
STA-N-B4/RN		GMS-N-B4/RN	FRBC-C-B2/RC			
STA-C-B2/RC		GMS-C-B2/RC	FRBC-C-B3/RC			
STA-C-B3/RC		GMS-C-B3/RC	FRBC-C-B4/RC			
STA-C-B4/RC		GMS-C-B4/RC				
GTA-N-B2/RN		FRP-N-B2/RN				
GTA-N-B3/RN		FRP-N-B3/RN				
GTA-N-B4/RN		FRP-N-B4/RN				
GTA-C-B2/RC		FRP-C-B2/RC				
GTA-C-B3/RC		FRP-C-B3/RC				
GTA-C-B4/RC		FRP-C-B4/RC				
GTAFR-N-B2/RN		GTS-N-B2/RN				
GTAFR-N-B3/RN		GTS-N-B3/RN				
GTAFR-N-B4/RN		GTS-N-B4/RN				
GTAFR-C-B2/RC		GTS-C-B2/RC				
GTAFR-C-B3/RC		GTS-C-B3/RC				
GTAFR-C-B4/RC		GTS-C-B4/RC				
RECOVER						
EXISTING ROOF		(All New/Replacement Specs /RI)				
INSULATION ADDED						

Modified Bitumen Part 3: Modified Bitumen Specifications

Company Name **ICA, INC.**

NEW/REPLACEMENT					
NAILABLE					
PS1-N	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PS2-N	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PM1-N	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP MINERAL OR SLATE	ICA PREMIUM APP MINERAL OR SLATE	
PM2-N	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP MINERAL OR SLATE	
NEW/REPLACEMENT					
NONNAILABLE					
PS1-NN	1	NONE	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PS2-NN	2	NONE	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PM1-NN	1	NONE	ICA PREMIUM APP MINERAL OR SLATE	ICA PREMIUM APP MINERAL OR SLATE	
PM2-NN	2	NONE	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP MINERAL OR SLATE	
TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
NEW/REPLACEMENT					
INSULATED					
PS1-NI	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PS2-NI	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PM1-NI	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP MINERAL	ICA PREMIUM APP MINERAL OR SLATE	
PM2-NI	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP MINERAL OR SLATE	
PS1-NNI	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PS2-NNI	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP SMOOTH	
PM1-NNI	1	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP MINERAL	ICA PREMIUM APP MINERAL OR SLATE	
PM2-NNI	2	ICA FIBERGLASS 62 BASE SHEET	ICA PREMIUM APP SMOOTH	ICA PREMIUM APP MINERAL OR SLATE	
RECOVER					
EXISTING ROOF	See New/Replacement: Nailable and Nonnailable				
RECOVER					
EXISTING ROOF					
INSULATION ADDED	See New/Replacement: Insulated				

Company Name **IKO INDUSTRIES INC.**

NEW/REPLACEMENT					
NONNAILABLE					
IKO #5	2	IKO GLASS BASE OR IKO ORGANIC BASE	IKO ARMOURPLAST OR IKO MODIFLEX OR IKO TORCHFLEX		
NEW/REPLACEMENT					
NAILABLE					
IKO #3	2	IKO GLASS BASE OR IKO ORGANIC BASE	IKO ARMOURPLAST OR IKO MODIFLEX		
NEW/REPLACEMENT					
INSULATED					
IKO #4	2	IKO GLASS BASE OR IKO ORGANIC BASE	IKO ARMOURPLAST OR IKO MODIFLEX OR IKO TORCHFLEX		
RECOVER					
EXISTING ROOF					
IKO #1	2	IKO GLASS BASE OR IKO ORGANIC BASE	IKO ARMOURPLAST OR IKO MODIFLEX OR IKO TORCHFLEX		
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
IKO #2	2	IKO GLASS BASE OR IKO ORGANIC BASE	IKO ARMOURPLAST OR IKO MODIFLEX OR IKO TORCHFLEX		

Company Name **JOHNS MANVILLE INTERNATIONAL, INC.**

NEW/REPLACEMENT					
NONNAILABLE					
2CID	2	GLASPLY PREMIER	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CID	2	GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CID	2	NONE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CID-C	2	GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CID-C	2	NONE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CIG	2	GLASPLY PREMIER OR GLASBASE	DYNAPLY OR DYNAKAP	DYNAPLY OR DYNAKAP	
2CIG	2	NONE	DYNAPLY OR DYNAKAP	DYNAPLY OR DYNAKAP	
2FID	2	GLASPLY IV OR GLASBASE	DYNAGLAS OR DYNAGLAS FR	DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR	
2FID	2	NONE	DYNAGLAS OR DYNAGLAS FR	DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR	
2FID-C	2	NONE	DYNAGLAS OR DYNAGLAS FR	DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR	

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name JOHNS MANVILLE INTERNATIONAL, INC.					
NEW/REPLACEMENT					
NONAVAILABLE (CONT'D)					
2PID	2	GLASPLY PREMIER	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR	
2PID	2	GLASBASE	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR		
2PID	2	NONE	DYNALASTIC 180S		
3CID	3	TWO GLASPLY PREMIER	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR		
3CID-C	3	TWO GLASPLY PREMIER	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR		
3FID	3	TWO GLASPLY PREMIER	DYNAGLAS OR DYNAGLAS FR		
3FID-C	3	TWO GLASPLY PREMIER	DYNAGLAS OR DYNAGLAS FR		
3PID	3	TWO GLASPLY PREMIER	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR		
3PID-C	3	TWO GLASPLY PREMIER	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR		
NEW/REPLACEMENT					
NONAVAILABLE (CONT'D)					
2CBS-W/2PBS-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES	
2CBN-W/2PBN-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES		
3CBS-W/3PBS-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE		
3CBN-W/3PBN-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE		
NEW/REPLACEMENT					
INSULATED					
1CIN-W/1PIS-W	1	NONE	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES APPEX SERIES	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES
1CIN-W/1PIN-W	1	NONE	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES		
2CIS-W/2PIS-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES		
2CIS-W/2PIS-W	2	NONE	JOHNS MANVILLE APP BASE		
2CIN-W/2PIN-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES		
2CIN-W/2PIN-W	2	NONE	JOHNS MANVILLE APP BASE		
3CIS-W/3PIS-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE		
3CIS-W/3PIS-W	3	NONE	JOHNS MANVILLE APP BASE		
3CIN-W/3PIN-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES APPEX SERIES	
3CIN-W/3PIN-W	3	NONE	JOHNS MANVILLE APP BASE		
NEW/REPLACEMENT					
AVAILABLE					
2CND	2	VENTSULATION OR GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CND	2	NONE	DYNABASE		
2CND-C	2	VENTSULATION OR GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CND-C	2	NONE	DYNABASE		
2CNG	2	VENTSULATION OR GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
2CNG	2	NONE	DYNABASE		
2FND	2	VENTSULATION OR GLASBASE	DYNAGLAS OR DYNAGLAS FR	DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR	
2FND	2	NONE	DYNABASE		
2FND-C	2	VENTSULATION OR GLASBASE	DYNAGLAS OR DYNAGLAS FR		
2PND	2	VENTSULATION OR GLASBASE	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR	
2PND	2	NONE	DYNALASTIC 180S		
2PND-C	2	VENTSULATION OR GLASBASE	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR		
3CND	3	VENTSULATION OR GLASBASE	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR	
3CLD	3	VENTSULATION	DYNABASE		
3FND	3	VENTSULATION OR GLASBASE	DYNAGLAS OR DYNAGLAS FR		
3FLD	3	VENTSULATION	DYNABASE	DYNAGLAS, DYNAGLAS 30 FR, OR DYNAGLAS FR	
3PND	3	VENTSULATION OR	DYNALASTIC 180, DYNALASTIC 180 FR,		

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name JOHNS MANVILLE INTERNATIONAL, INC.					
NEW/REPLACEMENT NAILABLE (CONT'D)					
3PLD	3	VENTSULATION	DYNALASTIC 180S	DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR	
2CNS-W/2PNS-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES JOHNS MANVILLE APP BASE	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES	
2CNS-W/2PNS-W	2	NONE			
2CNN-W/2PNN-W	2	GLASBASE, PP28	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES JOHNS MANVILLE APP BASE		
2CNN-W/2PNN-W	2	NONE		CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES	
3CNS-W/3PNS-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES	CLASSIC SERIES, TRICOR, BICOR, OR APPEX SERIES
3CNS-W/3PNS-W	3	NONE	JOHNS MANVILLE APP BASE	APPEX SERIES	
3CNN-W/3PNN-W	3	GLASBASE, PP28	JOHNS MANVILLE APP BASE	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES	
3CNN-W/3PNN-W	3	NONE	JOHNS MANVILLE APP BASE	APPEX SERIES	CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES
RECOVER EXISTING ROOF					
INSULATION ADDED	See New/Replacement, Nonnailable and Insulated				

Company Name KOPPERS INDUSTRIES, INC.					
NEW/REPLACEMENT NONNAILABLE					
403	2	KOPPERS BASE SHEET	2040-S, 2040-M		
403	2	KOPPERS BASE SHEET	2050-S		
415	2	KOPPERS BASE SHEET	2041-S, 2041-M		
415	2	KOPPERS BASE SHEET	2045-M		
NEW/REPLACEMENT INSULATED					
404	2	KOPPERS BASE SHEET	2040-S, 2040-M		
404	2	KOPPERS BASE SHEET	2050-S		
416	2	KOPPERS BASE SHEET	2041-S, 2041-M		
416	2	KOPPERS BASE SHEET	2045-M		
423	3	KOPPERS BASE SHEET	2042 FR BASE	2042 MFR CAP	
428	3	KOPPERS BASE SHEET	2042 FR BASE	2045 MFR CAP	
NEW/REPLACEMENT NAILABLE					
401	2	KOPPERS BASE SHEET	2040-S, 2040-M		
401	2	KOPPERS BASE SHEET	2050-S		
402	2	KOPPERS BASE SHEET	2040-S, 2040-M		
402	2	KOPPERS BASE SHEET	2050-S		
412	2	KOPPERS BASE SHEET	2041-S, 2041-M		
412	2	KOPPERS BASE SHEET	2045-M		
414	2	KOPPERS BASE SHEET	2041-S, 2041-M		
414	2	KOPPERS BASE SHEET	2045-M		
421	3	KOPPERS BASE SHEET	2042 FR BASE	2042 MFR CAP	
422	3	KOPPERS BASE SHEET	2042 FR BASE	2042 MFR CAP	
426	3	KOPPERS BASE SHEET	2042 FR BASE	2045 MFR CAP	
427	3	KOPPERS BASE SHEET	2042 FR BASE	2045 MFR CAP	
RECOVER EXISTING ROOF					
406	2	KOPPERS BASE SHEET	2040-S, 2040-M		
406	2	KOPPERS BASE SHEET	2050-S		
418	2	KOPPERS BASE SHEET	2041-S, 2041-M		
418	2	KOPPERS BASE SHEET	2045-M		
RECOVER EXISTING ROOF					
INSULATION ADDED					
405	2	KOPPERS BASE SHEET	2040-S, 2040-M		
405	2	KOPPERS BASE SHEET	2050-S		
417	2	KOPPERS BASE SHEET	2041-S, 2041-M		
417	2	KOPPERS BASE SHEET	2045-M		
424	3	KOPPERS BASE SHEET	2042 FR BASE	2042 MFR CAP	
429	3	KOPPERS BASE SHEET	2042 FR BASE	2045 MFR CAP	

Company Name MALARKEY ROOFING COMPANY					
NEW/REPLACEMENT NONNAILABLE					
S2-BXF	2		#501 PREMIUM I		#919 POLYGLASS SMOOTH
S2-CXF	2		#602 ARCTIC SHIELD		#919 POLYGLASS SMOOTH
S2-DXF	2		#603 SUPERBASE		#919 POLYGLASS SMOOTH
S2-EXF	2		#605 PANOPLY		#919 POLYGLASS SMOOTH
S3-BBF	3		#501 PREMIUM I	#501 PREMIUM I	#919 POLYGLASS SMOOTH
S3-EBF	3		#605 PANOPLY	#501 PREMIUM I	#919 POLYGLASS SMOOTH
S3-EEF	3		#605 PANOPLY	#605 PANOPLY	#919 POLYGLASS SMOOTH

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET
MANUFACTURER'S SPECIFICATION NO.					
Company Name	MALARKEY ROOFING COMPANY				
NEW/REPLACEMENT					
NONAVAILABLE (CONT'D)					
S3-FHF	3		#1000 ESHAVENT	#500 PREMIUM	#919 POLYGLASS SMOOTH
S3-FIF	3		#1000 ESHAVENT	#506 SUPER 6	#919 POLYGLASS SMOOTH
S3-FBF	3		#1000 ESHAVENT	#501 PREMIUM I	#919 POLYGLASS SMOOTH
A2-DXF	2		#603 SUPERBASE		#919 POLYGLASS SMOOTH
A2-EXF	2		#605 PANOLPY		#919 POLYGLASS SMOOTH
A3-BBF	3		#501 PREMIUM I	#501 PREMIUM I	#919 POLYGLASS SMOOTH
A3-EBF	3		#605 PANOLPY	#501 PREMIUM I	#919 POLYGLASS SMOOTH
A4-BBF	4		#501 PREMIUM I	#501 PREMIUM I	#919 POLYGLASS SMOOTH
A4-EBF	4		#605 PANOLPY	#501 PREMIUM I	#919 POLYGLASS SMOOTH
M2-CXB	2		#602 ARCTIC SHIELD		#601 PREMIUM MINERAL
M2-DXB	2		#603 SUPERBASE		#601 PREMIUM MINERAL
M2-EXB	2		#605 PANOLPY		#601 PREMIUM MINERAL
M3-BHB	3		#501 PREMIUM I	#500 PREMIUM	#601 PREMIUM MINERAL
M3-BIB	3		#501 PREMIUM I	#506 SUPER 6	#601 PREMIUM MINERAL
M3-BBB	3		#501 PREMIUM I	#501 PREMIUM I	#601 PREMIUM MINERAL
M3-BCB	3		#501 PREMIUM I	#602 ARCTIC SHIELD	#601 PREMIUM MINERAL
M3-BDB	3		#501 PREMIUM I	#603 SUPER BASE	#601 PREMIUM MINERAL
M3-EHB	3		#605 PANOLPY	#500 PREMIUM	#601 PREMIUM MINERAL
M3-EIB	3		#605 PANOLPY	#506 SUPER 6	#601 PREMIUM MINERAL
M3-EBB	3		#605 PANOLPY	#501 PREMIUM I	#601 PREMIUM MINERAL
M3-EEB	3		#605 PANOLPY	#605 PANOLPY	#601 PREMIUM MINERAL
M3-FHB	3		#1000 ESHAVENT	#500 PREMIUM	#601 PREMIUM 1 MINERAL
M3-FIB	3		#1000 ESHAVENT	#506 SUPER 6	#601 PREMIUM 1 MINERAL
M3-FBB	3		#1000 ESHAVENT	#501 PREMIUM I	#601 PREMIUM 1 MINERAL
M3-FEB	3		#1000 ESHAVENT	#605 PANOLPY	#601 PREMIUM 1 MINERAL
M4-BHB	4		#501 PREMIUM I	#500 PREMIUM	#601 PREMIUM 1 MINERAL
M4-BIB	4		#501 PREMIUM I	#506 SUPER 6	#601 PREMIUM 1 MINERAL
M4-BBB	4		#501 PREMIUM I	#501 PREMIUM I	#601 PREMIUM 1 MINERAL
M4-EBB	4		#605 PANOLPY	#501 PREMIUM I	#601 PREMIUM 1 MINERAL
M4-EHB	4		#1000 ESHAVENT	#500 PREMIUM	#601 PREMIUM 1 MINERAL
M4-FIB	4		#1000 ESHAVENT	#506 SUPER 6	#601 PREMIUM 1 MINERAL
M4-FBB	4		#1000 ESHAVENT	#501 PREMIUM I	#601 PREMIUM 1 MINERAL
M4-FEB	4		#1000 ESHAVENT	#605 PANOLPY	#601 PREMIUM 1 MINERAL
M5-EIB	5		#501 PREMIUM I	#506 SUPER 6	#601 PREMIUM 1 MINERAL
M5-EHB	5		#605 PANOLPY	#500 PREMIUM	#601 PREMIUM 1 MINERAL
M5-BIB	5		#605 PANOLPY	#506 SUPER 6	#601 PREMIUM 1 MINERAL
M2-CXC	2		#602 ARCTIC SHIELD		#625 PARAGON MINERAL
M2-DXC	2		#603 SUPERBASE		#625 PARAGON MINERAL
M2-EXC	2		#605 PANOLPY		#625 PARAGON MINERAL
M3-BHC	3		#501 PREMIUM I	#500 PREMIUM	#625 PARAGON MINERAL
M3-BIC	3		#501 PREMIUM I	#506 SUPER 6	#625 PARAGON MINERAL
M3-BBC	3		#501 PREMIUM I	#501 PREMIUM I	#625 PARAGON MINERAL
M3-EHC	3		#605 PANOLPY	#500 PREMIUM	#625 PARAGON MINERAL
M3-EIC	3		#605 PANOLPY	#506 SUPER 6	#625 PARAGON MINERAL
M3-EBC	3		#605 PANOLPY	#501 PREMIUM I	#625 PARAGON MINERAL
M3-EEC	3		#605 PANOLPY	#605 PANOLPY	#625 PARAGON MINERAL
M3-FHC	3		#1000 ESHAVENT	#500 PREMIUM	#625 PARAGON MINERAL
M3-FIC	3		#1000 ESHAVENT	#506 SUPER 6	#625 PARAGON MINERAL
M3-FBC	3		#1000 ESHAVENT	#501 PREMIUM I	#625 PARAGON MINERAL
M3-FCC	3		#1000 ESHAVENT	#602 ARCTIC SHIELD	#625 PARAGON MINERAL
M3-FDC	3		#1000 ESHAVENT	#603 SUPERBASE	#625 PARAGON MINERAL
M3-FEC	3		#1000 ESHAVENT	#605 PANOLPY	#625 PARAGON MINERAL
M4-BHC	4		#501 PREMIUM I	#500 PREMIUM	#625 PARAGON MINERAL
M4-BIC	4		#501 PREMIUM I	#506 SUPER 6	#625 PARAGON MINERAL
M4-BBC	4		#501 PREMIUM I	#501 PREMIUM I	#625 PARAGON MINERAL
M4-EHC	4		#605 PANOLPY	#500 PREMIUM	#625 PARAGON MINERAL
M4-EIC	4		#605 PANOLPY	#506 SUPER 6	#625 PARAGON MINERAL
M4-EBC	4		#605 PANOLPY	#501 PREMIUM I	#625 PARAGON MINERAL
M4-FHC	4		#1000 ESHAVENT	#500 PREMIUM	#625 PARAGON MINERAL
M4-FIC	4		#1000 ESHAVENT	#506 SUPER 6	#625 PARAGON MINERAL
M4-FBC	4		#1000 ESHAVENT	#501 PREMIUM I	#625 PARAGON MINERAL
M4-FEC	4		#1000 ESHAVENT	#605 PANOLPY	#625 PARAGON MINERAL
M5-BHC	5		#501 PREMIUM I	#500 PREMIUM	#625 PARAGON MINERAL
M5-BIC	5		#501 PREMIUM I	#506 SUPER 6	#625 PARAGON MINERAL
M5-BBC	5		#501 PREMIUM I	#501 PREMIUM I	#625 PARAGON MINERAL
M5-EBC	5		#605 PANOLPY	#501 PREMIUM I	#625 PARAGON MINERAL
M5-FHC	5		#1000 ESHAVENT	#500 PREMIUM	#625 PARAGON MINERAL
M5-FIC	5		#1000 ESHAVENT	#506 SUPER 6	#625 PARAGON MINERAL
M5-FBC	5		#1000 ESHAVENT	#501 PREMIUM I	#625 PARAGON MINERAL
M2-CXD	2		#602 ARCTIC SHIELD		#650 PANOLPY MINERAL
M2-DXD	2		#603 SUPERBASE		#650 PANOLPY MINERAL
M2-EXD	2		#605 PANOLPY		#650 PANOLPY MINERAL
M3-BHD	3		#501 PREMIUM I	#500 PREMIUM	#650 PANOLPY MINERAL
M3-BID	3		#501 PREMIUM I	#506 SUPER 6	#650 PANOLPY MINERAL
M3-BBD	3		#501 PREMIUM I	#501 PREMIUM I	#650 PANOLPY MINERAL
M3-EHD	3		#605 PANOLPY	#500 PREMIUM	#650 PANOLPY MINERAL
M3-EID	3		#605 PANOLPY	#506 SUPER 6	#650 PANOLPY MINERAL

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLYS IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
			FIRST SHEET	SECOND SHEET	THIRD SHEET
MANUFACTURER'S SPECIFICATION NO.					
Company Name MALARKEY ROOFING COMPANY					
NEW/REPLACEMENT					
NONNAILABLE (CONTD.)					
M3-EBD	3		#605 PANOPLY	#501 PREMIUM I	#650 PANOPLY MINERAL
M3-EED	3		#605 PANOPLY	#605 PANOPLY	#650 PANOPLY MINERAL
M3-FHD	3		#1000 ESHAVENT	#500 PREMIUM	#650 PANOPLY MINERAL
M3-FID	3		#1000 ESHAVENT	#506 SUPER 6	#650 PANOPLY MINERAL
M3-FBD	3		#1000 ESHAVENT	#501 PREMIUM I	#650 PANOPLY MINERAL
M3-FED	3		#1000 ESHAVENT	#605 PANOPLY	#650 PANOPLY MINERAL
M4-BHD	4		#501 PREMIUM I	#500 PREMIUM	#650 PANOPLY MINERAL
M4-BID	4		#501 PREMIUM I	#506 SUPER 6	#650 PANOPLY MINERAL
M4-BBD	4		#501 PREMIUM I	#501 PREMIUM I	#650 PANOPLY MINERAL
M4-EHD	4		#605 PANOPLY	#500 PREMIUM	#650 PANOPLY MINERAL
M4-EID	4		#605 PANOPLY	#506 SUPER 6	#650 PANOPLY MINERAL
M4-EBD	4		#605 PANOPLY	#501 PREMIUM I	#650 PANOPLY MINERAL
M4-FHD	4		#1000 ESHAVENT	#500 PREMIUM	#650 PANOPLY MINERAL
M4-FID	4		#1000 ESHAVENT	#506 SUPER 6	#650 PANOPLY MINERAL
M4-FBD	4		#1000 ESHAVENT	#501 PREMIUM I	#650 PANOPLY MINERAL
M4-FED	4		#1000 ESHAVENT	#605 PANOPLY	#650 PANOPLY MINERAL
M5-EHD	5		#605 PANOPLY	#500 PREMIUM	#650 PANOPLY MINERAL
M5-EID	5		#605 PANOPLY	#506 SUPER 6	#650 PANOPLY MINERAL
M5-EBD	5		#605 PANOPLY	#501 PREMIUM I	#650 PANOPLY MINERAL
M5-FHD	5		#1000 ESHAVENT	#500 PREMIUM	#650 PANOPLY MINERAL
M5-FID	5		#1000 ESHAVENT	#506 SUPER 6	#650 PANOPLY MINERAL
M5-FBD	5		#1000 ESHAVENT	#501 PREMIUM I	#650 PANOPLY MINERAL
M2-BXE	2		#501 PREMIUM I		#917 POLYGLASS MINERAL
M2-CXE	2		#602 ARCTIC SHIELD		#917 POLYGLASS MINERAL
M2-DXE	2		#603 SUPERBASE		#917 POLYGLASS MINERAL
M2-EXE	2		#605 PANOPLY		#917 POLYGLASS MINERAL
M3-BBE	3		#501 PREMIUM I	#501 PREMIUM I	#917 POLYGLASS MINERAL
M3-EBE	3		#605 PANOPLY	#501 PREMIUM I	#917 POLYGLASS MINERAL
M3-EEE	3		#605 PANOPLY	#605 PANOPLY	#917 POLYGLASS MINERAL
M3-FHE	3		#1000 ESHAVENT	#500 PREMIUM	#917 POLYGLASS MINERAL
M3-FIE	3		#1000 ESHAVENT	#506 SUPER 6	#917 POLYGLASS MINERAL
M3-FBE	3		#1000 ESHAVENT	#501 PREMIUM I	#917 POLYGLASS MINERAL
M3-FEE	3		#1000 ESHAVENT	#605 PANOPLY	#917 POLYGLASS MINERAL
M4-BBE	4		#501 PREMIUM I	#501 PREMIUM I	#917 POLYGLASS MINERAL
M4-EBE	4		#605 PANOPLY	#501 PREMIUM I	#917 POLYGLASS MINERAL
F2-BXG	2		#501 PREMIUM I		#1020 ESHALUM
F2-EXG	2		#605 PANOPLY		#1020 ESHALUM
F3-BHG	3		#501 PREMIUM I	#500 PREMIUM	#1020 ESHALUM
F3-BIG	3		#501 PREMIUM I	#506 SUPER 6	#1020 ESHALUM
F3-BBG	3		#501 PREMIUM I	#501 PREMIUM I	#1020 ESHALUM
F3-EHG	3		#605 PANOPLY	#500 PREMIUM	#1020 ESHALUM
F3-EIG	3		#605 PANOPLY	#506 SUPER 6	#1020 ESHALUM
F3-EBG	3		#605 PANOPLY	#501 PREMIUM I	#1020 ESHALUM
NEW/REPLACEMENT	See description of the following specs under				
NAILABLE	NEW/REPLACEMENT NONNAILABLE				
S2-BXF	S2-CXF	S2-DXF			
S2-EXF	S3-BBF	S3-EBF			
S3-EEF	S4-BBF	S4-EBF			
A3-BBF	A3-EBF	A4-BBF			
A4-EBF	N3-BHB	N3-BIB			
M3-BBB	M3-BCB	M3-BDB			
M3-EHB	M3-EIB	M3-EBB			
M3-EEB	M4-BHB	M4-BIB			
M4-BBB	M4-EEB	M5-BHB			
M5-BIB	M5-EHB	M5-EIB			
M3-BHC	M3-BIC	M3-BBC			
M3-EHC	M3-EIC	M3-EBC			
M3-EEC	M4-BHC	M4-BIC			
M4-BBC	M4-EHC	M4-EIC			
M4-EBC	M5-BHC	M5-BIC			
M5-BBC	M5-EBC	M3-BHD			
M3-BID	M3-BBD	M3-EHD			
M3-EID	M3-EBD	M3-EED			
M4-BHD	M4-BID	M4-BBD			
M4-EHD	M4-EID	M4-EBD			
M5-EHD	M5-EID	M5-EBD			
M2-BXE	M2-CXE	M2-DXE			
M2-EXE	M3-BBE	M3-EBE			
M3-EEE	M4-BBE	M4-EBE			
M3-FEE	M4-BBE	M4-EBE			
F2-BXG	F2-EXG	F3-BHG			
F3-BIG	F3-BBG	F3-EHG			
F3-EIG	F3-EBG				
NEW/REPLACEMENT	See description of the following specs under				
INSULATED	NEW/REPLACEMENT NONNAILABLE				
S2-BXF	S2-CXF	S2-DXF			
S2-EXF	S3-BBF	S3-EBF			
S3-EEF	S3-FHF	S3-FIF			
S3-FBF	S3-FEF	S4-BBF			
S4-EBF	A2-BXF	A2-CXF			
A2-DXF	A2-EXF	A3-BBF			

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE		TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.				FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name MALARKEY ROOFING COMPANY						
NEW/REPLACEMENT		See description of the following specs under				
INSULATED (CONT'D)		NEW/REPLACEMENT NONNAILABLE				
A3-EBF		A4-BBF	A4-EBF			
M2-CXB		M2-DXB	M2-EXB			
M3-BHB		MS-BIB	M3-BBB			
M3-BCB		M3-BDB	M3-EHB			
M3-EIB		M3-EBB	M3-EEB			
M3-FHB		M3-FIB	M3-FBB			
M3-FEB		M4-BHB	M4-BIB			
M4-BBB		M4-EBB	M4-FEB			
M5-BHB		M5-BIB	M5-EIB			
M2-CXC		M2-DXC	M2-EXC			
M3-BHC		M3-BIC	M3-BBC			
M3-EHC		M3-EIC	M3-EBC			
M3-EEC		M3-FHC	M3-FIC			
M3-FBC		M3-FCC	M3-FDC			
M3-FEC		M4-BHC	M4-BIC			
M4-BBC		M4-EHC	M4-EIC			
M4-EBC		M4-FHC	M4-FIC			
M4-FBC		M4-FEC	M5-BHC			
M5-BIC		M5-BBC	M5-EBC			
M6-FHC		M5-FIC	M5-FBC			
M2-CXD		M2-DXD	M2-EXD			
M3-BHD		M3-BID	M3-BBD			
M3-EHD		M3-EID	M3-EBD			
M3-EED		M3-FHD	M3-FID			
M3-FBD		M3-FED	M4-BHD			
M4-BID		M4-BBD	M4-EHD			
M4-EID		M4-EBD	M4-FHD			
M4-FID		M4-FBD	M4-FED			
M5-EHD		M5-EID	M5-EBD			
M5-FHD		M5-FID	M5-FBD			
M2-BXE		M2-CXE	M2-DXE			
M2-EXE		M3-BBE	M3-EBE			
M3-EEE		M3-FHE	M3-FIE			
M3-FBE		M3-FEE	M4-BBE			
M4-EBE		F2-BXG	F2-EXG			
F3-BHG		F3-BIG	F3-BBG			
F3-EHG		F3-EIG	F3-EBG			
RECOVER		See description of the following specs under				
EXISTING ROOF		NEW/REPLACEMENT NONNAILABLE				
S3-BBF		S3-EBF	S3-EEF			
S3-FHF		S3-FIF	S3-FBF			
S3-FEF		S4-BBF	S4-EBF			
A3-BBF		A3-EBF	A4-BBF			
A4-EBF		M3-BHB	MS-BIB			
M3-BBB		M3-BCB	M3-BDB			
M3-EHB		M3-EIB	M3-EBB			
M3-EEB		M3-FHB	M3-FIB			
M3-FBB		M3-FEB	M4-BHB			
M4-BIB		M4-BBB	M4-EBB			
M4-FHB		M4-FIB	M4-FBB]			
M4-FEB		M5-BHB	M5-BIB			
M5-RHB		M5-EIB	M3-BHC			
M3-BIC		M3-BBC	M3-EHC			
M3-EIC		M3-EBC	N3-EEC			
M3-FHC		M3-FIC	M3-FBC			
M3-FCC		M3-FDC	M3-FEC			
M4-BHC		M4-BIC	M4-BBC			
M4-EHC		M4-EIC	M4-EBC			
M4-FHC		M4-FIC	M4-FBC			
M4-FEC		M5-BHC	M5-BIC			
M5-BBC		M5-EBC	M5-FHC			
M5-FIC		M5-FBC	M3-BHD			
M3-BID		M3-BBD	M3-EHD			
M3-EID		M3-EBD	M3-EED			
M3-FHD		M3-FID	M3-FBD			
M3-FED		M4-BHD	M4-BID			
M4-BBD		M4-EHD	M4-EID			
M4-EBD		M4-FHD	M4-FID			
ME-FBD		M4-FED	M5-EHD			
M5-EID		M5-EBD	M5-FHD			
M5-FID		M5-FBD	M3-BBE			
M3-EBE		M3-EEE	M3-FHE			
M3-FIE		M3-FBE	M3-FEE			
M4-BBE		M4-EBE	F3-BHG			
F3-BIG		F3-BBG	F3-EHG			
F3-EIG		F3-EBG				
RECOVER		See description of the following specs under				
EXISTING ROOF		NEW/REPLACEMENT NONNAILABLE				
INSULATION ADDED						
S2-BXF		S2-CXF	S2-DXF			
S2-EXF		S3-BBF	S3-EBF			
S3-EEF		S3-FHF	S3-FIF			
S3-FBF		S3-FEF	S4-BBF			
S4-EBF		A2-BXF	A2-CXF			
A2-DXF		A2-EXF	A3-BBF			

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET

Company Name **MALARKEY ROOFING COMPANY**

RECOVER	See description of the following specs under		
EXISTING ROOF	NEW/REPLACEMENT NONNAILABLE		
INSULATION ADDED (CONTD)			
A3-EBF	A4-BBF	A4-EBF	
M2-CXB	M2-DXB	M2-EXB	
M3-BHB	MS-BIB	M3-BBB	
M3-BCB	M3-BDB	M3-EHB	
M3-EIB	M3-EBB	M3-EEB	
M3-FHB	M3-FIB	M3-FBB	
M3-FEB	M4-BHB	M4-BIB	
M4-BBB	M4-EBB	M4-EHB	
M5-BHB	M5-EIB	M5-EHB	
M5-BIB	M2-CXC	M2-DXC	
M2-EXC	M3-BHC	M3-BIC	
M3-BBC	M3-EHC	M3-EIC	
M3-EBC	M3-EEC	M3-FHC	
M3-FIC	M3-FBC	M3-FCC	
M3-FDC	M3-FEC	M4-BHC	
M4-BIC	M4-BBC	M4-EHC	
M4-EIC	M4-EBC	M4-FHC	
M4-FIC	M4-FBC	M4-FEC	
M5-BHC	M5-BIC	M5-BBC	
M5-EBC	M5-FHC	M5-FIC	
M5-FBC	M2-CXD	M2-DXD	
M2-EXD	M3-BHD	M3-BID	
M3-BBD	M3-EHD	M3-EID	
M3-EBD	M3-EED	M3-FHD	
M3-FID	M3-FBD	M3-FED	
M4-BHD	M4-BID	M4-BBD	
M4-EHD	M4-EID	M4-EBD	
M4-FHD	M4-FID	M4-FBD	
M4-FED	M4-EHD	M4-EID	
M4-EBD	M5-FHD	M5-FID	
M5-FBD	M2-BXE	M2-CXE	
M2-DXE	M2-EXE	M3-BBE	
M3-EBE	M3-EEE	M3-FHE	
M3-FIE	M3-FBE	M3-FEE	
M4-BBE	M4-EBE	F2-BXG	
F2-EXG	F3-BHG	F3-BIG	
F3-BBG	F3-EHG	F3-EIG	
F3-FBG			

Company Name **MBTECHNOLOGY**

NEW/REPLACEMENT NONNAILABLE					
C4H-SC100GWH	4		LF25	LF25 (2)	SC100GWH
C3H-FG90GWH	3		LF25	LF60	FG90GWH
C3H-FG160GWH	3		LF25	LF25	FG160CWH
C3H-FG160GWH	3		LF25	LF60	FG160GWH
C2H-FG160CWH	2		LF25	FG160CWH	
C3H-FG160CWH	3		LF25	SF160PSA	FG160CWH
C3H-MF160WAL	3		LF25	LF60	MF160WAL
C3H-MF160WAL	3		LF25	SF160PSA	MF160WAL
C4H-LF25	4		LF25	LF 25 (2)	LF 25 + PROTECTION
NEW/REPLACEMENT INSULATED					
I4H-SC100GWH	4		LF25	LF25 (2)	SC100GWH
I2H-FG90GWH	2			LF60	FG90GWH
I3H-FG160CWH	3		LF25	LF25	FG160CWH
I2H-FG160CWH	2			LF60	FG160CWH
I2H-FG160CWH	2			SF160PSA	FG160CWH
I2H-FG160CWH	2		LF25		FG160CWH
I2H-MF160WAL	2			LF60	MF160WAL
I2H-MF160WAL	2			SF160PSA	MF160WAL
I2T-FGFT160CWH	2		LF25		FGFT160CWH
I3T-FGFT160CWH	3		LF25	FT160CSA	FGFT160CWH
I3HT-FG160CWH	3		LF25	SF160PSA	FG160CWH
NEW/REPLACEMENT NAILABLE					
W4H-SC100GWH	4		LF25	LF25 (2)	SC100GWH
W3H-FG90GWH	3		LF25	LF60	FG90GWH
W3H-FG160CWH	3		LF25	LF25	FG160CWH
W3T-MF160WAL	3		LF25	FT160CSA	MF160WAL
L3T-MF160WAL	3		LF25	FT160CSA	MF160WAL
L4H-SC75GWH	4		LF25	LF25 (2)	SC75GWH
L2H-FG90GWH	3		LF25	LF60	FG90GWH
L3H-FG160CWH	3		LF25	LF25	FG160CWH
L3H-FG160CWH	3		LF25	LF60	FG160GWH
L3H-FG160CWH	3		LF25	SF160PSA	FG160GWH
L2H-FG160CWH	2		LF25	FG160CWH	
L3H-MF160WAL	3		LF25	LF60	MF160WAL
L3H-MF160WAL	3		LF25	SF160PSA	MF160WAL

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			BITUTAK MB AND BITUTAK MB MINERAL		
			FIRST SHEET	SECOND SHEET	THIRD SHEET

Company Name **MODBIT CORP.**

NEW/REPLACEMENT					
NONNAILABLE					
NNC	2	APPROVED BASE SHEET	BITUTAK MB OR MB MINERAL	OPTIONAL	OPTIONAL
NEW/REPLACEMENT					
INSULATED					
INS	2	APPROVED BASE SHEET	BITUTAK MB OR MB MINERAL	OPTIONAL	OPTIONAL
NEW/REPLACEMENT					
NAILABLE					
ND	2	APPROVED BASE SHEET	BITUTAK MB OR MB MINERAL	OPTIONAL	OPTIONAL
RECOVER					
EXISTING ROOF					
RCV	2				

Company Name **MFM BUILDING PRODUCTS CORP.**

NEW/REPLACEMENT					
NONNAILABLE					
MFM-21-BC	1	NONE	BITUFLEX		
NEW/REPLACEMENT					
INSULATED					
MFM-22-BC	2	DURABASE	BITUFLEX		
NEW/REPLACEMENT					
NAILABLE					
MFM-22-BW	2	DURABASE	BITUFLEX		
RECOVER					
EXISTING ROOF					
MFM-21-BR	2	DURABASE	BITUFLEX		

Company Name **MONSEY BAKOR**

NEW/REPLACEMENT					
NAILABLE					
WDU/PMR 2005	2	NONE	NP180s/s[p/s][p/p] OR G100s/s[p/s]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]	
WDU/PMR 2005	2	COATED GLASS BASE	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
NEW/REPLACEMENT					
NONNAILABLE					
CDU/PMR 2004	2	G100s/s[p/s] OR NP180s/s[p/s][p/p]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]		
CDU 2004	2	COATED GLASS BASE	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
NEW/REPLACEMENT					
INSULATED					
SDI-2000	2	NONE	G100s/s[p/s] OR NP180s/s[p/p][p/s]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]	
CDI-2001	2	NONE	G100s/s[p/s] OR NP180s/s[p/p][p/s]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]	
WDI-2002	2	NONE	G100s/s[p/s] OR NP180s/s[p/p][p/s]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]	
SDI-2000	2	COATED GLASS SHEET	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
CDI-2001	2	COATED GLASS SHEET	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
WDI-2002	2	COATED GLASS SHEET	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
REC-2006	1	NONE	NP180gM[MFR] or NP180gT[TFR] or NP250gM[MFR] or NP250gT4[TFR]		
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
REC-2006	2	NONE	G100s/s[p/s] OR NP180s/s[p/s][p/p]	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]	
REC-2006	2	COATED BASE SHEET	G100gM[MFR] OR NP180gM[MFR] or NP250gM[MFR] or NP250gT4[TFR]		

Company Name **PERFORMANCE ROOF SYSTEMS, INC.**

NEW/REPLACEMENT					
NAILABLE					
1N1X-()	2	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS		
1N1G-()	2	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP		
2N1X-()	3	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS		
2N1G-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP		
3N1X-()	4	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS		
3N1G-()	4	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP		

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE		TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.				FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name PERFORMANCE ROOF SYSTEMS, INC.						
NEW/REPLACEMENT						
NAILABLE (CONT'D)						
1N2X-()	3	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
1N2G-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
2N2X-()	4	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
2N2G-()	4	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
NEW/REPLACEMENT						
INSULATED						
111X-()	2	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
111G-()	2	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
211X-()	3	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
211G-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
311X-()	4	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
311G-()	4	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
112X-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP	DERBIGUM-XPS/DERBICOLOR-XPS		
112G-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP	DERBIGUM-GP/DERBICOLOR-GP		
212X-()	4	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP	DERBIGUM-XPS/DERBICOLOR-XPS		
212G-()	4	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP	DERBIGUM-GP/DERBICOLOR-GP		
012X-()	2	NONE	DERBIGUM-XPS/DERBICOLOR-XPS			
012G-()	2	NONE	DERBIGUM-GP/DERBICOLOR-GP			
RECOVER						
EXISTING ROOF						
INSULATION ADDED						
	SEE NEW/REPLACEMENT INSULATED					
RECOVER						
EXISTING ROOF						
1R1X-()	2	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
1R1G-()	2	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
2R1X-()	3	GLASS FIBER	DERBIGUM-XPS/DERBICOLOR-XPS			
2R1G-()	3	GLASS FIBER	DERBIGUM-GP/DERBICOLOR-GP			
Company Name POLYGLASS USA, INC.						
NEW/REPLACEMENT						
NONNAILABLE						
101PS	1	NONE	POLYFLEX SMOOTH			
101PG	1	NONE	POLYFLEX GRANULAR			
201PS	2	APPROVED	POLYFLEX SMOOTH			
201PG	2	APPROVED	POLYFLEX GRANULAR			
201PGFR	2	APPROVED	POLYFLEX GRANULAR FR			
211DS/DG	2	APPROVED	DUFLEX SMOOTH/GRANULAR			
211EST	2	APPROVED	ELASTOSHIELD TS4			
311/DS/DG	3	APPROVED	APPROVED	DUFLEX SMOOTH/GRANULAR		
321EST	3	APPROVED	APPROVED	ELASTOSHIELD TS4		
341EFGSF	3	APPROVED	APPROVED	ELASTOFLEX G S6-FR		
341FVG	3	APPROVED	APPROVED	ELASTOFLEX VG		
341FVGF	3	APPROVED	APPROVED	ELASTOFLEX VG-FR		
391PS	3	APPROVED	APPROVED	POLYFLEX SMOOTH		
391PG	3	APPROVED	APPROVED	POLYFLEX GRANULAR		
391DS/DG	3	APPROVED	APPROVED	DUFLEX SMOOTH/GRANULAR		
NEW/REPLACEMENT						
NAILABLE						
202PS	2	APPROVED	POLYFLEX SMOOTH			
202PG	2	APPROVED	POLYFLEX GRANULAR			
104IN	1	NONE	INSULROOFING			
NEW/REPLACEMENT						
INSULATED						
103PS	1	NONE	POLYFLEX SMOOTH			
103PG	1	NONE	POLYFLEX GRANULAR			
203PS	2	APPROVED	POLYFLEX SMOOTH			
203PG	2	APPROVED	POLYFLEX GRANULAR			
203PGFR	2	APPROVED	POLYFLEX GRANULAR FR			
204PS	2	APPROVED	POLYFLEX SMOOTH			
204PG	2	APPROVED	POLYFLEX GRANULAR			
204PGFR	2	APPROVED	POLYFLEX GRANULAR FR			
213DS/DG	2	APPROVED	DUFLEX SMOOTH/GRANULAR			
223EST	2	APPROVED	ELASTOSHIELD TS4			
224EST	2	APPROVED	ELASTOSHIELD TS4			
223PA/PR	2	APPROVED	POLYALL OR POLYRAM			
303PGFR	3	APPROVED	APPROVED	POLYFLEX GRANULAR FR		
393PS/PG	3	APPROVED	POLYFLEX SMOOTH/GRANULAR			
304PG/FR	3	APPROVED	POLYFLEX GRANULAR FR			
313DS/DG	3	APPROVED	DUFLEX SMOOTH/GRANULAR			
343EFGS	3	APPROVED	ELASTOFLEX GL-S6			
343EFVG	3	APPROVED	ELASTOFLEX VG			
343EFVGF	3	APPROVED	ELASTOFLEX VG-FR			
333PA/PR	3	APPROVED	POLYALL OR POLYRAM			
RECOVER						
EXISTING ROOF	SEE NEW REPLACEMENT, NAILABLE AND NONNAILABLE					
RECOVER						
EXISTING ROOF						
INSULATION ADDED	SEE NEW REPLACEMENT, NAILABLE AND NONNAILABLE					

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE		TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.				FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name SIPLAST INC						
NEW/REPLACEMENT		3	PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE PUNCHED GLASS BASE & PARABASE	PARADIENE 20 PARADIENE 20 IREX PARAFOR 50 PARAFOR 50 PARAFOR 50 PARATECH	PARADIENE 30 PARADIENE 30 VERAL	
NONNAILABLE						
2030CPH						
2030CAA						
4040CPT						
5000CPH						
5000CAA						
5000CPT						
1035CPH						
NEW/REPLACEMENT		2	NONE NONE NONE NONE NONE NONE PARABASE	PARADIENE 20 PARADIENE 20 IREX PARAFOR 50 PARAFOR 50 PARAFOR 50 PARATECH	PARADIENE 30 PARADIENE 30 VERAL	
INSULATED						
2030IH						
2030IA						
4040IT						
5000IH						
5000IA						
5000IT						
1035IH						
NEW/REPLACEMENT		3	PARAGLAS PARAGLAS PARABASE PARAGLAS PARAGLAS PARABASE PARAGLAS PARAGLAS PARABASE PARABASE NONE NONE PARABASE PARABASE PARABASE PARABASE & PARAGLAS	PARADIENE 20 PARADIENE 20 PARADIENE 20 PARADIENE 20 PARADIENE 20 PARADIENE 20 PARAFOR 50 PARAFOR 50 PARAFOR 50 IREX IREX PARAFOR 50 PARADIENE 40 PARADIENE 40 PARATECH	PARADIENE 30 PARADIENE 30 PARADIENE 30 PARADIENE 30 PARADIENE 30 PARADIENE 30 PARADIENE PARAFOR 50 PARAFOR 50	
NAILABLE						
2030PSH						
2030WSH						
2030CBH						
2030PSA						
2030WSA						
2030CBA						
5000PSA						
5000WSA						
5000CBA						
5000PIT						
5000WIT						
5000CBT						
3040PGH						
3040CGH						
1035CBH						
RECOVER		2	NONE NONE NONE NONE NONE NONE PARABASE	PARADIENE 20 PARADIENE 20 IREX PARAFOR 50 PARAFOR 50 PARAFOR 50 PARATECH	PARADIENE 30 PARADIENE 30 VERAL	
EXISTING ROOF						
INSULATION ADDED						
2030IH						
2030IA						
4040IT						
5000IH						
5000IA						
5000IT						
1035IH						

Company Name **SOUTHWESTERN PETROLEUM CORPORATION**

NEW/REPLACEMENT					
NONNAILABLE					
302	1	NONE	UNI+SHIELD		
302	2	APPROVED	UNI+SHIELD		
303	2	NONE	UNI+SHIELD II	UNI+SHIELD II	
NEW/REPLACEMENT					
INSULATED					
302	1	NONE	UNI+SHIELD		
302	2	NONE	UNI+SHIELD		
303	2	NONE	UNI+SHIELD II	UNI+SHIELD II	
NEW/REPLACEMENT					
NAILABLE					
302	1	NONE	UNI+SHIELD		
302	2	APPROVED	UNI+SHIELD		
303	3	ASTM 2626	UNI+SHIELD II	UNI+SHIELD II	
RECOVER					
EXISTING ROOF					
302	1	NONE	UNI+SHIELD		
302	2	APPROVED	UNI+SHIELD		
303	2	NONE	UNI+SHIELD II	UNI+SHIELD II	
303	3	ASTM 2626	UNI+SHIELD II	UNI+SHIELD II	
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
302	1	NONE	UNI+SHIELD		
302	2	APPROVED	UNI+SHIELD		
303	2	NONE	UNI+SHIELD II	UNI+SHIELD II	

Modified Bitumen Part 3: Modified Bitumen Specifications

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
Company Name TAMKO ROOFING PRODUCTS INC.					
NEW/REPLACEMENT					
INSULATED					
101	2	GLASS BASE	AWAPLAN PREMIUM		
102	3	2 TAMKO PLY SHEETS	AWAPLAN PREMIUM		
103	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN PREMIUM	
107	2	NONE	VERSA BASE	AWAPLAN PREMIUM	
108	4	3 TAMKO PLY SHEETS	AWAPLAN PREMIUM		
109	3	NONE	VERSA BASE	TAM-GLASS PREMIUM (NONMOD)	AWAPLAN PREMIUM
101C	2	GLASS BASE	AWAPLAN PREMIUM		
107C	2	NONE	VERSA BASE	AWAPLAN PREMIUM	
243	3	NONE	AWAPLAN VERSA SMOOTH	2 TAMKO PLY SHEETS (NONMOD)	
201C	2	GLASS BASE	AWAPLAN 170		
207C	2	NONE	VERSA BASE	AWAPLAN 170	
101HW	2	GLASS BASE	AWAPLAN HEAT WELDING		
102HW	3	2 TAMKO PLY SHEETS	AWAPLAN HEAT WELDING		
103HW	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN HEAT WELDING	
107HW	2	NONE	VERSA BASE	AWAPLAN HEAT WELDING	
108HW	4	3 TAMKO PLY SHEETS	AWAPLAN VERSA SMOOTH		
109HW	3	NONE	VERSA BASE	TAM-GLASS PREMIUM (NONMOD)	AWAPLAN HEAT WELDING
101FR	2	GLASS BASE	AWAPLAN PREMIUM FR		
102FR	3	2 TAMKO PLY SHEETS	AWAPLAN PREMIUM FR		
107FR	2	NONE	VERSA BASE	AWAPLAN PREMIUM FR	
108FR	4	3 TAMKO PLY SHEETS	AWAPLAN PREMIUM FR		
109FR	3	NONE	VERSA BASE	TAM-GLASS PREMIUM (NONMOD)	AWAPLAN PREMIUM FR
201	2	GLASS BASE	AWAPLAN 170		
203	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN 170	
202	3	2 TAMKO PLY SHEETS	AWAPLAN 170		
204	2	AWAPLAN VERSA FLEX	AWAPLAN 170		
207	2	NONE	VERSA BASE	AWAPLAN 170	
208	4	3 TAMKO PLY SHEETS	AWAPLAN 170		
209	3	NONE	TAM-GLASS PREMIUM (NONMOD)	VERSA BASE	AWAPLAN 170
201FR	2	GLASS BASE	AWAPLAN 170 FR		
203FR	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN 170 FR	
204FR	2	AWAPLAN VERSA FLEX	AWAPLAN 170 FR		
207FR	2	NONE	VERSA BASE	AWAPLAN 170 FR	
208FR	4	3 TAMKO PLY SHEETS	AWAPLAN 170 FR		
209FR	3	NONE	TAM-GLASS PREMIUM (NONMOD)	VERSA BASE	AWAPLAN 170 FR
244	2	NONE	AWAPLAN VERSA-SMOOTH	TAM-CAP	
701	2	NONE	VERSA BASE	VERSA CAP FR	
744	2	GLASS BASE (OPTIONAL)	AWAPLAN VERSA SMOOTH	VERSA CAP FR	
703	3	NONE	2 PLIES VERSA BASE	VERSA CAP FR	
704	3	2 PLIES TAM-PLY IV	VERSA CAP FR		
705	4	3 PLIES TAM-PLY IV	VERSA CAP FR		
706	5	4 PLIES TAM-PLY IV	VERSA CAP FR		
1001	2	BASE-N-PLY	AWAFLEX		
1002	3	2 TAMKO PLY SHEETS	AWAFLEX		
103FR	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN PREMIUM FR	
203FR	2	NONE	AWAPLAN VERSA SMOOTH	AWAPLAN 170 FR	
1001 FR	2	BASE-N-PLY	AWAFLEX FR		
1002 FR	3	2 TAMKO PLY SHEETS	AWAFLEX FR		
1101/1101 M	2	GLASS BASE	SPEEDWELD GRANULATED		
1102	3	2 TAMKO PLY SHEETS	SPEEDWELD GRANULATED		
1201/1201 M	2	GLASS BASE	SPEEDWELD SMOOTH		
1202	3	2 TAMKO PLY SHEETS	SPEEDWELD SMOOTH		
1304	2	AWAPLAN VERSA FLEX	AWAPLAN VERSA FLEX		
1343	3	AWAPLAN VERSA FLEX	2 TAMKO PLY SHEETS		
NEW/REPLACEMENT					
NAIABLE					
111	2	VAPOR CHAN	AWAPLAN PREMIUM		
112	2	43 BASE/BASE-N-PLY	AWAPLAN PREMIUM		
113	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM	
114	3	43 BASE/BASE-N-PLY	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM	
111C	2	VAPOR CHAN	AWAPLAN PREMIUM		
111HW	2	VAPOR CHAN	AWAPLAN HEAT WELD		
112C	2	43 BASE/BASE-N-PLY	AWAPLAN PREMIUM		
112HW	2	43 BASE/BASE-N-PLY	AWAPLAN HEAT WELD		
113HW	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN HEAT WELD	
114HW	3	43 BASE/BASE-N-PLY	GLASS PLY (NONMODIFIED)	AWAPLAN HEAT WELD	
111FR	2	VAPOR CHAN	AWAPLAN PREMIUM FR		
112FR	2	VAPOR CHAN	AWAPLAN PREMIUM FR		
113FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM FR	
114FR	3	GLASS BASE	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM FR	
211	2	VAPOR CHAN	AWAPLAN 170		
212	2	43 BASE/BASE-N-PLY	AWAPLAN 170		
213	3	VAPOR CHAN	TAM-GLASS PREMIUM (NONMOD)	AWAPLAN 170	
214	3	43 BASE/BASE-N-PLY	TAM-GLASS PREMIUM (NONMOD)	AWAPLAN 170	
211C	2	VAPOR CHAN	AWAPLAN 170		
212C	2	43 BASE/BASE-N-PLY	AWAPLAN 170		
211FR	2	VAPOR CHAN	AWAPLAN 170 FR		
212FR	2	GLASS BASE	AWAPLAN 170 FR		

Modified Bitumen Part 3: Modified Bitumen Specifications

Company Name **TAMKO ROOFING PRODUCTS INC.**

TYPE OF ROOF INSTALLATION AND SUBSTRATE	TOTAL NO. OF PLIES IN MEMBRANE ASSEMBLY	BASE SHEET DESCRIPTION IF OTHER THAN MODIFIED BITUMEN SHEET	NAME(S) OF MODIFIED BITUMEN SHEET(S) USED IN MEMBRANE		
MANUFACTURER'S SPECIFICATION NO.			FIRST SHEET	SECOND SHEET	THIRD SHEET
NEW/REPLACEMENT NAILABLE (CONT'D)					
745	3	VAPOR CHAN	AWAPLAN VERSA SMOOTH	VERSA CAP FR	
1013	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAFLEX	
1014	3	BASE-N-PLY	GLASS PLY (NONMODIFIED)	AWAFLEX	
1111	2	VAPOR CHAN	SPEEDWELD GRANULATED		
1112	2	GLASS BASE	SPEEDWELD GRANULATED		
1211	2	VAPOR CHAN	SPEEDWELD SMOOTH		
1212	2	GLASS BASE	SPEEDWELD SMOOTH		
1312	2	BASE-N-PLY	AWAPLAN VERSA FLEX		
1013FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)		
1014FR	3	BASE-N-PLY	GLASS PLY (NONMODIFIED)		
RECOVER EXISTING ROOF					
135	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM	
136	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM	
135HW	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN HEAT WELDING	
136HW	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN HEAT WELDING	
135FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM FR	
136FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN PREMIUM FR	
235	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN 170	
236	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN 170	
235FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN 170 FR	
236FR	3	VAPOR CHAN	GLASS PLY (NONMODIFIED)	AWAPLAN 170 FR	
1134	2	VAPOR CHAN	SPEEDWELD GRANULATED		
1234	2	VAPOR CHAN	SPEEDWELD SMOOTH		
RECOVER EXISTING ROOF INSULATION ADDED					
See New/Replacement Insulated					

Company Name **TEXAS REFINERY CORP.**

NEW/REPLACEMENT NONNAILABLE					
N-101	3	TYPE II GLASBASE	MIGHTYPLATE	MIGHTYPLATE	
N-102	3	APPROVED	MIGHTYPLATE	MIGHTYPLATE	
NEW/REPLACEMENT INSULATED					
N-201	3	TYPE II GLASBASE	MIGHTYPLATE	MIGHTYPLATE	
N-202	3	APPROVED	MIGHTYPLATE	MIGHTYPLATE	
N-203	2	NONE	MIGHTYPLATE	MIGHTYPLATE	
NEW/REPLACEMENT NAILABLE					
N-301	3	TYPE II GLASBASE	MIGHTYPLATE	MIGHTYPLATE	
N-302	3	APPROVED	MIGHTYPLATE	MIGHTYPLATE	
RECOVER EXISTING ROOF					
E-401	1	NONE	MIGHTYPLATE		
RECOVER EXISTING ROOF INSULATION ADDED					
E-501	1	NONE	MIGHTYPLATE		
E-502	2	TYPE II GLASBASE	MIGHTYPLATE		
E-503	2	APPROVED	MIGHTYPLATE		

COMPANY NAME **TEXSA, S.A.**

NEW/REPLACEMENT NONNAILABLE					
	1		HIPER M.P.		
	1		MIN TEXAL -15 FP-S		
	2		TEXAL FV 3MM	TEXAL -15 FP-S 4MM	
	1		TEXAL -15 FP-S 4MM		
	1		MIN MOFLEX -20 FP-S		
	2		TEXAL FV 3MM		
	1		M.P. PARKING		
NEW/REPLACEMENT INSULATED					
	2		TEXAL FV 3MM	TEXAL -15 FP-S 4MM	
	2		HIPER M.P.	TEXAL PY MIN	
	2		TEXAL FV 3MM	MIN MOFLEX -20 FP-S	
NEW/REPLACEMENT NAILABLE					
	1		MINERAL M.P. 5KG FM		

Company Name **TRI-PLY**

NEW/REPLACEMENT NONNAILABLE					
KA-230-NN	2	EAGLE BASE	KARIFALT MEMBRANE		
KA-330-NN	3	EAGLE BASE AND GLASS	KARIFALT MEMBRANE		
KA-430-NN	4	EAGLE BASE AND 2 GLASS	KARIFALT MEMBRANE		

Modified Bitumen Part 3: Modified Bitumen Specifications

Company Name **TRI-PLY**

NEW/REPLACEMENT					
NONNAILABLE (CONTD)					
TP-230-NN	1	NONE	TP-4 OR TP-4G		
TP-330-NN	2	NONE	TP-4	TP-4 OR TP4G	
NEW/REPLACEMENT					
INSULATED					
KA-200-NI	2	EAGLE BASE	KARIFALT MEMBRANE		
KA-300-NI	3	2 EAGLE GLASS	KARIFALT MEMBRANE		
KA-400-NI	4	2 EAGLE GLASS	KARIFALT MEMBRANE		
KA-220-NNI	2	EAGLE BASE	KARIFALT MEMBRANE		
KA-320-NNI	3	2 EAGLE GLASS	KARIFALT MEMBRANE		
KA-420-NNI	4	3 EAGLE GLASS	KARIFALT MEMBRANE		
TP-200-NI	2	EAGLE BASE	TP-4 OR TP-4G	TP-4 OR TP-4G	
TP-300-NI	3	EAGLE BASE	TP-4		
TP-220-NNI	2	EAGLE BASE	TP-4 OR TP-4G	TP-4 OR TP-4G	
TP-320-NNI	3	EAGLE BASE	TP-4		
NEW/REPLACEMENT					
NAILABLE					
KA-210-N	2	EAGLE BASE	KARIFALT MEMBRANE		
KA-310-N	3	EAGLE BASE AND GLASS	KARIFALT MEMBRANE		
KA-410-N	4	EAGLE BASE AND 2 GLASS	KARIFALT MEMBRANE		
TP-210-N	2	EAGLE BASE	TP-4 OR TP-4G		
TP-310-N	3	EAGLE BASE	TP-4	TP-4 OR TP4G	
RECOVER					
EXISTING ROOF					
KA-RRS	2	EAGLE BASE	KARIFALT MEMBRANE		
TP-RRS	1	EAGLE BASE (OPTIONAL)	TP-4 OR TP-4G		
RECOVER					
EXISTING ROOF					
INSULATION ADDED					
KA-RRG	2	EAGLE BASE	KARIFALT MEMBRANE		
TP-RRG	2	EAGLE BASE	TP-4 OR TP-4G		

PVC Part 1: General Information

1. COMPANY NAME	ENSURCO DURADEK U.S. LTD.	FIRESTONE BUILDING PRODUCTS	FIRESTONE BUILDING PRODUCTS	FLEX MEMBRANE INTERNATIONAL INC.	FLEX MEMBRANE INTERNATIONAL INC.	GAF MATERIALS CORP.
2. PRODUCT NAME	ULTRA	ULTRAPLY .045	ULTRAPLY .060	FLEX MF/R 50	FLEX MF/R 60	EVERGUARD EGSR-40
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	POLYESTER 10	POLYESTER	POLYESTER	REINF POLY.	REINF POLY.	POLYESTER
B. COLOR(S)		WHITE	WHITE	WHITE/ OFFWHITE	WHITE/ OFFWHITE	WHITE/GRAY CUSTOM
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.40	0.30 NOM	0.40 NOM	0.35	0.45	0.26
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HEAT WELD	HEAT WELD	HEAT WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)		10 LBS.	10 LBS.	10 MIN.	10 MIN.	10
B. PARTIALLY ADHERED (method)		MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)	ADHESIVE	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	ADHESIVE
D. PROTECTED ROOF MEMBRANE ASSEMBLY		X	X			X
8. MINIMUM SLOPE REQUIRED	POSITIVE DRAIN	POSITIVE DRAIN	POSITIVE DRAIN	DEAD LEVEL	DEAD LEVEL	PER CODE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER		O	O	S O	S O	
B. MINERAL FIBER		O	O	S O	S O	
C. POLYSTYRENE		O	O	S O	S O	X
D. CELLULAR GLASS		O	O	S O	S O	
E. PHENOLIC						
F. FIBERBOARD	X	X		X	X	X
G. PERLITE				X O	X O	
H. POLYISOCYANURATE	X	X		X	X	X
I. POLYURETHANE				O	O	X
J. GYPSUM		O	O	X O	X O	X O
K. CONCRETE		O	O	S O	S O	O
L. WOOD PLANK		O	O	S O	S O	X O
M. PLYWOOD		O	O	X S	X S	O
N. EXISTING BUILTUP MEMBRANE		O	O	S O	S O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	30 - 100	0 - 120	0 - 120	0 - 120	0 - 120	0 - 120
12. FLASHING MATERIAL	PVC MEMBRANE PVC METAL	ULTRAPLY CTD METAL/ REINF'D MEMB.	ULTRAPLY CTD METAL/ REINF'D MEMB.	ROOF MEMBRANE/ CTD METAL	ROOF MEMBRANE/ CTD METAL	REINFORCED MEMBRANE COATED METAL
13. FLASHING METHOD	HEAT WELD	HEAT WELD	HEAT WELD	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1974	1992				
B. WITHIN USA	1976	1986	1994	1988	1988	1988
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA	THOUSANDS	THOUSANDS	THOUSANDS			
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	MILLIONS+
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DIRECT	DIRECT	DIST/DIRECT
19. NUMBER OF REGIONAL LOCATIONS	12	5	5	4	4	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:				J. DOYLE	J. DOYLE	REGIONAL OFFICE
	800/338-3568	800/428-4442	800/428-4442	610/286-7788	610/286-7788	
22. FOR TECHNICAL INFORMATION, CONTACT:				M GIANGIACOMO	M GIANGIACOMO	TECHNICAL SERVICES
	800/338-3568	800/428-4511	800/428-4511	610/286-7788	610/286-7788	
23. SEE MEMBRANE APPENDIX IF CHECKED						

PVC Part 1: General Information

GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GENFLEX ROOFING SYSTEMS
EVERGUARD EGSR-45	EVERGUARD EGSR-50	EVERGUARD EGSR-60	EVERGUARD EGSR-80	EVERGUARD EGFB-40	EVERGUARD EGFB-45	EVERGUARD EGFB-50	EVERGUARD EGFB-60	EVERGUARD EGFB-80	GENFLEX RM .048
POLYESTER WHITE/GRAY CUSTOM 0.29 NONE	POLYESTER WHITE/GRAY CUSTOM 0.32 NONE	POLYESTER WHITE/GRAY CUSTOM 0.38 NONE	POLYESTER WHITE/GRAY CUSTOM 0.51 NONE	POLY/FLEECE BK WHITE/GRAY CUSTOM 0.30 NONE	POLY/FLEECE BK WHITE/GRAY CUSTOM 0.33 NONE	POLY/FLEECE BK WHITE/GRAY CUSTOM 0.36 NONE	POLY/FLEECE BK WHITE/GRAY CUSTOM 0.43 NONE	POLY/FLEECE BK WHITE/GRAY CUSTOM 0.55 NONE	POLYESTER WHITE/GRAY/ TAN 0.30 NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HEAT
10	10	10	10	10	10	10	10	10	
MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
ADHESIVE	ADHESIVE	ADHESIVE	ADHESIVE	ADHES/ASPHALT	ADHES/ASPHALT	ADHES/ASPHALT	ADHES/ASPHALT	ADHES/ASPHALT	CONT. ADHES.
X	X	X	X	X	X	X	X	X	
PER CODE	PER CODE	PER CODE	PER CODE	PER CODE	PER CODE	PER CODE	PER CODE	PER CODE	DEAD LEVEL
									X
									X
X	X	X	X	O	O	O	O	O	S
									X
X	X	X	X	X	X	X	X	X	X
				X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	X	X	X	X	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	X	X	X	X	O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	SEE SPECS
0 - 120	0 - 120	0 - 120	0 - 120	0 - 120	0 - 120	0 - 120	0 - 120	0 - 120	0 - 140
REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	REINFORCED MEMBRANE COATED METAL	PVC MEMBRANE OR PVC-COAT- ED MATERIAL
HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	SOLVENT ADHESIVE OR HEAT
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1988	1988	1988	1988	1990	1990	1990	1990	1990	1983 1980
MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS+	MILLIONS
DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DIST/DIRECT 5	DISTRIBUTORS 8
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	REGIONAL OFFICE TECHNICAL SERVICES	SALES OFFICE TECH. SERVICE 800/443-4272

PVC Part 1: General Information

1. COMPANY NAME	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	IB ROOF SYSTEMS	IB ROOF SYSTEMS
2. PRODUCT NAME	GENFLEX RM .060	GENFLEX RMT .080	GENFLEX RM-C .048	GENFLEX RM-C .060	IB SINGLE-PLY	INSULATED BLANKET
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER
B. COLOR(S)	WHITE/GRAY/ TAN	WHITE	WHITE/GRAY/ TAN	WHITE/GRAY/ TAN	WHITE/TAN/ GRAY/BLUE	WHITE/TAN/ GRAY/BLUE
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.40	0.51	0.30	0.30	0.33	0.33
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HEAT	HEAT	HEAT	HEAT	HOT AIR WELD	HOT AIR WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)					BALLASTED	BALLASTED
B. PARTIALLY ADHERED (method)	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY						
8. MINIMUM SLOPE REQUIRED	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	NONE	NONE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X	X	X	X	X	X
B. MINERAL FIBER	X	X	X	X	S	S
C. POLYSTYRENE	S	S	S	S	X S	X S
D. CELLULAR GLASS	X	X	X	X	S	S
E. PHENOLIC					X	X
F. FIBERBOARD	X	X	X	X	X S	X S
G. PERLITE	X	X	X	X	X	X
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE					X	X
J. GYPSUM	X	X	X	X	X	X
K. CONCRETE		O		O	X S	X S
L. WOOD PLANK		O		O	S	S
M. PLYWOOD		O		O	S	S
N. EXISTING BUILTUP MEMBRANE		O		O	S	S
10. RESTRICTED REGIONS (refer to manufacturer's literature)	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 140		0 – 140	0 – 140	0-120	0-120
12. FLASHING MATERIAL	PVC MEMBRANE OR PVC-COAT- ED MATERIAL	PVC MEMBRANE OR PVC-COAT- ED MATERIAL	PVC MEMBRANE OR PVC-COAT- ED MATERIAL	PVC MEMBRANE OR PVC-COAT- ED MATERIAL	IB MEMBRANE CPA CLAD METAL PREFAB. FLASH.	IB MEMBRANE CPA CLAD METAL PREFAB. FLASH.
13. FLASHING METHOD	SOLVENT ADHESIVE OR HEAT	SOLVENT ADHESIVE OR HEAT	SOLVENT ADHESIVE OR HEAT	SOLVENT ADHESIVE OR HEAT	HOT AIR WELD	HOT AIR WELD
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA & CANADA	USA & CANADA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1983				1987	1987
B. WITHIN USA	1980	1989	1995	1995	1979	1979
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA					THOUSANDS	THOUSANDS
B. WITHIN USA	MILLIONS	THOUSANDS	THOUSANDS	THOUSANDS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	8	8	8	8	5	5
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	800/426-1626	800/426-1626
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH. SERVICE 800/443-4272	TECH. SERVICE 800/443-4272	TECH. SERVICE 800/443-4272	TECH. SERVICE 800/443-4272	800/426-1626	800/426-1626
23. SEE MEMBRANE APPENDIX IF CHECKED						

PVC Part 1: General Information

IB ROOF SYSTEMS	IB ROOF SYSTEMS	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.
SINGLE PLY 60 MIL	SINGLE PLY 80 MIL	ULTRAGARD V250	ULTRAGARD V260	ULTRAGARD SR50	ULTRAGARD SR60	ULTRAGARD SR80	MH50	MH60	PEM .040
POLYESTER WHITE	POLYESTER WHITE	POLYESTER BLACK	POLYESTER BLACK	POLYESTER WHITE	POLYESTER WHITE	POLYESTER WHITE	POLYESTER WHITE	POLYESTER WHITE	POLYESTER WHITE
0.41	0.55	0.42	0.44	0.42	0.44	0.58	0.42	0.44	0.30 NOM
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HOT AIR WELD	HOT AIR WELD	HOT AIR	HOT AIR	HOT AIR	HOT AIR	HOT AIR	HEAT WELD	HEAT WELD	HEAT WELD
BALLASTED MECH. FAST.	BALLASTED MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
NONE	NONE						NONE	NONE	
X	X	O	O	O	O	O			O
S	S	S O	S O	S O	S O	S O	S	S	O
X S	X S	S O	S O	S O	S O	S O	S	S	O
S	S	S O	S O	S O	S O	S O	S	S	O
X	X								
X S	X S	X	X	X	X	X	X	X	X
X	X	X O	X O	X O	X O	X O	X	X	
X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	
X	X	X O	X O	X O	X O	X O	X	X	O
X S	X S	S O	S O	S O	S O	S O	S	S	O
S	S	S O	S O	S O	S O	S O	S	S	O
S	S	X S	X S	X S	X S	X S	S	S	O
S	S	S O	S O	S O	S O	S O	S	S	O
NONE	NONE	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	SEE MFR	SEE SPECS	SEE SPECS	NONE
0-120	0-120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120
IB MEMBRANE CPA CLAD METAL PREFAB. FLASH.	IB MEMBRANE CPA CLAD METAL PREFAB. FLASH.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	PVC-COATED METAL/REINFORCED MEM.	REINFORCED MEMBRANE COATED METAL
HOT AIR WELD	HOT AIR WELD	ADHESIVE AND HOT AIR	ADHESIVE AND HOT AIR	ADHESIVE AND HOT AIR	ADHESIVE AND HOT AIR	ADHESIVE AND HOT AIR	ADHESIVE OR HEAT WELD	ADHESIVE OR HEAT WELD	HEAT WELD
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA	USA								USA
USA & CANADA	USA & CANADA	USA	USA	USA	USA	USA	USA	USA	USA
		1994	1994	1989	1986	1990	1989	1986	1986
THOUSANDS MILLIONS	THOUSANDS MILLIONS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
DIRECT 5	DIRECT 5	DIRECT 4	DIRECT 4	DIRECT 4	DIRECT 4	DIRECT 4	DISTRIBUTORS 12	DISTRIBUTORS 12	DISTRIBUTORS 15
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
800/426-1626	800/426-1626	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	800/786-1492	800/786-1492	800/786-1492
800/426-1626	800/426-1626	M. REW	M. REW	M. REW	M. REW	M. REW	800/786-1492	800/786-1492	800/786-1492

PVC Part 1: General Information

1. COMPANY NAME	MULE-HIDE PRODUCTS CO. INC.	ROOF DESIGN SYSTEMS, INC.	ROOF DESIGN SYSTEMS, INC.	SARNAFIL INC.	SARNAFIL INC.	SARNAFIL INC.
2. PRODUCT NAME	PEM .060	PROSEAL MF	PROSEAL FA	SARNAFIL G410	SARNAFIL S327	SARNAFIL G476
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	POLYESTER	POLYESTER	FIBERGLASS	FIBERGLASS	POLYESTER	FIBERGLASS
B. COLOR(S)	WHITE	VARIOUS	VARIOUS	ASSORTED	ASSORTED ASSORTED	ORANGE
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.40 NOM			0.33	0.33	0.33
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HEAT WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)		10				
B. PARTIALLY ADHERED (method)	MECH. FAST.	MECH. FAST.			MECH. FAST.	
C. FULLY ADHERED (method)		CONT. ADHES.	CONT. ADHES.	CONT. ADHES.		
D. PROTECTED ROOF MEMBRANE ASSEMBLY						X
8. MINIMUM SLOPE REQUIRED		NONE	NONE	NONE	NONE	NONE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	O	O	O	O	O	O
B. MINERAL FIBER	O			O	O	O
C. POLYSTYRENE	O	O	O	O	S	S
D. CELLULAR GLASS	O			O	O	
E. PHENOLIC						
F. FIBERBOARD	X	X	X	X	X	
G. PERLITE				O	O	
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE		X	X	X	X	X
J. GYPSUM	O	X	X	O	S O	S O
K. CONCRETE	O			X O	S O	S O
L. WOOD PLANK	O	O	O	O	S O	S O
M. PLYWOOD	O	X	X	X O	X S O	
N. EXISTING BUILTUP MEMBRANE	O	O	O	O	S O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120	0 – 120
12. FLASHING MATERIAL	REINFORCED MEMBRANE COATED METAL	PVC OR PVC-CLAD METAL	PVC OR PVC-CLAD METAL	G410, G459, CLAD METAL	G410, G459, S327, OR CLAD METAL	G410, G459 OR CLAD METAL
13. FLASHING METHOD	HEAT WELD	ADHESIVE OR HEAT WELD	ADHESIVE OR HEAT WELD	ADHESIVE AND HEAT WELD	ADHESIVE AND HEAT WELD	ADHESIVE AND HEAT WELD
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	CANADA	CANADA	SWITZERLAND	SWITZERLAND	SWITZERLAND
B. MANUFACTURE	USA	CANADA	CANADA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA		1985	1985	1964	1964	1964
B. WITHIN USA	1986	1990	1990	1975	1978	1981
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA		THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	15	6	6	6	6	6
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/786-1492	P. WHALEY	P. WHALEY	SALES DEPT.	SALES DEPT.	SALES DEPT.
22. FOR TECHNICAL INFORMATION, CONTACT:	800/786-1492	P. WHALEY	P. WHALEY	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.
23. SEE MEMBRANE APPENDIX IF CHECKED				X	X	X

THIS PAGE INTENTIONALLY LEFT BLANK

PVC Part 2: Test Results

Test description and suggested values as specified in ASTM D 4434-95

1. COMPANY NAME		ENSURO DURADEK U.S. LTD.	FIRESTONE BUILDING PRODUCTS	FIRESTONE BUILDING PRODUCTS	FLEX MEMBRANE INTERNATIONAL INC.	FLEX MEMBRANE INTERNATIONAL INC.	GAF MATERIALS CORP.
2. PRODUCT NAME		ULTRA	ULTRAPLY .045	ULTRAPLY .060	FLEX MF/R 50	FLEX MF/R 60	EVERGUARD EGSR-40
3. TYPE I (unreinforced sheet) TYPE II (unreinforced sheet) GRADE 1 (containing fibers) GRADE 2 (containing fabrics) TYPE III (reinforced sheet containing fibers of fabrics)		III	III	III	III	III	III
4. OVERALL THICKNESS (min. in.)	0.045	0.06	0.045	0.060	0.050	0.060	0.040
5. TENSILE STRENGTH AT BREAK (min. psi) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION	1500 1500	NA NA	NA NA	NA NA	NA NA	NA NA	
6. BREAKING STRENGTH (min. lbf/in.) TYPE II, GRADE 2; TYPE III	200	250	450	250	> 230	> 250	275
7. ELONGATION AT BREAK (min. %) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION TYPE II, GRADE 2; TYPE III MACHINE DIRECTION CROSS-MACHINE DIRECTION	250 220 15* 15*	NA NA	NA NA	NA NA	NA NA	NA NA	
8. SEAM STRENGTH (min. % of tensile or breaking strength)	75.0	75.0	75.0	75.0	> 80	> 80	90
9. RETENTION OF PROPERTIES AFTER HEAT AGING (minimum % of original) TENSILE STRENGTH TYPE I; TYPE II, GRADE 1 BREAKING STRENGTH TYPE II, GRADE 1; TYPE III ELONGATION	80.0 80.0 80.0	NA 96	80 80	80 80	NA > 80 90	NA > 80 90	 95 95
10. TEAR RESISTANCE (min. lbf) TYPE I; TYPE II, GRADE	10.0	NA			NA	NA	
11. TEARING STRENGTH (min. lbf) TYPE II, GRADE 2; TYPE III	45.0	50	150	80	> 50	> 50	
12. LOW TEMPERATURE BEND	pass	PASS	PASS	PASS	PASS	PASS	PASS
13. ACCELERATED WEATHERING TEST CRACKING (7X magnification) DISCOLORATION (by observation) CRAZING (7X magnification)	none negligible none	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE
14. LINEAR DIMENSIONAL CHANGE (max. %) TYPE I TYPE II TYPE III	3.0 0.1 0.5	NA NA 0.3	NA NA 0.3	NA NA 0.3	NA NA < 0.2	NA NA < 0.2	 0.03
15. CHANGE IN WEIGHT AFTER IMMERSION IN WATER (max. %)	±3.0	2	PASS	PASS	< 0.2	< 0.2	1.2
16. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

* for reinforcing fabric only; elongation of PVC material shall be the same as Type I

PVC Part 2: Test Results

Test description and suggested values as specified in ASTM D 4434-95

GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GAF MATERIALS CORP.	GENFLEX ROOFING SYSTEMS
EVERGUARD EGSR-45	EVERGUARD EGSR-50	EVERGUARD EGSR-60	EVERGUARD EGSR-80	EVERGUARD EGFB-40	EVERGUARD EGFB-45	EVERGUARD EGFB-50	EVERGUARD EGFB-60	EVERGUARD EGFB-80	GENFLEX RM .048
III	III	III	III	III	III	III	III	III	III
0.045	0.050	0.060	0.080	0.055	0.060	0.065	0.075	0.095	0.048
									NA
									NA
275	300	350	450						210
									NA
									NA
									15
									15
90	90	90	90	90	90	90	90	90	>75.0
									NA
95	95	95	95	95	95	95	95	95	>95
95	95	95	95	95	95	95	95	95	NA
									50
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
NEGLIGIBLE	NEGLIGIBLE	NEBLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
									NA
									NA
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	<0.1
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	+3.0

PVC Part 2: Test Results

Test description and suggested values as specified in ASTM D 4434–95

1. COMPANY NAME		GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	IB ROOF SYSTEMS	IB ROOF SYSTEMS
2. PRODUCT NAME		GENFLEX RM .060	GENFLEX RM-T .080	GENFLEX RM-C .048	GENFLEX RM-C .060	IB SINGLE-PLY	INSULATED BLANKET
3. TYPE I (unreinforced sheet) TYPE II (unreinforced sheet) GRADE 1 (containing fibers) GRADE 2 (containing fabrics) TYPE III (reinforced sheet containing fibers of fabrics)		III	III	III	III	III	III
4. OVERALL THICKNESS (min. in.)	0.045	0.060	0.080	0.048	0.060	0.050	0.050
5. TENSILE STRENGTH AT BREAK (min. psi) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION	1500 1500	NA NA	NA NA	NA NA	NA NA		
6. BREAKING STRENGTH (min. lbf/in.) TYPE II, GRADE 2; TYPE III	200	210	300	210	210	300	300
7. ELONGATION AT BREAK (min. %) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION TYPE II, GRADE 2; TYPE III MACHINE DIRECTION CROSS-MACHINE DIRECTION	250 220 15* 15*	NA NA 15 15	NA NA 35 40	NA NA 15 15	NA NA 15 15		
8. SEAM STRENGTH (min. % of tensile or breaking strength)	75.0	>75.0	> 90.0	>75.0	>75.0		
9. RETENTION OF PROPERTIES AFTER HEAT AGING (minimum % of original) TENSILE STRENGTH TYPE I; TYPE II, GRADE 1 BREAKING STRENGTH TYPE II, GRADE 1; TYPE III ELONGATION	80.0 80.0 80.0	NA 80.0 >95	NA 80.0 80.0	NA 80.0 >95	NA 80.0 >95	90 90 90	90 90 90
10. TEAR RESISTANCE (min. lbf) TYPE I; TYPE II, GRADE	10.0	NA	NA	NA	NA		
11. TEARING STRENGTH (min. lbf) TYPE II, GRADE 2; TYPE III	45.0	50	100	50	50	50	50
12. LOW TEMPERATURE BEND	pass	PASS	PASS	PASS	PASS	-40	-40
13. ACCELERATED WEATHERING TEST CRACKING (7X magnification) DISCOLORATION (by observation) CRAZING (7X magnification)	none negligible none	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE
14. LINEAR DIMENSIONAL CHANGE (max. %) TYPE I TYPE II TYPE III	3.0 0.1 0.5	NA NA <0.1	NA NA .3	NA NA <0.1	NA NA <0.1	0.5	0.5
15. CHANGE IN WEIGHT AFTER IMMERSION IN WATER (max. %)	±3.0	+3.0	+1.0	+3.0	+3.0	±2.0	±2.0
16. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

* for reinforcing fabric only; elongation of PVC material shall be the same as Type I

PVC Part 2: Test Results

Test description and suggested values as specified in ASTM D 4434–95

IB ROOF SYSTEMS	IB ROOF SYSTEMS	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.
I B 60 MIL.	IB 80 MIL.	ULTRAGARD V 250	ULTRAGARD V 260	ULTRAGARD SR 50	ULTRAGARD SR 60	ULTRAGARD SR 80	MH-50	MH-60	PEM .040
III	III	III	III	III	III	III	III	III	III
0.060	0.080	0.047	0.054	0.047	0.054	0.072	0.050	0.060	0.040
		NA	NA	NA	NA	NA	NA	NA	NA
		NA	NA	NA	NA	NA	NA	NA	NA
370	440								
340	400	412	396	412	396	420	> 320	> 325	> 250
		NA	NA	NA	NA	NA	NA	NA	NA
		NA	NA	NA	NA	NA	NA	NA	NA
60	130	32	32	32	32	33	> 20	> 20	30
40	90	33	34	33	34	37	> 20	> 20	30
		101	103	101	103	129	>75.0	>75.0	75.0
		NA	NA	NA	NA	NA	NA	NA	
90	95	107	91	107	91	99	>80	>80	80
92	96	125	127	125	127	223	>80	>80	80
		NA	NA	NA	NA	NA	NA	NA	
68	73	69	53	69	53	74	50	50	80
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
		NA	NA	NA	NA	NA	NA	NA	NA
		NA	NA	NA	NA	NA	NA	NA	NA
0.5	0.5	0.14	0.12	0.14	0.12	0.14	<0.2	<0.2	<0.3
0.24	0.18	1.73	1.46	1.73	1.46	1.71	< +3.0	< +3.0	PASS

PVC Part 2: Test Results

Test description and suggested values as specified in ASTM D 4434–95

1. COMPANY NAME		MULE-HIDE PRODUCTS CO. INC.	ROOF DESIGN SYSTEMS INC.	ROOF DESIGN SYSTEMS INC.	SARNAFIL INC.	SARNAFIL INC.	SARNAFIL INC.
2. PRODUCT NAME		PEM .060	PROSEAL MF	PROSEAL FA	SARNAFIL G410	SARNAFIL S327	SARNAFIL G476
3. TYPE I (unreinforced sheet) TYPE II (unreinforced sheet) GRADE 1 (containing fibers) GRADE 2 (containing fabrics) TYPE III (reinforced sheet containing fibers of fabrics)		III	III	II 1	II 1		II 1
4. OVERALL THICKNESS (min. in.)	0.045	0.060	0.047	0.047	0.048	0.048	0.048
5. TENSILE STRENGTH AT BREAK (min. psi) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION	1500 1500	NA NA	NA NA	2200 1800	1600 1600	NA NA	1650 1650
6. BREAKING STRENGTH (min. lbf/in.) TYPE II, GRADE 2; TYPE III	200	> 250	350	NA	NA	230	NA
7. ELONGATION AT BREAK (min. %) TYPE I; TYPE II, GRADE 1 MACHINE DIRECTION CROSS-MACHINE DIRECTION TYPE II, GRADE 2; TYPE III MACHINE DIRECTION CROSS-MACHINE DIRECTION	250 220 15* 15*	NA NA 30 30	NA NA 60 45	300 250 NA NA	270 250 NA NA	NA NA 20 20	280 260 NA NA
8. SEAM STRENGTH (min. % of tensile or breaking strength)	75.0	75.0	>80	>80	>80	>85	>80
9. RETENTION OF PROPERTIES AFTER HEAT AGING (minimum % of original) TENSILE STRENGTH TYPE I; TYPE II, GRADE 1 BREAKING STRENGTH TYPE II, GRADE 1; TYPE III ELONGATION	80.0 80.0 80.0	 80 80	 >90 >90	 NA >90	95 NA 90	NA 95 90	95 NA 90
10. TEAR RESISTANCE (min. lbf) TYPE I; TYPE II, GRADE	10.0		NA	25	14	NA	14
11. TEARING STRENGTH (min. lbf) TYPE II, GRADE 2; TYPE III	45.0	80	60	NA	NA	50	NA
12. LOW TEMPERATURE BEND	pass	PASS	PASS	PASS	PASS	PASS	PASS
13. ACCELERATED WEATHERING TEST CRACKING (7X magnification) DISCOLORATION (by observation) CRAZING (7X magnification)	none negligible none	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	NONE NEGLIGIBLE NONE	
14. LINEAR DIMENSIONAL CHANGE (max. %) TYPE I TYPE II TYPE III	3.0 0.1 0.5	NA NA <0.3	NA NA 0.5	NA 0.1 NA	NA 0.02 NA	NA NA 0.1	NA 0.02 NA
15. CHANGE IN WEIGHT AFTER IMMERSION IN WATER (max. %)	±3.0	PASS	+0.2	+2.0	2.5	2.5	2.5
16. SEE MEMBRANE APPENDIX IF CHECKED					X	X	X

NA=not applicable

* for reinforcing fabric only; elongation of PVC material shall be the same as Type I

THIS PAGE INTENTIONALLY LEFT BLANK

EPDM Part 1: General Information

1. COMPANY NAME	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED
2. PRODUCT NAME	SURE-SEAL EPDM	SURE-SEAL FR EPDM	SURE-SEAL FR PLUS EPDM	SURE-SEAL HTM EPDM	BRITE-PLY	SURE-SEAL REINFORCED EPDM
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	YES	NONE	YES
B. COLOR(S)	BLACK	BLACK	BLACK	BLACK	WHITE ON BLACK	BLACK
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.28	0.35	0.35	0.30	0.35	0.30
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10			10
B. PARTIALLY ADHERED (method)				MECH. FAST.		MECH. FAST.
C. FULLY ADHERED (method)		CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X			X
8. MINIMUM SLOPE REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X O	X O	X O	X O	X O	X O
B. MINERAL FIBER	X O	X O	X O	X O	O	X O
C. POLYSTYRENE	X O	X O	X O	X O	X O	X O
D. CELLULAR GLASS	X	X	X	X	X	X
E. PHENOLIC						
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X O	X O	X O	X O	O	X O
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE	X	X	X	X	X	X
J. GYPSUM	X O	X O	X O	X O	X O	X O
K. CONCRETE	X O	X O	X O	X O	X O	X O
L. WOOD PLANK	X O	X O	X O	X O	X O	X O
M. PLYWOOD	X O	X O	X O	X O	X O	X O
N. EXISTING BUILTUP MEMBRANE	X O	X O	X O	X O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	-49 TO 180	-49 TO 180	-49 TO 180	-49 TO 180	-49 TO 180	-49 TO 180
12. FLASHING MATERIAL	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM
13. FLASHING METHOD	ADHESIVE	ADHESIVE	ADHESIVE	ADHESIVE	ADHESIVE	ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1963	1983	1983	1998	1977	1986
B. WITHIN USA	1963	1983	1983	1998	1977	1986
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	70	70	70	70	70	70
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	C. KUHL 717/245-7000 S. IBRAHIM	C. KUHL 717/245-7000 S. IBRAHIM	C. KUHL 717/245-7000 S. IBRAHIM	C. KUHL 717/245-7000 S. IBRAHIM	C. KUHL 717/245-7000 S. IBRAHIM	C. KUHL 717/245-7000 S. IBRAHIM
22. FOR TECHNICAL INFORMATION, CONTACT:	717/245-7000	717/245-7000	717/245-7000	717/245-7000	717/245-7000	717/245-7000
23. SEE MEMBRANE APPENDIX IF CHECKED						

EPDM Part 1: General Information

CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.
SURE-SEAL FR REINFORCED EPDM	SURE-SEAL REINFORCED EXTRA EPDM	SURE-SEAL FLEECEBACK EPDM	BRITE-PLY FLEECEBACK EPDM	CELO I .045	CELO I .060	CELO I .060	CELO I .045 REINFORCED	CELO I .045 REINFORCED	CELO I .060 REINFORCED
YES	YES	YES	YES	NONE	NONE	NONE	POLYESTER	POLYESTER	POLYESTER
BLACK	BLACK	BLACK	WHITE ON BLACK	BLACK	BLACK	WHITE ON BLACK	BLACK	WHITE ON BLACK	BLACK
0.30	0.37	0.32	0.32	0.27	0.36	0.36	0.27	0.27	0.36
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	TAPE OR CONTACT ADHESIVE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE
10	10								
MECH. FAST.									
CONT. ADHES.	CONT. ADHES.	URETHANE ADHES	URETHANE ADHES						
X	X								
NONE	NONE	NONE	NONE	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
X O	X O	X O	X O	X			X	X	X
X O	X O	X O	X O	X			X	X	X
X O	X O	X O	X O	X			X	X	X
X	X	X	X	X			X	X	X
X	X	X	X	X	X	X	X	X	X
X O	X O	X O	X O	X			X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X O	X O	X O	X O	X	X	X	X	X	X
X O	X O	X O	X O	X	X	X	X	X	X
X O	X O	X O	X O	X	X	X	X	X	X
X O	X O	X O	X O	X	X	X	X	X	X
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
-49 TO 180	-49 TO 180	-49 TO 180	-49 TO 180						
UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED WHITE EPDM	UNCURED EPDM	UNCURED WHITE EPDM	UNCURED EPDM
ADHESIVE	ADHESIVE	ADHESIVE	ADHESIVE	CONT. ADHES. OR SELF-FLASH TAPE	CONT. ADHES. OR SELF-FLASH TAPE	CONT. ADHES. OR SELF-FLASH TAPE	CONT. ADHES. OR SELF-FLASH TAPE	CONT. ADHES. OR SELF-FLASH TAPE	CONT. ADHES. OR SELF-FLASH TAPE
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1986 1986	1986 1986	1985	1985	1965	1965	1965	1965	1965	1965
MILLIONS	MILLIONS	MILLIONS	MILLIONS						
DISTRS,DIRECT 70	DISTRS,DIRECT 70	DISTRS,DIRECT 70	DISTRS,DIRECT 70	DISTRS,DIRECT 6	DISTRS,DIRECT 6	DISTRS,DIRECT 6	DISTRS,DIRECT 6	DISTRS,DIRECT 6	DISTRS,DIRECT 6
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
C. KUHL 717/245-7000 S. IBRAHIM 717/245-7000	C. KUHL 717/245-7000 S. IBRAHIM 717/245-7000	C. KUHL 717/245-7000 S. IBRAHIM 717/245-7000	C. KUHL 717/245-7000 S. IBRAHIM 717/245-7000	REGIONAL OFFICE REGIONAL OFFICE	REGIONAL OFFICE REGIONAL OFFICE	REGIONAL OFFICE REGIONAL OFFICE	REGIONAL OFFICE REGIONAL OFFICE	REGIONAL OFFICE REGIONAL OFFICE	REGIONAL OFFICE REGIONAL OFFICE

EPDM Part 1: General Information

1. COMPANY NAME	CELOTEX CORP.	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS
2. PRODUCT NAME	CELO I .060 FR	ER SYSTEMS RUBBER ROOF .060 BLACK	ER SYSTEMS RUBBER ROOF .045 BLACK	ER SYSTEMS RUBBER ROOF .060 BLACK FR	ER SYSTEMS RUBBER ROOF .045 BLACK FR	ER SYSTEMS POLY-BOND .045 BLACK
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	NONE	NONE	NONWOVEN POLY BACKING
B. COLOR(S)	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.36	0.35	0.25	0.35	0.25	0.30
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	CONT. ADHES. & SEALANT OR SEAM TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	COVER TAPE ADHESIVE OR TAPE
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)		10 MIN	10 MIN	10 MIN	10 MIN	10 MIN
B. PARTIALLY ADHERED (method)		PLATE BONDED	PLATE BONDED	PLATE BONDED	PLATE BONDED	MECH. FAST.
C. FULLY ADHERED (method)		CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	ASPHALT
D. PROTECTED ROOF MEMBRANE ASSEMBLY		X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	1/4"	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X	O	O	O	O	O
B. MINERAL FIBER	X	O	O	O	O	O
C. POLYSTYRENE	X	O	O	O	O	O
D. CELLULAR GLASS	X	O	O	O	O	X
E. PHENOLIC		O	O	O	O	X
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X	O	O	O	O	X
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE		O	O	O	O	O
J. GYPSUM		O	O	O	O	X
K. CONCRETE		O	O	O	O	X
L. WOOD PLANK	X	O	O	O	O	X
M. PLYWOOD	X	O	O	O	O	X
N. EXISTING BUILTUP MEMBRANE	X	O	O	O	O	X
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)		0 – 120	0 – 120	0 – 120	0 – 120	0 – 120
12. FLASHING MATERIAL	UNCURED WHITE EPDM	UNCURED EPDM OR NEOPRENE	UNCURED EPDM OR NEOPRENE	UNCURED EPDM OR NEOPRENE	UNCURED EPDM OR NEOPRENE	UNCURED EPDM OR NEOPRENE
13. FLASHING METHOD	CONTACT ADHESIVE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA						
B. WITHIN USA	1965	1965	1965	1965	1965	1988
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA		THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	6	14	14	14	14	14
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747
22. FOR TECHNICAL INFORMATION, CONTACT:	REGIONAL OFFICE	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747
23. SEE MEMBRANE APPENDIX IF CHECKED						

EPDM Part 1: General Information

ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.
ER SYSTEMS REINFORCED-90 .045 BLACK	ER SYSTEMS POLY-BOND .060 BLACK	ER SYSTEMS REINFORCED-90 .060 BLACK	RUBBERGARD .045	RUBBERGARD .060	RUBBERGARD .045 FR	RUBBERGARD .060 FR	RUBBERGARD .090	RUBBERGARD .045 REINFORCED	RUBBERGARD .060 REINFORCED
WOVEN POLY INSERT BLACK	NONWOVEN POLY BACKING BLACK	WOVEN POLY INSERT BLACK	NONE	NONE	NONE	NONE	NONE	POLYESTER	POLYESTER
			BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
0.30	0.40	0.40	0.28	0.38	0.32	0.43	0.64	0.28	0.38
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
CONTACT ADHESIVE OR TAPE	COVER TAPE ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	SEAM TAPE	SEAM TAPE	SEAM TAPE	SEAM TAPE	SEAM TAPE WITH FLASHING STRIP OVERLAY	SEAM TAPE	SEAM TAPE
10 MIN	10 MIN	10 MIN	10	10	10	10		10	10
MECH. FAST.	MECH. FAST.	MECH. FAST.	BATTENS	BATTENS	BATTENS	BATTENS		PLATES	BATTENS/PLATES
CONT. ADHES.	ASPHALT	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
X	X	X	X	X	X	X		X	X
DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN	POS. DRAIN
O	O	O	X O	X O	X O	X O	X O	X O	X O
O	O	O	X O	X O	X O	X O	X O	X O	X O
O	O	O	X O	X O	X O	X O	X O	X O	X O
O	X	O	X	X	X	X	X	X	X
O	X	O	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
O	X	O	X O	X O	X O	X O	X O	X O	X O
X	X	X	X	X	X	X	X	X	X
O	O	O	X	X	X	X	X	X	X
O	X	O	X O	X O	X O	X O	X O	X O	X O
O	X	O	X O	X O	X O	X O	X O	X O	X O
O	S	O	X O	X O	X O	X O	X O	X O	X O
O	S	O	X O	X O	X O	X O	X O	X O	X O
O	X	O	X O	X O	X O	X O	X O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
0 – 120	0 – 120	0–120	0–100	0 – 100	0 – 100	0 – 100	0 – 100	0 – 100	0 – 100
UNCURED EPDM NEOPRENE	UNCURED EPDM OR NEOPRENE	UNCURED EPDM OR NEOPRENE	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING
CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1989	1988	1989	1982	1982	1985	1990 1985	1990 1982	1990 1990	1990 1990
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS MILLIONS	THOUSANDS MILLIONS	THOUSANDS MILLIONS	THOUSANDS MILLIONS	HUNDREDS HUNDREDS	THOUSANDS THOUSANDS	THOUSANDS THOUSANDS
DISTRS,DIRECT 14	DISTRS,DIRECT 14	DISTRS,DIRECT 14	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
T. LEONARD 800/403–7747 J. LEONARD 800/403–7747	T. LEONARD 800/403–7747 J. LEONARD 800/403–7747	T. LEONARD 800/403–7747 J. LEONARD 800/403–7747	800/428–4442 800/428–4511	800/428–4442 800/428–4511	800/428–4442 800/428–4511	800/428–4442 800/428–4511	800/428–4442 800/428–4511	800/428–4442 800/428–4511	800/428–4442 800/428–4511
							X		

EPDM Part 1: General Information

1. COMPANY NAME	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS
2. PRODUCT NAME	RUBBERGARD 0.045 LSFR	RUBBERGARD 0.060 LSFR	GENFLEX .045 BLACK	GENFLEX .060 BLACK	GENFLEX FRM .045 BLACK	GENFLEX FRM .060 BLACK
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	NONE	YES	YES
B. COLOR(S)	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.28	0.38	0.28	0.38	0.28	0.38
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	SEAM TAPE	SEAM TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	TAPE	TAPE
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10	10	10	10
B. PARTIALLY ADHERED (method)	BATTENS	BATTENS	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED	POS. DRAIN	POS. DRAIN	LEVEL	LEVEL	LEVEL	LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X O	X O	X	X	X	X
B. MINERAL FIBER	X O	X O	X	X	X	X
C. POLYSTYRENE	X O	X O	O	O	O	O
D. CELLULAR GLASS	X	X	X	X	X	X
E. PHENOLIC						
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X O	X O	X	X	X	X
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE	X	X	X	X	X	X
J. GYPSUM	X O	X O	X	X	X	X
K. CONCRETE	X O	X O	O	O	O	O
L. WOOD PLANK	X O	X O	O	O	O	O
M. PLYWOOD	X O	X O	O	O	O	O
N. EXISTING BUILTUP MEMBRANE	X O	X O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 100	0 – 100	0 – 100	0 – 100	0 – 100	0 – 100
12. FLASHING MATERIAL	EPDM QUICKSEAM FLASHING	EPDM QUICKSEAM FLASHING	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM
13. FLASHING METHOD	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE/ TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	TAPE	TAPE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1994	1994				
B. WITHIN USA	1994	1994	1979	1979	1989	1989
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA	THOUSANDS	THOUSANDS	MILLIONS	MILLIONS	THOUSANDS	THOUSANDS
B. WITHIN USA	MILLIONS	MILLIONS				
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	5	5	8	8	8	8
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	800/428-4442	800/428-4442	SALES	SALES	SALES	SALES
22. FOR TECHNICAL INFORMATION, CONTACT:	800/428-4511	800/428-4511	TECH SERVICE 800/443-4272	TECH SERVICE 800/443-4272	TECH SERVICE 800/443-4272	TECH SERVICE 800/443-4272
23. SEE MEMBRANE APPENDIX IF CHECKED						

EPDM Part 1: General Information

GENFLEX ROOFING SYSTEMS	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
GENFLFLEX AFR .060 BLACK	INTERNATIONAL BLACK EPDM .045	INTERNATIONAL BLACK .060	INTERNATIONAL FIRE RETAR- DANT .060	INTERNATIONAL REINFORCED .045	INTERNATIONAL REINFORCED .060	SPM 45 BLACK	SPM 45R BLACK	SPM 60 BLACK	SPM 60R BLACK
NONE	NONE	NONE	NONE	SCRIM	SCRIM	NONE	POLYESTER	NONE	POLYESTER
BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
0.38	0.30	0.40	0.50	0.40	0.50	0.29	0.30	0.38	0.39
NONE	NONE	NONE	NONE	SCRIM	SCRIM	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT AD- HESIVE & SEAL- ANT OR TAPE	CONTACT AD- HESIVE & SEAL- ANT OR TAPE	CONTACT AD- HESIVE & SEAL- ANT OR TAPE	CONTACT AD- HESIVE & SEAL- ANT OR TAPE
10						10 MIN	10 MIN	10 MIN	10 MIN
MECH. FAST.							MECH. FAST.	MECH. FAST.	MECH. FAST.
CONT. ADHES.							ADHESIVE	ADHESIVE	ADHESIVE
X									
LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	NONE	NONE	NONE	NONE
X	X	X	X	X	X	O	O	O	O
X	X	X	X	X	X	O	O	O	O
O	O	O	O	O	O	O	O	O	O
X	X	X	X	X	X	O	O	O	O
X	X	X	X	X	X	X	X	X	X
X	O	O	O	O	O	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
O	S	S	S	S	S	X	X	X	X
O	S	S	S	S	S	X	X	X	X
O	X	X	X	X	X	X	X	X	X
O	S	S	S	S	S	X	X	X	X
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
0 – 100	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	25 – 160	25 – 160	25 – 160	25 – 160
UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM
CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1994	1982 1982	1982 1982	1982 1982	1982 1982	1982 1982	1979	1993	1979	1993
MILLIONS	MILLIONS	MILLIONS	MILLIONS	THOUSANDS	THOUSANDS	MILLIONS	THOUSANDS	MILLIONS	THOUSANDS
DISTRIBUTORS 8	DISTRS,DIRECT 40	DISTRS,DIRECT 40	DISTRS,DIRECT 40	DISTRS,DIRECT 40	DISTRS,DIRECT 40	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5	DISTRS,DIRECT 5
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SALES	J. DIAS S. HALL	J. DIAS S. HALL	J. DIAS S. HALL	J. DIAS S. HALL	J. DIAS S. HALL	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE	REGIONAL OFFICE
TECH SERVICE 800/443-4272	A. HONSBERGER 419/382-0111	A. HONSBERGER 419/382-0111	A. HONSBERGER 419/382-0111	A. HONSBERGER 419/382-0111	A. HONSBERGER 419/382-0111	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES	GUARANTEE SERVICES

EPDM Part 1: General Information

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.
2. PRODUCT NAME	SP 60 FR BLACK	SPM 60W WHITE	M-H EPDM .045	M-H EPDM .060	M-H REINFORCED .045	M-H REINFORCED .060
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	NONE	YES	YES
B. COLOR(S)	BLACK	WHITE	BLACK	BLACK	BLACK	BLACK
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.39	0.41	0.30	0.40	0.30	0.40
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONT. ADHES. & SEALANT OR SEAM TAPE	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)			10	10	10	10
B. PARTIALLY ADHERED (method)	MECH. FAST.	MECH. FAST.			MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)	ADHESIVE	ADHESIVE	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY			X	X		
8. MINIMUM SLOPE REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	O	O	O	O	O	O
B. MINERAL FIBER	O	O	O	O	O	O
C. POLYSTYRENE	O	O	X O	X O	X O	X O
D. CELLULAR GLASS	O	O	X O	X O	X O	X O
E. PHENOLIC						
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X O	X O	X O	X O	X O	X O
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE	X	X	X	X	X	X
J. GYPSUM	O	O	X O	X O	X O	X O
K. CONCRETE	X O	X O	X O	X O	X O	X O
L. WOOD PLANK	X O	X O	X O	X O	X O	X O
M. PLYWOOD	X O	X O	X O	X O	X O	X O
N. EXISTING BUILTUP MEMBRANE	O	O	O	O	O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	25 – 160	25 – 160	-49 – 180	-49 – 180	-49 – 180	-49 – 180
12. FLASHING MATERIAL	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM	UNCURED OR CURED EPDM
13. FLASHING METHOD	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONT. ADHES. OR FLASHING TAPE	CONT. ADHES. OR FLASHING TAPE	CONT. ADHES. OR FLASHING TAPE	CONT. ADHES. OR FLASHING TAPE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA			1986	1986		
B. WITHIN USA	1983	1983	1963	1963	1986	1986
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	MILLIONS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	5	5	12	12	12	12
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	REGIONAL OFFICE	REGIONAL OFFICE	L. PUNZEL	L. PUNZEL	L. PUNZEL	L. PUNZEL
22. FOR TECHNICAL INFORMATION, CONTACT:	GUARANTEE SERVICES	GUARANTEE SERVICES	608/365-3111	608/365-3111	608/365-3111	608/365-3111
			T. MCFARLAND	T. MCFARLAND	T. MCFARLAND	T. MCFARLAND
			608/365-3111	608/365-3111	608/365-3111	608/365-3111
23. SEE MEMBRANE APPENDIX IF CHECKED						

EPDM Part 1: General Information

MULE-HIDE PRODUCTS CO. INC.	OLYMPIC RUBBER ROOFING SYSTEMS INC.	OLYMPIC RUBBER ROOFING SYSTEMS INC.	OLYMPIC RUBBER ROOFING SYSTEMS INC.	PLY-TECH RUBBER	PLY-TECH RUBBER	PLY-TECH RUBBER	PLY-TECH RUBBER	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.
M-H W/B .060	WATERSHIELD .045 .060	WATERGUARD .060	WATERGUARD MR	EPT (EPDM) TALC FREE 0.045	EPT (EPDM) TALC FREE RE-INFORCED 0.045	EPT (EPDM) TALC FREE 0.060	EPT (EPDM) TALC FREE RE-INFORCED 0.060	PRO SHIELD BLACK	PRO SHIELD BLACK
NONE	NONE	NONE	NONE	NONE	POLYESTER	NONE	POLYESTER	NONE	NONE
WHITE/BLACK	BLACK	BLACK	BLACK	BLACK/WHITE	BLACK/WHITE	BLACK/WHITE	BLACK/WHITE	BLACK	BLACK
0.40	0.26	0.36	0.36	0.27	0.27	0.39	0.39	0.40	0.50
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X		X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
CONTACT ADHESIVE AND SEALANT	CONT. ADHES. AND SEALANT OR SEAM TAPE	CONT. ADHES. AND SEALANT OR SEAM TAPE	CONT. ADHES. AND SEALANT OR SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT
	10 MIN			10 MIN	10 MIN	10 MIN	10 MIN	10	10
MECH. FAST.				MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	PLATE BONDED	PLATE BONDED
CONT. ADHES.		CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. CEMENT	CONT. CEMENT
	X			X	X	X	X	X	X
NONE	DEAD LEVEL	DEAD LEVEL						DEAD LEVEL	DEAD LEVEL
	O	O		X	X	X	X	X O	X O
	O	O		X		X		X O	X O
O	O	O	O					X O	X O
X	O	X O						X O	X O
	X	X O			X O		X O	X O	X O
X	X	X	X	X	X	X	X	X O	X O
O	X O				X		X	X	X
X	X O	X	X	X	X O	X	X O	X	X
X O	X O	X O		X O		X O		X O	X O
X O		O		X O		X O		X O	X O
X O	X O		O	X O		X O		X O	X O
X O	X O		O					X O	X O
X O	X O	X O	O					X O	X O
O	O	X O	X	X O	X O	X O	X O	X O	X O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
-49 - 180	0 - 110	0 - 110	0 - 110					0 - 120	0 - 120
UNCURED OR CURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM
CONTACT ADHESIVE	CONTACT ADHESIVE OR SELF FLASH TAPE	CONTACT ADHESIVE OR SELF FLASH TAPE	CONTACT ADHESIVE OR SELF FLASH TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONT. ADHES. OR CURABLE SEAM TAPE	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA	USA	USA	USA	CANADA	CANADA	CANADA	CANADA	USA	USA
USA	USA	USA	USA	CANADA	CANADA	CANADA	CANADA	USA	USA
1986	1981	1981	1986	1982 1983	1982 1983	1982 1983	1982 1983	1982 1965	1982 1965
MILLIONS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	MILLIONS	MILLIONS
DISTRIBUTORS 12	DISTRs,DIRECT	DISTRs,DIRECT	DISTRs,DIRECT	DISTRs,DIRECT 6	DISTRs,DIRECT 6	DISTRs,DIRECT 6	DISTRs,DIRECT 6	DISTRs,DIRECT 10	DISTRs,DIRECT 10
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
L. PUNZEL 608/365-3111 T. MCFARLAND 608/365-3111	E. GRINWALD 414/442-3117 800/552-5393	E. GRINWALD 414/442-3117 800/552-5393	E. GRINWALD 414/442-3117 800/552-5393	416/749-7070 416/749-7070	416/749-7070 416/749-7070	416/749-7070 416/749-7070	416/749-7070 416/749-7070	SALES MANAGER MURRELL	SALES MANAGER MURRELL

EPDM Part 1: General Information

1. COMPANY NAME	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.
2. PRODUCT NAME	PRO SHIELD BLACK	PRO SHIELD WHITE	PRO SHIELD WHITE	PRO SHIELD WHITE	PRO SHIELD WHITE FIRE RETARDANT	PRO SHIELD WHITE FIRE RETARDANT
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	NONE	NONE	NONE
B. COLOR(S)	BLACK	WHITE	WHITE	WHITE	WH/FIRE RET	WH/FIRE RET
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.60	0.40	0.50	0.60	0.40	0.60
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10	10		
B. PARTIALLY ADHERED (method)	PLATE BONDED	PLATE BONDED	PLATE BONDED	PLATE BONDED	PLATE BONDED	PLATE BONDED
C. FULLY ADHERED (method)	CONT. CEMENT	CONT. CEMENT	CONT. CEMENT	CONT. CEMENT	CONT. CEMENT	CONT. CEMENT
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X					
8. MINIMUM SLOPE REQUIRED	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL		
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X O	X O	X O	X O	X O	X O
B. MINERAL FIBER	X O	X O	X O	X O	X O	X O
C. POLYSTYRENE	X O	X O	X O	X O	X O	X O
D. CELLULAR GLASS	X O	X O	X O	X O	X O	X O
E. PHENOLIC	X O	X O	X O	X O	X O	X O
F. FIBERBOARD	X O	X O	X O	X O	X O	X O
G. PERLITE	X	X	X	X	X	X
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE	X O	X O	X O	X O	X O	X O
J. GYPSUM	X O	X O	X O	X O	X O	X O
K. CONCRETE	X O	X O	X O	X O	X O	X O
L. WOOD PLANK	X O	X O	X O	X O	X O	X O
M. PLYWOOD	X O	X O	X O	X O	X O	X O
N. EXISTING BUILTUP MEMBRANE	X O	X O	X O	X O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 120	0 – 160	0 – 160	0 – 160	0 – 160	0 – 160
12. FLASHING MATERIAL	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM METAL	UNCURED EPDM METAL
13. FLASHING METHOD	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT	CONTACT ADHESIVE AND SEALANT
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1982					
B. WITHIN USA	1965	1965	1965	1965	1982	1982
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	MILLIONS	MILLIONS	MILLIONS	MILLIONS	1,000,000	1,000,000
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	10	10	10	10	10	10
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES MANAGER MURRELL	SALES MANAGER MURRELL	SALES MANAGER MURRELL	SALES MANAGER MURRELL	SALES MANAGER MURRELL	SALES MANAGER MURRELL
22. FOR TECHNICAL INFORMATION, CONTACT:						
23. SEE MEMBRANE APPENDIX IF CHECKED						

EPDM Part 1: General Information

ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	VERSICO INCORPORATED	VERSICO INCORPORATED
RPI EPDM BLACK .045	RPI EPDM BLACK .060	RPI EPDM BLACK .045	RPI EPDM BLACK .060	RPI EPDM WHITE .045	RPI EPDM WHITE .060	RPI EPDM FR BLACK .045	RPI EPDM FR BLACK .060	VERSIGARD EPDM.045	VERSIGARD EPDM.050
NONE	NONE	POLYESTER	POLYESTER	NONE	NONE	NONE	NONE	NONE	NONE
BLACK	BLACK	BLACK	BLACK	WHITE	WHITE	BLACK	BLACK	BLACK	BLACK
0.28	0.38			0.30	0.40	0.30	0.40	0.28	0.31
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE & SEALANT OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE
10	10	10	10	10	10	10	10	10 – 15	10 – 15
BATTEN				BATTEN		BATTEN		BATTENS	BATTENS
CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
X	X	X	X	X	X	X	X	X	X
LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	NONE	NONE
O	O	O	O	O	O	O	O	X	X O
O	O	O	O	O	O	O	O	X	X O
O	O	O	O	O	O	O	O	X	X O
O	O	O	O	O	O	O	O	X	X O
O	O	O	O	O	O	O	O		
X	X	X	X	X	X	X	X	X	X
O	O	O	O	O	O	O	O	X	X
X O	X O	X O	X O	X O	X O	X O	X O	X	X
O	O	O	O	O	O	O	O		
X O	X O	X O	X O	X O	X O	X O	X O	S O	S
X O	X O	X O	X O	X O	X O	X O	X O	S O	O
O	O	O	O	O	O	O	O	S O	O
X O	X O	X O	X O	X O	X O	X O	X O	S O	X
S O	S O	S O	S O	S O	S O	S O	S O	S O	X S
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
40 & ABOVE	40 & ABOVE	40 & ABOVE	40 & ABOVE	40 & ABOVE	40 & ABOVE	40 & ABOVE		-25 – 180	-25 – 180
UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	UNCURED EPDM	EPDM, UNCURED EPDM, METAL	EPDM, UNCURED EPDM, METAL
CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
USA	USA	USA	USA	USA	USA	USA	USA	USA	USA
1965	1965	1965	1965	1965	1965	1965	1965	1982 1965	1986 1986
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	MILLIONS	MILLIONS
DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
75	75	75	75	75	75	75	75	150	150
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	M. MCAULEY 800/992-7663 J. WOHL 800/992-7663	M. MCAULEY 800/992-7663 J. WOHL 800/992-7663
800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957	800/628-2957		
								X	X

EPDM Part 1: General Information

1. COMPANY NAME	VERSICO INCORPO- RATED	VERSICO INCORPO- RATED	VERSICO INCORPO- RATED	VERSICO INCORPO- RATED	VERSICO INCORPO- RATED	VERSICO INCORPO- RATED
2. PRODUCT NAME	VERSIGARD EPDM.060	VERSIGARD PE ROOFING SYS- TEM EPDM .050	VERSIGARD II FR EPDM.060	VERSIGARD REINFORCED EPDM.045	VERSIGARD II FR REINFORCED	VERSIGARD-1 WHITE
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	NONE	NONE	NONE	YES	YES	NONE
B. COLOR(S)	BLACK	BLACK	BLACK	BLACK	BLACK	WHITE ON BLK
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.38	0.31	0.40	0.30	0.30	0.40
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X		X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	CONTACT ADHESIVE OR TAPE		CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE	CONTACT ADHE- SIVE AND SEAL- OR TAPE	CONTACT ADHE- SIVE AND SEAL- OR TAPE
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10 – 15		10 – 15	10 – 15	10 – 15	
B. PARTIALLY ADHERED (method)	BATTENS	METAL RAIL ASSY.		MECH. FAST.	MECH. FAST.	
C. FULLY ADHERED (method)	CONT. ADHES.		CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X		X			
8. MINIMUM SLOPE REQUIRED	NONE	1/2" IN 12"	NONE	NONE	NONE	1/8"
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	O		O	X O	X O	X O
B. MINERAL FIBER	O		O	X O	X O	X O
C. POLYSTYRENE	O	O	O		O	O
D. CELLULAR GLASS	X		X	X O	X O	X
E. PHENOLIC	O					
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	O		O	X	X O	O
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE						
J. GYPSUM	O		O	S O	S O	O
K. CONCRETE	X O		X O	X O	X O	X O
L. WOOD PLANK	O		O	O	O	O
M. PLYWOOD	O		X O	X O	X O	X O
N. EXISTING BUILTUP MEMBRANE			O	X S	X S	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	-25 – 180	-25 – 180	-25 – 180	-25 – 180	-25 – 180	-25 – 180
12. FLASHING MATERIAL	EPDM, UNCURED EPDM, METAL	GALVALUME	EPDM, UNCURED EPDM, METAL	EPDM, UNCURED EPDM, METAL	EPDM, UNCURED EPDM, METAL	EPDM, UNCURED EPDM, METAL
13. FLASHING METHOD	CONTACT ADHESIVE OR TAPE	METAL RAIL ASSEMBLY OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE OR TAPE	CONTACT ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA	1982					1977
B. WITHIN USA	1965	1986	1983	1986	1986	1977
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	MILLIONS	THOUSANDS	THOUSANDS	MILLIONS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	150	150	150	150	150	150
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	M. MCAULEY 800/992-7663	M. MCAULEY 800/992-7663	M. MCAULEY 800/992-7663	M. MCAULEY 800/992-7663	M. MCAULEY 800/992-7663	M. MCAULEY 800/992-7663
22. FOR TECHNICAL INFORMATION, CONTACT:	J. WOHL 800/992-7663	J. WOHL 800/992-7663	J. WOHL 800/992-7663	J. WOHL 800/992-7663	J. WOHL 800/992-7663	J. WOHL 800/992-7663
23. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X	X

THIS PAGE INTENTIONALLY LEFT BLANK

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

1. COMPANY NAME		CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED
2. PRODUCT NAME		SURE-SEAL EPDM	SURE-SEAL FR EPDM	SURE-SEAL FR- PLUS EPDM	SURE-SEAL HTM EPDM	BRITE-PLY	SURE-SEAL REINFORCED EPDM
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		U	U	U	U	U	SR
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.045	0.060	0.060	0.045	0.06	0.045
COATING OVER SCRIM CLASS SR	0.015	NA	NA	NA	NA	NA	0.015
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	NA	NA	NA	NA	NA	180
7. TENSILE STRENGTH (min. psi) CLASS U	1305	1630	1630	1830	2000	1685	NA
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	520	520	580	500	550	NA
CLASS SR	250	NA	NA	NA	NA	NA	500
9. TENSILE SET (max. %) CLASS U	10	5	5	5	5	7	NA
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	230	230	230	200	200	NA
11. TEARING STRENGTH (min. lbf) CLASS SR	5	NA	NA	NA	NA	NA	30
12. BRITTLINESS POINT (max. F)	-49	-85	-85	-85	-85	-75	-75
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS	PASS	PASS	PASS	PASS
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	NA	NA	NA	NA	NA	175
TENSILE STRENGTH (min. psi) CLASS U	1205	1500	1500	1860	2100	1550	NA
ELONGATION, ULTIMATE (min. %)	200	310	310	250	250	250	250
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	215	215	240	215	185	NA
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	-0.4	-0.4	-0.6	-0.4	-0.5	-0.7
15. WATER ABSORPTION (max. mass %)	+8, -2	+2.0	+2.0	+2.0	+2.0	+3.6	+2.0
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥ 1 or sheet failure	X	X	X	X	X	X
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS	PASS	PASS	PASS	PASS
18. SEE MEMBRANE APPENDIX IF CHECKED							

1. COMPANY NAME		CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CELOTEX CORP.	CELOTEX CORP.
2. PRODUCT NAME		SURE-SEAL FR REINFORCED EPDM	SUPER-SEAL REINFORCED EXTRA EPDM	SURE-SEAL FLEECEBACK EPDM	BRITE-PLY FLEECEBACK EPDM	CELOTEX .045	CELOTEX .060
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		SR	SR	FR	FR	U	U
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.045	0.066	0.100, 0.115	0.100, 0.115		
COATING OVER SCRIM CLASS SR	0.015	0.015	0.020	0.045	0.045		
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	180	230	200	200	NA	NA
7. TENSILE STRENGTH (min. psi) CLASS U	1305	NA	NA	NA	NA	1500	1500
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	NA	NA	NA	NA	350	350
CLASS SR	250	500	500	500	500	NA	NA
9. TENSILE SET (max. %) CLASS U	10	NA	NA	NA	NA	10	10
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	NA	NA	NA	NA	175	175
11. TEARING STRENGTH (min. lbf) CLASS SR	5	30	60	45	45	NA	NA
12. BRITTLINESS POINT (max. F)	-49	-75	-75	-75	-75	-75	-75
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS	PASS	PASS	PASS	PASS
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	175	220	200	200	NA	NA
TENSILE STRENGTH (min. psi) CLASS U	1205	NA	NA	NA	NA	1450	1450
ELONGATION, ULTIMATE (min. %)	200	250	250	310	250	225	225
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	NA	NA	NA	NA	150	150
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	-0.7	-0.7	-0.7	-0.7	-0.3	-0.3
15. WATER ABSORPTION (max. mass %)	+8, -2	+2.0	+2.0	+2.0	+3.6	±1.0	±1.0
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥ 1 or sheet failure	X	X	X	X	NA	NA
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS	PASS	PASS	NA	NA
18. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS
CELO I .060	CELO I .045 REINFORCED	CELO I .045 REINFORCED	CELO I .060 REINFORCED	CELO I .060 FR	ER SYSTEMS RUBBER ROOF .060 BLACK	ER SYSTEMS RUBBER ROOF .045 BLACK	ER SYSTEMS RUBBER ROOF .060 BLACK FR	ER SYSTEMS RUBBER ROOF .045 BLACK FR	ER SYSTEMS POLY-BOND .045 BLACK
					1	1	1	1	1
U	SR	SR	SR	U	U	U	U	U	SR
					0.055	0.040	0.055	0.040	0.045
					NA	NA	NA	NA	NA
NA	100	100	100	NA	NA	NA	NA	NA	60
1500	NA	NA	NA	1500	1305	1305	1305	1305	1305
350	NA	NA	NA	350	300	300	300	300	NA
NA	400	400	400	NA	NA	NA	NA	NA	400
10	NA	NA	NA	10	10	10	10	10	NA
175	NA	NA	NA	175	150	150	150	150	NA
NA	35	35	35	NA	NA	NA	NA	NA	200
–75	–75	–75	–75	–75	–49	–49	–49	–49	–75
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NA	90	90	90	NA	NA	NA	NA	NA	45
1450	NA	NA	NA	1450	1205	1205	1205	1205	NA
225	250	250	250	225	200	200	200	200	250
150	NA	NA	NA	150	125	125	125	125	NA
–0.3	–0.3	–0.3	–0.3	–0.3	±2	±2	±2	±2	+1.0
±1.0	±1.0	±1.0	±1.0	±1.0	+8, –2	+8, –2	+8, –2	+8, –2	+1.0
NA	55	55	55	NA	X	X	X	X	50
NA	NA	NA	NA	NA	PASS	PASS	PASS	PASS	PASS

ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.
ER SYSTEMS REINFORCED-90 .045 BLACK	ER SYSTEMS POLY-BOND .060 BLACK	ER SYSTEMS REINFORCED-90 .060 BLACK	RUBBERGARD .045	RUBBERGARD .060	RUBBERGARD .045 FR	RUBBERGARD .060 FR	RUBBERGARD .090	RUBBERGARD .045 REINFORCED	RUBBERGARD .060 REINFORCED
1	1	1	1	1	1	1	1	1	1
SR	SR	SR	U	U	U	U	U	SR	SR
0.045	0.060	0.060	0.045	0.060	0.045	0.060	0.090	0.045	0.060
0.015	NA	NA	NA	NA	NA	NA	NA	0.015	0.015
100			NA	NA	NA	NA	NA	90	90
NA	NA	NA	1305	1305	1305	1305	1305	NA	NA
NA	NA	NA	300	300	300	300	300	NA	NA
400	400	400	NA	NA	NA	NA	NA	250	250
NA	NA	NA	10	10	10	10	10	NA	NA
NA	NA	NA	150	150	150	150	150	NA	NA
200	200	200	NA	NA	NA	NA	NA	10	5
–75	–75	–75	–49	–49	–49	–49	–49	–49	–49
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
90	45	90	NA	NA	NA	NA	NA	80	80
NA	NA	NA	1205	1205	1205	1205	1205	NA	NA
250	250	250	200	200	200	200	200	200	200
NA	NA	NA	125	125	125	125	125	NA	NA
+1.0	+1.0	+1.0	±1	±1	±1	±1	±1	±1	±1
+1.0	+1.0	+1.0	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2
50	50	50	X	X	X	X	X	X	X
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

1. COMPANY NAME		FIRESTONE BUILDING PRODUCTS CO.	FIRESTONE BUILDING PRODUCTS CO.	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS	GENFLEX ROOFING SYSTEMS
2. PRODUCT NAME		RUBBERGARD .045 LSFR	RUBBERGARD .060 LSFR	GENFLEX .045 BLACK	GENFLEX .060 BLACK	GENFLEX FRM .045 BLACK	GENFLEX FRM .060 BLACK
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		U	U	U	U	SR	SR
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.045	0.045	0.043	0.058	0.043	0.058
COATING OVER SCRIM CLASS SR	0.015	NA	NA	NA	NA	0.015	0.015
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	NA	NA	NA	NA	90	90
7. TENSILE STRENGTH (min. psi) CLASS U	1305	1305	1305	1305	1500	NA	NA
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	300	300	300	450	NA	NA
CLASS SR	250	NA	NA	NA	NA	300	300
9. TENSILE SET (max. %) CLASS U	10	10	10	10	10	NA	NA
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	150	150	150	150	NA	NA
11. TEARING STRENGTH (min. lbf) CLASS SR	5	NA	NA	NA	NA	50	50
12. BRITTLINESS POINT (max. F)	–49	–49	–49	–49	–49	–49	–49
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS	PASS	PASS	PASS	PASS
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	NA	NA	NA	NA	80	80
TENSILE STRENGTH (min. psi) CLASS U	1205	1205	1205	1500	1500	NA	NA
ELONGATION, ULTIMATE (min. %)	200	200	200	225	225	200	200
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	125	125	230	230	NA	NA
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	± 1	± 1	+1.0	+1.0	+1.0	+1.0
15. WATER ABSORPTION (max. mass %)	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥1 or sheet failure	X	X	X	X	X	X
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS	PASS	PASS	PASS	PASS
18. SEE MEMBRANE APPENDIX IF CHECKED							

1. COMPANY NAME		GENFLEX ROOFING SYSTEMS	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.	INTERNATIONAL DIAMOND SYSTEMS, INC.
2. PRODUCT NAME		GENFLEX AFR .060 BLACK	INTERNATIONAL BLACK EPDM .045	INTERNATIONAL BLACK .060	INTERNATIONAL FIRE RETAR- DANT .060	INTERNATIONAL REINFORCED .045	INTERNATIONAL REINFORCED .060
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		U	U	U	U		
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.043	0.045	0.060	0.060		
COATING OVER SCRIM CLASS SR	0.015	NA	NA	NA	NA		
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	NA	NA	NA	NA		
7. TENSILE STRENGTH (min. psi) CLASS U	1305	1305	1305	1305	1305		
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	300	300	300	300		
CLASS SR	250	NA	NA	NA	NA		
9. TENSILE SET (max. %) CLASS U	10	10	5	5	5		
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	150	150	150	150		
11. TEARING STRENGTH (min. lbf) CLASS SR	5	NA	NA	NA	NA		
12. BRITTLINESS POINT (max. F)	–49	–49	–49	–49	–49		
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS	PASS	PASS		
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	NA	NA	NA	NA		
TENSILE STRENGTH (min. psi) CLASS U	1205	1500	1305	1305	1305		
ELONGATION, ULTIMATE (min. %)	200	225	300	300	300		
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	230	150	150	150		
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	+1.0	+2	+2	+2		
15. WATER ABSORPTION (max. mass %)	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2		
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥1 or sheet failure	X	30	30	30		
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS	PASS	PASS		
18. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.	MULE-HIDE PRODUCTS CO. INC.
SPM 45 BLACK	SPM 45R BLACK	SPM 60 BLACK	SPM 60R BLACK	SP 60 FR BLACK	SPM 60W WHITE	M-H EPDM .045	M-H EPDM .060	M-H REINFORCED EPDM .045	M-H REINFORCED EPDM .060
1	1	1	1	1	1	1	1	1	1
U	SR	U	SR	U	U	U	U	SR	SR
0.043	0.040	0.058	0.058	0.058	0.058	0.045	0.060	0.045	0.060
NA	0.015	NA	0.025	NA	NA	NA	NA	NA	NA
NA	90	NA	90	NA	NA	NA	NA	210	210
1650	NA	1485	NA	1470	1440	1405+	1405+	NA	NA
450	NA	470	NA	425	635	350+	350+	NA	NA
NA	250	NA	250	NA	NA	NA	NA	250+	250+
4	NA	4	NA	3	2	10	10	NA	NA
200	NA	192	NA	201	211	175	175	NA	NA
NA	10	NA	10	NA	NA	NA	NA	50	50
-72	-49	-72	-49	-64	-80	-75	-75	-75	-75
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NA	80	NA	80	NA	NA	NA	NA	220	220
1650	NA	1750	NA	1510	1480	1205+	1205+	NA	NA
320	200	285	200	300	390	250	250	250	250
182	NA	182	NA	171	143	150	150	NA	NA
-0.50	± 2	-0.50	± 2	-0.60	-1.50	± 2	± 2	± 2	± 2
+1.7	+4.0	+1.7	+4.0	+2.8	+7.4	+2	+2	+3.6	+3.6
X	X	X	X	X	X	X	X	X	X
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

MULE-HIDE PRODUCTS CO. INC.	OLYMPIC RUBBER ROOFING SYSTEM	OLYMPIC RUBBER ROOFING SYSTEM	OLYMPIC RUBBER ROOFING SYSTEM	PLY-TECH RUBBER	PLY-TECH RUBBER	PLY-TECH RUBBER	PLY-TECH RUBBER	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.
M-H W/B EPDM .060	WATERSHIELD .045 .060	WATERGUARD .060	WATERGUARD MR	EPT (EPDM) TALC FREE 0.045	EPT (EPDM) TALC FREE RE- INFORCED 0.045	EPT (EPDM) TALC FREE 0.060	EPT (EPDM) TALC FREE RE- INFORCED 0.060	PRO SHIELD BLACK	PRO SHIELD BLACK
1	1	1	1	1	1	1	1	1	1
U	U	U	U	U	SR	U	SR	U	U
0.060	0.045	0.060	0.060	0.045	0.045	0.060	0.060	0.040	0.050
NA	NA	NA	NA	0.020	0.020	0.020	0.020	NA	NA
NA	NA	NA	NA		90		90	NA	NA
1405+	1305	1305	1305	1500	NA	1500	NA	1400	1400
350+	300	300	300	300		300	NA	300	300
NA	NA	NA	NA	NA	250	NA	250	NA	NA
10	<5	<5	<5	10	NA	10	NA	10	10
175	150	150	150	200	NA	200	NA	200	200
NA	NA	NA	NA	NA	25	NA	25	NA	NA
-75				-50	-50	-50	-50	-70	-70
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NA	NA	NA	NA	NA	80	NA	80	NA	NA
1205+	1205	1205	1205	1205	NA	1205	NA	1205	1205
250	200	200	200	200	200	200	200	200	200
150	125	125	125	125	NA	125	NA	125	125
± 2	± 2	± 2	± 2	±2	±2	±2	±2	+2	+2
+2	+8	-2	-2	+8, -2	+8, -2	+8, -2	+8, -2	+8, -2	+8, -2
X	X	X	X	X		X		X	X
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

1. COMPANY NAME		PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.	PROTECTIVE COATINGS, INC.
2. PRODUCT NAME		PRO SHIELD BLACK	PRO SHIELD WHITE	PRO SHIELD WHITE	PRO SHIELD WHITE	PRO SHIELD WHITE FIRE RETARDANT	PRO SHIELD WHITE FIRE RETARDANT
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		U	U	U	U	U	U
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.060	0.040	0.050	0.060	0.040	0.060
COATING OVER SCRIM CLASS SR	0.015	NA	NA	NA	NA	NA	NA
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	NA	NA	NA	NA	NA	NA
7. TENSILE STRENGTH (min. psi) CLASS U	1305	1400	1400	1400	1400	1400	1400
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	300	300	300	300	300	300
CLASS SR	250	NA	NA	NA	NA	NA	NA
9. TENSILE SET (max. %) CLASS U	10	10	10	10	10	10	10
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	200	200	200	200	200	200
11. TEARING STRENGTH (min. lbf) CLASS SR	5	NA	NA	NA	NA	NA	NA
12. BRITTLINESS POINT (max. F)	–49	–70	–70	–70	–70	–70	–70
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS	PASS	PASS	PASS	PASS
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	NA	NA	NA	NA	NA	NA
TENSILE STRENGTH (min. psi) CLASS U	1205	1205	1205	1205	1205	1205	1205
ELONGATION, ULTIMATE (min. %)	200	200	200	200	200	200	200
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	125	125	125	125	125	125
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	+–2	+–2	+–2	+–2	+–2	+–2
15. WATER ABSORPTION (max. mass %)	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2	+8, –2
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥1 or sheet failure	X	X	X	X	X	X
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS	PASS	PASS	PASS	PASS
18. SEE MEMBRANE APPENDIX IF CHECKED							

1. COMPANY NAME		ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.
2. PRODUCT NAME		RPI EPDM BLACK .045	RPI EPDM BLACK .060	RPI EPDM BLACK .045	RPI EPDM BLACK .060	RPI EPDM WHITE .045	RPI EPDM WHITE .060
3. GRADE 1 (greater than 95% principal polymer) or GRADE 2 (50% to 95% principal polymer)		1	1	1	1	1	1
4. CLASS U (unreinforced) or CLASS SR (scrim or fabric internally reinforced)		U	U	R	R	U	U
5. THICKNESS (min. in.)							
SHEET OVERALL	0.039	0.040	0.054			0.040	0.054
COATING OVER SCRIM CLASS SR	0.015	NA	NA			NA	NA
6. BREAKING STRENGTH (min. lbf) CLASS SR	90	NA	NA			NA	NA
7. TENSILE STRENGTH (min. psi) CLASS U	1305	1305	1305			1305	1305
8. ELONGATION, ULTIMATE (min. %)							
CLASS U	300	300	300			300	300
CLASS SR	250	NA	NA			NA	NA
9. TENSILE SET (max. %) CLASS U	10						
10. TEAR RESISTANCE (min. lbf/in.) CLASS U	150	150	150			125	125
11. TEARING STRENGTH (min. lbf) CLASS SR	5	NA	NA			NA	NA
12. BRITTLINESS POINT (max. F)	–49	–49	–49			–49	–49
13. OZONE RESISTANCE (pass/fail)	no cracks	PASS	PASS			PASS	PASS
14. HEAT AGING							
BREAKING STRENGTH (min. lbf) CLASS SR	80	NA	NA			NA	NA
TENSILE STRENGTH (min. psi) CLASS U	1205	1205	1205			1205	1205
ELONGATION, ULTIMATE (min. %)	200	200	200			200	200
TEAR RESISTANCE (min. lbf/in.) CLASS U	125	125	125			125	125
LINEAR DIMENSIONAL CHANGE (max. %)	± 2	–2	–2			–2	–2
15. WATER ABSORPTION (max. mass %)	+8, –2	0.05	0.05			0.05	0.05
16. FACTORY SEAM STRENGTH (min. lbf/in.)	≥1 or sheet failure	X	X			X	X
17. WEATHER RESISTANCE (pass/fail)	no cracks or crazing	PASS	PASS			PASS	PASS
18. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

EPDM Part 2: Test Results

Test description and suggested values as specified in ASTM D 4637–96

ROOFING PRODUCTS INTERNATIONAL INC.	ROOFING PRODUCTS INTERNATIONAL INC.	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED	VERSICO INCORPORATED
RPI EPDM FR BLACK 0.045	RPI EPDM FR BLACK 0.060	VERSIGARD EPDM .045	VERSIGARD EPDM .050	VERSIGARD EPDM .060	VERSIGARD PE ROOFING SYSTEM EPDM .050	VERSIGARD II FR EPDM .060	VERSIGARD REINFORCED EPDM .045	VERSIGARD II FR REINFORCED EPDM .045	VERSIGARD WHITE/BLACK 0.060
1	1	1	1	1	1	1	1	1	1
U	U	U	U	U	U	U	SR	SR	U
0.040	0.054	0.040	0.045	0.054	0.045	0.054	0.045	0.045	0.054
NA	NA	NA	NA	NA	NA	NA	0.015	0.015	NA
NA	NA	NA	NA	NA	NA	NA	210	210	NA
1305	1305	1305	1305	1305	1305	1780	NA	NA	1305
300	300	300	300	300	300	495	NA	NA	300
NA	NA	NA	NA	NA	NA	NA	290	290	NA
10	10	10	10	10	10	0.10	NA	NA	10
150	150	150	150	150	150	215	NA	NA	150
NA	NA	NA	NA	NA	NA	NA	50	50	NA
–49	–49	–75	–75	–75	–75	–85	–75	–75	–75
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
NA	NA	NA	NA	NA	NA	NA	220	220	NA
1205	1205	1205	1205	1205	1205	1205	NA	NA	1200
200	200	200	200	200	200	200	200	200	200
125	125	125	125	125	125	125	NA	NA	125
–2	–2	± 2	± 2	± 2	± 2	± 2	–0.7	–0.7	± 2
0.05	0.05	+8, -2	+8, -2	+8, -2	+8, -2	+8, -2	+4.0	+4.0	+4
X	X	X	X	X	X	X	X	X	X
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
X	X	X	X	X	X	X	X	X	X

VERSICO INCORPORATED
VERSIGARD WHT REINFORCED EPDM .045
1
SR
0.041
0.015
90
NA
NA
250
NA
NA
10
–49
PASS
80
NA
200
NA
± 2
+4.0
X
PASS

CSPE (Hypalon) Part 1: General Information

1. COMPANY NAME	BURKE INDUSTRIES	BURKE INDUSTRIES	BURKE INDUSTRIES	CONKLIN CO. INC.	WP HICKMAN SYSTEMS, INC.	MULE-HIDE PRODUCTS CO, INC.	PLY-TECH RUBBER
2. PRODUCT NAME	BURKELINE M-358 MF	BURKELINE M-358 FA	BURKELINE M-350 VAC Q	HY-CROWN 45 MILS	HK 3000	M-H HYPALON 0.045	CSM(CSPE)
3. PRODUCT DESCRIPTION							
A. REINFORCEMENT	POLYESTER	POLYESTER	POLYESTER	POLYESTER	10 X 10 WOVEN POLYESTER	10 X 10 POLYESTER	POLYESTER
B. COLOR	VARIOUS	VARIOUS	VARIOUS	VARIOUS	WHITE/BLACK	WHITE	ALL COLORS
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.32	0.32	0.32	0.32		0.29 MIN	0.29
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:							
A. NEW ROOFING	X	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	SOLVENT, HEAT, OR WELD SOLUTION	SOLVENT, HEAT, OR WELD SOLUTION	SOLVENT, HEAT, OR WELD SOLUTION	WELD SOLUTION OR HEAT WELD	CONTACT ADHESIVE	HEAT WELD	HEAT WELD OR CURABLE SEAM TAPE
7. TYPES OF ROOF SYSTEMS							
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10	10	10	10	10
B. PARTIALLY ADHERED (method)	MECH. FAST.		LOOSE LAID	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)		CONT. ADHES.		CONT. ADHES.	COLD/HOT ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X		X
8. MINIMUM SLOPE REQUIRED	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	POS DRAIN	1/8"	NONE	
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some/all circumstances)							
A. GLASS FIBER	X	X	X	X	X		X O
B. MINERAL FIBER	X	O	X	X		X	X
C. POLYSTYRENE	S	O	S	S	O	X S O	X O
D. CELLULAR GLASS	X	X	X	X	O	X	X O
E. PHENOLIC	X	X	X	X			X O
F. FIBERBOARD	X	X	X	X	X	X	X
G. PERLITE	X	O	X	X	X	X	X O
H. POLYISOCYANURATE	X	X	X	X	X	X	X O
I. POLYURETHANE	X	X	X	X	X	X	X
J. GYPSUM	X	X	X	X	O	X	X
K. CONCRETE	O	X	X	O	X	X	X
L. WOOD PLANK	S	X	X	X	O	X	X
M. PLYWOOD	S	X	X	X	O	X	X
N. EXISTING BUILT-UP MEMBRANE	O	O	X	O	O	O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	-40 - 140	-40 - 140	-40 - 140	-25 - 140	50 - 120	-25 - 140	
12. FLASHING MATERIAL	REINFORCED & UNREINFORCED CLAD METAL	REINFORCED & UNREINFORCED CLAD METAL	REINFORCED & UNREINFORCED CLAD METAL	REINFORCED & UNREINFORCED CLAD METAL	SAME MATERIAL	REINFORCED & UNREINFORCED HYPALON	REINFORCED & UNREINFORCED CSM (CSPE)
13. FLASHING METHOD	CONT. ADHES. AND SOLUTION OR HEAT WELD	CONT. ADHES. AND SOLUTION OR HEAT WELD	CONT. ADHES. AND SOLUTION OR HEAT WELD	CONT. ADHES. AND SOLUTION OR HEAT WELD	CONTACT ADHESIVE	CONTACT ADHESIVE AND HEAT WELD	HEAT WELD, CONT. ADHES., CUR. SEAM TAPE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:							
A. ORIGIN	USA	USA	USA	USA	USA	USA	CANADA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA	CANADA
16. YEAR OF FIRST COMMERCIAL USE							
A. OUTSIDE USA	1982	1982	1986				1983
B. WITHIN USA	1976	1976	1986	1985	1985	1978	1983
17. NUMBER OF SQUARES INSTALLED (100 ft ²)							
A. OUTSIDE USA							THOUSANDS
B. WITHIN USA	MILLIONS	MILLIONS	>100,000	>2,000,000	THOUSANDS	MILLIONS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DISTRS,DIRECT	DISTRS,DIRECT	DISTRIBUTORS	DIRECT	DISTRIBUTORS	DISTRS,DIRECT
19. NUMBER OF REGIONAL LOCATIONS	54	54	54	5	5	12	6
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	B. ROADES	B. ROADES	B. ROADES	BLDG. PRODS. 800/888-8838	C. FITZGERALD	L. PUNZEL 608/365-3111	416/749-7070
22. FOR TECHNICAL INFORMATION, CONTACT:	B. ROADES 800/669-7010	B. ROADES 800/669-7010	B. ROADES 800/669-7010	PROD. SERVS. 800/888-8838	R. GALLION K. BRZOZOWSKI	T. MCFARLAND 608/365-3111	416/749-7070
23. SEE MEMBRANE APPENDIX IF CHECKED							

CSPE (Hypalon) Part 1: General Information

STEVENS ROOFING SYSTEMS	STEVENS ROOFING SYSTEMS	TREMCO INC.	UNIROOF CORPORATION	UNIROOF CORPORATION
STEVENS HYPALON .045	STEVENS HYPALON .060	TREMCO HP 4510	UNIROOF REINFORCED	UNIROOF BACKED
10 X 10 POLYESTER	10 X 10 POLYESTER	10 X 10 WOVEN POLYESTER	POLYESTER	NONE
WHITE	WHITE	WHITE/BLACK	ALL COLORS	ALL COLORS
0.29 MIN	0.43 MIN		0.25	0.25
NONE	NONE	NONE	NONE	NONE
X	X	X	X	X
X	X	X	X	X
HEAT WELD	HEAT WELD	CONTACT ADHESIVE OR HEAT WELD	HEAT WELD	HEAT WELD
10	10	10	10	
MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.	
CONT. ADHES.	CONT. ADHES.	CONT. ADHES.		LATEX ADHES.
X	X	X	X	X
NONE	NONE	1/4"	DEAD LEVEL	DEAD LEVEL
X	X	X	X	X
X	X		X	X
X O	X O	O	X	X
X O	X O	O	X O	X O
X O	X O			
X O	X O	X	O	O
X O	X O	O		
X	X	X	X	X
X	X	X	X	X
X	X	O	O	O
X	X	O	X	X
X	X	O	O	O
X	X	O	X	X
X O	X O	O	X O	X O
NONE	NONE	NONE	NONE	NONE
-25 - 140	-25 - 140		0 - 120	10 - 120
REINFORCED & UNREINFORCED HYPALON	REINFORCED & UNREINFORCED HYPALON	REINFORCED HYPALON	REINFORCED AND NONREIN- FORCED	BACKED UNIROOF
CONTACT ADHESIVE AND HEAT WELD	CONTACT ADHESIVE AND HEAT WELD	CONTACT ADHESIVE AND HEAT WELD	CONT.ADHES. SOLUTION AND HEAT WELD	CONT.ADHES. SOLUTION AND HEAT WELD
YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	UK UK
1977 1978	1977 1978	1981		1969 1976
MILLIONS MILLIONS	THOUSANDS			THOUSANDS THOUSANDS
DISTRIBUTORS	DISTRIBUTORS	DIRECT	DIRECT	DIRECT
108	108	18	8	8
YES	YES	YES	YES	YES
B. ABBOTT J. PEAK	B. ABBOTT J. PEAK	SALES OFFICE	D. KONSTAN 407/869-5110	D. KONSTAN 407/869-5110
TECH. DEPT. 800/621-ROOF	TECH. DEPT. 800/621-ROOF	TECH. DEPT.	D. KONSTAN 407/869-5110	D. KONSTAN 407/869-5110

CSPE (Hypalon) Part 2: Test Results

Test description and suggested values as specified in ASTM D 5019–96

1. COMPANY NAME	BURKE INDUSTRIES	BURKE INDUSTRIES	BURKE INDUSTRIES	CONKLIN CO. INC	WP HICKMAN SYSTEMS INC	MULE-HIDE PRODUCTS CO INC
2. PRODUCT NAME	BURKELINE M-358 MF	BURKELINE M-358 FA	BURKELINE M-358 VAC Q	HY-CROWN 45 MILS	HK 3000	M-H HYPALON 0.045
3. SHEET CONSTRUCTION						
GRADE 1 (backed with fibers)						
GRADE 2 (internally reinforced with fabric)	2	2	2	2	2	2

PHYSICAL PROPERTIES OF SHEET

4. THICKNESS (min. in.)	0.036	0.045	0.045	0.045	0.045	0.045
5. BREAKING STRENGTH (min. lbf)						
GRADE 1	50	NA	NA	NA	NA	NA
GRADE 2 (fabric)	125	225	225	225	225	225
6. ELONGATION (min. %)						
GRADE 1	250	NA	NA	NA	NA	NA
GRADE 2 (fabric)	15	81	81	81	81	15
7. TEARING STRENGTH (min. lbf)						
GRADE 1	10	NA	NA	NA	NA	NA
GRADE 2 (fabric)	25	90	90	90	90	90
8. LOW-TEMPERATURE BEND	pass	PASS	PASS	PASS	PASS	PASS
9. LINEAR DIMENSIONAL CHANGE (max. %)						
GRADE 1	1.0	NA	NA	NA	NA	NA
GRADE 2 (fabric)	2.0	1.0	1.0	1.0	1.0	2.0
10. FABRIC ADHESION (min. lbf/in. width)						
GRADE 1	A*	NA	NA	NA	NA	NA
11. PLY ADHESION (min. lbf/in.)						
GRADE 2	6	10	10	10	10	10
12. HYDROSTATIC RESISTANCE (min. psi)						
GRADE 1	15	NA	NA	NA	NA	NA
GRADE 2	160	300	300	300	300	300
13. OZONE RESISTANCE OF SHEET (no cracks)	pass	PASS	PASS	PASS	PASS	PASS
14. WEATHER RESISTANCE (no cracks or crazing)	pass	PASS	PASS	PASS	PASS	PASS

PHYSICAL PROPERTIES OF THE COATING PORTION OF THE WEATHER SIDE OF SHEET

13. TENSILE STRENGTH (min. psi)	700	1000	1000	1000	1000	1000
14. ELONGATION (min. %)	300	400	400	400	400	300
15. TEAR RESISTANCE (min. lbf/in.)	150	320	320	320	320	150
16. OZONE RESISTANCE (no cracks)	pass	PASS	PASS	PASS	PASS	PASS
17. WATER ABSORPTION (max. mass %)	10	8	8	8	8	10
18. SEE MEMBRANE APPENDIX IF CHECKED						

NA=not applicable

A=internal delamination of backing occurs prior to failure to bond between backing and coating

CSPE (Hypalon) Part 2: Test Results

PLY-TECH RUBBER	STEVENS ROOFING SYSTEMS	STEVENS ROOFING SYSTEMS	TREMCO INC	UNIROOF CORPORATION	UNIROOF CORPORATION
CSM (CSPE)	STEVENS HYPALON .045	STEVENS HYPALON .060	TREMCO HP 4510	UNIROOF REINFORCED	UNIROOF BACKED
2	2	2	2		

0.036	0.0405	.054			
NA	NA	NA			
220	280	280			
NA	NA	NA			
30	15	15			
NA	NA	NA			
90	110	110			
PASS	PASS	PASS			
NA	NA	NA			
2.0	.1	.1			
NA	NA	NA			
6	10	10			
NA	NA	NA			
300	400	400			
PASS	PASS	PASS			
PASS	PASS	PASS			

1500	1000	1000			
300	300	300			
150	150	150			
PASS	PASS	PASS			
10	10	10			

PIB (Polyisobutylene) Part 1: General Information

1. COMPANY NAME	PLY-TECH RUBBER	REPUBLIC POWDERED METALS	TREMCO INC.
2. PRODUCT NAME	TRENT-GARD	REPUBLIC SINGLE PLY SYSTEMS: GEOFLEX	TREMFAST
3. PRODUCT DESCRIPTION			
A. REINFORCEMENT	POLYESTER	POLYESTER	POLYESTER
B. COLOR(S)	WHITE	WHITE	WHITE
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.60	0.57	
4. COATING REQUIRED	NONE	NONE	NONE
5. USE IN:			
A. NEW ROOFING	X	X	X
B. REROOFING	X	X	X
6. FIELD LAP JOINT METHOD	PIB ADHESIVE	PEEL AND STICK	SELF ADHESIVE
7. TYPES OF ROOF SYSTEMS			
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	
B. PARTIALLY ADHERED (method)	ASPHALT	ASPH OR ADHES	HOT OR COLD
C. FULLY ADHERED (method)	ADHESIVE	ADHESIVE	COLD ADHS.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X
8. MINIMUM SLOPE REQUIRED	1" PER 10'	POS DRAIN	POS DRAIN
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)			
A. GLASS FIBER	X	X	X
B. MINERAL FIBER	X	X	X
C. POLYSTYRENE	O	O	
D. CELLULAR GLASS	X	X	X
E. PHENOLIC	X	X	
F. FIBERBOARD	X	X	X
G. PERLITE	X	X	O
H. POLYISOCYANURATE	X O	X O	X
I. POLYURETHANE	O	O	X
J. GYPSUM	X O	X O	O
K. CONCRETE	X O	X O	O
L. WOOD PLANK	X O	X O	O
M. PLYWOOD	X O	X O	O
N. EXISTING BUILT-UP MEMBRANE	X O	X O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	20 – 100	40 – 100	20 – 100
12. FLASHING MATERIAL	PIB BUTYLTAPE	REINFORCED AND UNREIN- FORCED PIB	REINFORCED AND UNREIN- FORCED PIB
13. FLASHING METHOD	PIB ADHESIVE	SELF-SEAL AND CONTACT ADHESIVE	SELF ADHESIVE AND ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES
15. COUNTRY OF:			
A. ORIGIN	GERMANY	GERMANY	GERMANY
B. MANUFACTURE	USA-CANADA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE			
A. OUTSIDE USA	1935	1950	1950
B. WITHIN USA	1980	1977	
17. NUMBER OF SQUARES INSTALLED (100 ft ²)			
A. OUTSIDE USA	MILLIONS	MILLIONS	
B. WITHIN USA	THOUSANDS	THOUSANDS	
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS,DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	6	4	18
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	416/749-7070	888/742-7759	SALES OFFICE
22. FOR TECHNICAL INFORMATION, CONTACT:	416/749-7070	800/551-7081	TECH. DEPT.
23. SEE MEMBRANE APPENDIX IF CHECKED			

THIS PAGE INTENTIONALLY LEFT BLANK

PIB (Polyisobutylene) Part 2: Test Results

Test description and suggested values as specified in ASTM D 5019–96

1. COMPANY NAME	PLY-TECH RUBBER	REPUBLIC POWDERED METALS	TREMCO INC.
2. PRODUCT NAME	TRENT-GARD	REPUBLIC SINGLE PLY SYSTEMS: GEOFLEX	TREMFAST

PHYSICAL PROPERTIES OF SHEET

3. THICKNESS (min. in.)	0.087	0.120	0.100	0.120
4. BREAKING STRENGTH (min. lbf)	140	190	175	
5. ELONGATION (min. %)	50	120	60	
6. TEARING STRENGTH (min. lbf)	30	30	30	
7. LOW TEMPERATURE BEND	pass	PASS	PASS	
8. LINEAR DIMENSIONAL CHANGE (max. %)	1.0	0.5	0.5	
9. FABRIC ADHESION (min. lbf/in.)	7	12	12	
10. HYDROSTATIC RESISTANCE (min. psi)	175	200	200	
11. OZONE RESISTANCE (no cracks)	pass	PASS	PASS	
12. WEATHER RESISTANCE (no cracks or crazing)	pass	PASS	PASS	

PHYSICAL PROPERTIES OF THE COATING PORTION ON THE WEATHER SIDE OF SHEET

13. TENSILE STRENGTH (min. psi)	600	600	700	
14. ELONGATION (min. %)	400	400	400	
15. TEAR RESISTANCE (min. lbf/in.)	100	120	100	
16. OZONE RESISTANCE (no cracks)	pass	PASS	PASS	
17. WATER ABSORPTION (max. mass %)	1.0	0.2	1.0	
18. SEE MEMBRANE APPENDIX IF CHECKED				

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Other Prefabricated Sheet-applied Membranes Part 1: General Information

1. COMPANY NAME	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS
2. PRODUCT NAME	BONDCOTE 350 SERIES	BONDCOTE 400 SERIES	BONDCOTE 500 SERIES	BONDCOTE 600 SERIES	BONDCOTE 800 SERIES	BONDCOTE FLEECEBOND 1000
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	18 X 12 POLYESTER	18 X 12 POLYESTER	18 X 12 POLYESTER	18 X 12 POLYESTER	18 X 12 POLYESTER	18 X 12 POLYESTER
B. COLOR	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.24	0.28	0.33	0.40	0.55	0.30
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HEAT WELD	HEAT WELD	HEAT WELD	HEAT WELD	HEAT WELD	HEAT WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10	10	10	10
B. PARTIALLY ADHERED (method)	MECHANICALLY	MECHANICALLY	MECHANICALLY	MECHANICALLY	MECHANICALLY	MECHANICALLY
C. FULLY ADHERED (method)	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED (inches per foot)	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X O	X O	X O	X O	X O	X
B. MINERAL FIBER	X O	X O	X O	X O	X O	X
C. POLYSTYRENE	S O	S O	S O	S O	S O	X
D. CELLULAR GLASS	X	X	X	X	X	X
E. PHENOLIC						
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X	X	X	X	X	X
H. POLYISOCYANURATE	X	X	X	X	X	X
I. POLYURETHANE	X	X	X	X	X	X
J. GYPSUM	X	X	X	X	X	X
K. CONCRETE	O	O	O	O	O	X
L. WOOD PLANK	O	O	O	O	O	X
M. PLYWOOD	O	O	O	O	O	X
N. EXISTING BUILT-UP MEMBRANE	O	O	O	O	O	X
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	0 – 180	0 – 180	0 – 180	0 – 180	0 – 180	0 – 180
12. FLASHING MATERIAL	ROOF MEMB NBP-COATED METAL	ROOF MEMB NBP-COATED METAL	ROOF MEMB NBP-COATED METAL	ROOF MEMB NBP-COATED METAL	ROOF MEMB NBP-COATED METAL	ROOF MEMB NBP-COATED METAL
13. FLASHING METHOD	HEAT WELD AND CONTACT ADHESIVE	HEAT WELD AND CONTACT ADHESIVE	HEAT WELD AND CONTACT ADHESIVE	HEAT WELD AND CONTACT ADHESIVE	HEAT WELD AND CONTACT ADHESIVE	HEAT WELD AND CONTACT ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA		1987				
B. WITHIN USA	1977	1977	1995	1995	1995	1991
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	4	4	4	4	4	4
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES DEPT. 800/368-2160	SALES DEPT. 800/368-2160	SALES DEPT. 800/368-2160	SALES DEPT. 800/368-2160	SALES DEPT. 800/368-2160	SALES DEPT. 800/368-2160
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH. DEPT. 800/368-2160	TECH. DEPT. 800/368-2160	TECH. DEPT. 800/368-2160	TECH. DEPT. 800/368-2160	TECH. DEPT. 800/368-2160	TECH. DEPT. 800/368-2160
23. SEE MEMBRANE APPENDIX IF CHECKED	X	X				X

Other Prefabricated Sheet-applied Membranes Part 1: General Information

CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	COOLEY ENGINEERED MEMBRANE INC.	COOLEY ENGINEERED MEMBRANE INC.	DURO-LAST INC.	DURO-LAST INC.
SURE-WELD	SURE-SEAL POLYEPICHL- ROHYDRIN	E-Z ROOF PREMIUM WHITE	E-Z ROOF PREMIUM BLACK	E-Z ROOF WS WHITE	E-Z ROOF WS BLACK	C3	RAM	DURO-LAST 40 MIL	DURO-LAST 50 MIL
POLYESTER	NONE					POLYESTER	WOVEN AND NONWOVEN POLYESTER	REINFORCED POLYESTER	REINFORCED POLYESTER
WHITE OR GRAY ON BLACK	GRAY/BLACK	WHITE	BLACK	WHITE	BLACK		WHITE/TAN/ GRAY	WHITE/TAN/ GRAY	WHITE/ TAN/ GRAY
0.25	0.48	0.40	0.40	0.40	0.40		0.030 NOM.	0.25	0.30
NONE	NONE					NONE	NONE	NONE	NONE
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HEAT WELD	CONT. ADHES. AND SEALANT	SELF-ADHERED	SELF-ADHERED	HEAT OR SOLVENT WELD	HEAT OR SOLVENT WELD	HOT AIR	HOT AIR	HEAT WELD	HEAT WELD
						10	10	10	10
MECH. FAST.						MECHANICALLY	MECHANICALLY	MECHANICALLY	MECHANICALLY
CONT. ADHES.	CONT. ADHES.	SELF-ADHERED	SELF-ADHERED	SELF-ADHERED	SELF-ADHERED		CONT. ADHES.		
						X	X	X	X
DEAD LEVEL	1/4"	1/2"	1/2"	1/2"	1/2"	LEVEL	LEVEL	DEAD LEVEL	DEAD LEVEL
		O	O	O	O	X	X	X	X
O	O	O	O	O	O	O	O	X	X
O	O	O	O	O	O	X	O	S	S
X	X	O	O	O	O	O	O	X	X
		O	O	O	O	X	X	O	O
X	X	X	X	X	X	X	X	X	X
O	O	X	X	X	X	O	O	X	X
X	X	O	O	O	O	X	X	X	X
X	X	O	O	O	O	X	X	S	S
O	X O	O	O	O	O	X	O	X	X
O	X O	O	O	O	O	O	O	X	X
O	X O	X	X	X	X	X	O	X	X
O	X O	X	X	X	X	X	O	X	X
O	X O	X	X	X	X	O	O	X	X
								S O	S O
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
-25 - 140	-20 - 180	40 - 120	40 - 120	40 - 120	40 - 120	40 - 120	40 - 120	-30 - 120	-30 - 120
REINFORCED & UNREINFORCED MEMBRANE	UNCURED OR CURED EPDM & ECO/CO	SAME	SAME	SAME	SAME	C3, RAM, OR C3-COATED METAL	C3, RAM, OR C3-COATED METAL	SAME MATERIAL	SAME MATERIAL
HEAT WELD AND CONTACT ADHESIVE	CONTACT ADHESIVE	SELF- ADHERING	SELF- ADHERING	HEAT WELD	HEAT WELD	HOT AIR	HOT AIR AND BONDING ADHESIVE	HEAT WELD	HEAT WELD
YES	NO	NO	NO	NO	NO	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA
1991	1977 1977	1990	1990	1990	1995	1988	1990	1978	1988
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	>1,000,000	>1,000,000	THOUSANDS >1,000,000	THOUSANDS THOUSANDS
DISTRS, DIRECT	DISTRS, DIRECT	DIRECT	DIRECT	DIRECT	DIRECT			DIRECT	DIRECT
70	70	20	20	20	20	10	10	4	4
YES	YES					YES	YES	YES	YES
C. KUHL 717/245-7000	C. KUHL 717/245-7000	T. COULTON	T. COULTON	T. COULTON	T. COULTON	S. SIENER	S. SIENER	SALES DEPT. 800/248-0280	SALES DEPT. 800/248-0280
S. IBRAHIM 717/245-7000	S. IBRAHIM 717/245-7000	T. COULTON	T. COULTON	T. COULTON	T. COULTON	T. SAILLANT	T. SAILLANT	ENGR. DEPT. 800/248-0280	ENGR. DEPT. 800/248-0280

Other Prefabricated Sheet-applied Membranes Part 1: General Information

1. COMPANY NAME	ERSYSTEMS	ERSYSTEMS	FLEX MEMBRANE INTERNATIONAL INC.	FLEX MEMBRANE INTERNATIONAL INC.	FLEX MEMBRANE INTERNATIONAL INC.	GENFLEX ROOFING SYSTEMS
2. PRODUCT NAME	PERMAWELD FLEECE-BACKED	PERMAWELD	FLEX FB 100	FLEX FB ELVALOY	FLEX MF/R ELVALOY	GENFLEX .045 TPO
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	CPA MEMB. REIN- FORCED W/ FLEECE- BACKED POLY. FAB.	CPA POLYESTER REINFORCED	REINFORCED POLYESTER W/ FLEECE BACK.	REINFORCED POLYESTER W/ FLEECE BACK.	REINFORCED POLYESTER	POLYESTER
B. COLOR	WHITE	WHITE	WHITE/ OFF-WHITE	WHITE/ OFF-WHITE	WHITE/ OFF-WHITE	WHITE/BLACK/ GRAY
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)	0.40	0.33	0.44	0.35	0.30	0.21
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD	HEAT WELD OR SOLVENT WELD	HEAT WELD	HOT AIR WELD	HOT AIR WELD	HOT AIR WELD	HEAT WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)	10	10	10 MIN	10 MIN	10 MIN	10-15
B. PARTIALLY ADHERED (method)	MECH. FAST.	MECHANICALLY	MECH. FAST.	MECH. FAST.	MECH. FAST.	MECH. FAST.
C. FULLY ADHERED (method)	HOT AS./CLD AD.	COLD ADHES	HOT AS./CLD AD.	HOT AS./CLD AD.	CONT. ADHES.	CONT. ADHES.
D. PROTECTED ROOF MEMBRANE ASSEMBLY	X	X	X	X	X	X
8. MINIMUM SLOPE REQUIRED (inches per foot)	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	LEVEL
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER	X	X	X	X	X	O
B. MINERAL FIBER	X	X	X	O	X	X
C. POLYSTYRENE	X O	X O	X O	X	S O	O
D. CELLULAR GLASS	O	O	X	X	X O	X
E. PHENOLIC	X	X				
F. FIBERBOARD	X	X	X	X	X	X
G. PERLITE	X	X	X	X	X O	X
H. POLYISOCYANURATE	X	X	X	X O	X	X
I. POLYURETHANE	X	X	X	O	X	X
J. GYPSUM	X	X	X	X O	X O	X
K. CONCRETE	X O	X O	X	X	S	O
L. WOOD PLANK	X	X	X	X O	O	O
M. PLYWOOD	X	X	X	X O	X O	O
N. EXISTING BUILT-UP MEMBRANE	S O	S O	X	X O	X O	O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	-30 - 160	-30 - 160	0 - 120	0 - 120	0 - 120	0 - 140
12. FLASHING MATERIAL	ROOF MEM- BRANE/COATED METAL	ROOF MEM- BRANE/COATED METAL	ROOF MEM- BRANE/COATED METAL	ROOF MEM- BRANE/COATED METAL	ROOF MEM- BRANE/COATED METAL	MEMBRANE OR COATED METAL
13. FLASHING METHOD	HEAT WELD OR WALL MASTIC	HEAT WELD OR WALL MASTIC	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	HOT AIR WELD OR ADHESIVE	CONTACT ADHESIVE AND HEAT WELD
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	YES	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA						
B. WITHIN USA	1994	1984	1988	1988	1988	1995
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRs, DIRECT	DISTRs, DIRECT	DIRECT	DIRECT	DIRECT	DISTRIBUTORS
19. NUMBER OF REGIONAL LOCATIONS	14	14		4	4	
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	J. DOYLE 610/286-7788	J. DOYLE 610/286-7788	J. DOYLE 610/286-7788	SALES DEPT.
22. FOR TECHNICAL INFORMATION, CONTACT:	J. LEONARD 800/403-7747	R. BAKER 800/403-7747	M GIANGIACOMO 610/286-7788	M GIANGIACOMO 610/286-7788	M GIANGIACOMO 610/286-7788	TECH. DEPT. 800/443-4272
23. SEE MEMBRANE APPENDIX IF CHECKED	X					

Other Prefabricated Sheet-applied Membranes Part 1: General Information

GENFLEX ROOFING SYSTEMS	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.
GENFLEX .060 TPO	HYLOAD 250	HYLOAD SAM	ALPROOF	ALPROOF CP	HYLOAD 150E	ALPSAM WS	HYLOAD WS	ALPSAM	PMVB
POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	
WHITE/BLACK/ GRAY	BLACK	BLACK	WHITE		BLACK	WHITE	BLACK	WHITE	
	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.40	0.70
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
HEAT WELD	HEAT WELD	SELF-ADHERED	HEAT WELD	HEAT WELD	HEAT WELD	HEAT WELD	HEAT WELD	SELF-ADHERED	SELF-ADHERED
10-15 MECH. FAST.									
CONT. ADHES.	CONT. ADHES.	SELF-ADHERED	BITUMEN	ADHESIVE	BITUMEN	SELF-ADHERED	SELF-ADHERED	SELF-ADHERED	SELF-ADHERED
X	X		X	X	X				
LEVEL	DEAD LEVEL	DEAD LEVEL	1	1	DEAD LEVEL	1	DEAD LEVEL	1	DEAD LEVEL
O	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	
O	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	
	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	
X	O	O	O	O	O	O	O	O	X O
O	O	O	O	O	O	O	O	O	X O
O	O	O	O	O	O	O	O	O	X O
O	O	O	O	O	O	O	O	O	X O
O	O	O	O	O	O	O	O	O	
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
0 – 140	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	40 – 120	
MEMBRANE OR COATED METAL	HYLOAD WS STRAPPED METHOD	SAME MATERIAL STRAPPED METHOD	ALPSAM WS STRAPPED METHOD	ALPSAM WS STRAPPED METHOD	H 150E, HYLOAD SAM, WS STRAP METHOD	SAME MATERIAL STRAPPED METHOD	SAME MATERIAL STRAPPED METHOD	SAME MATERIAL STRAPPED METHOD	SAME MATERIAL STRAPPED METHOD
CONTACT ADHESIVE AND HEAT WELD	SELF-ADHERING W/ HEAT WELD	SELF-ADHERING	SELF-ADHERING W/ HEAT WELD	SELF-ADHERING W/ HEAT WELD	SELF-ADHERING W/ HEAT WELD	SELF-ADHERING W/ HEAT WELD	SELF-ADHERING W/HEAT WELD	SELF- ADHERING	SELF- ADHERING
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	USA USA	
1995	1977	1985	1989	1989	1969	1989	1985	1989	
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	> 1 MILLION	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
DISTRIBUTORS	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
	20	20	20	20	20	20	20	20	20
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SALES DEPT.	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM
TECH. DEPT. 800/443-4272	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON

Other Prefabricated Sheet-applied Membranes Part 1: General Information

1. COMPANY NAME	HYLOAD INC.	HYLOAD INC.	HYLOAD INC.	SEAL-DRY/ USA, INC.	SEAL-DRY/ USA, INC.	SEAMAN CORP.
2. PRODUCT NAME	HY BASE	HY BASE SAM	HY BASE SAM VR	SEAL-DRY SYSTEM 5000	SEAL-DRY SYSTEM 3000	FIBERTITE FB
3. PRODUCT DESCRIPTION						
A. REINFORCEMENT	POLYESTER	POLYESTER	POLYESTER	POLYESTER	POLYESTER	REINFORCED POLYESTER W/ FLEECE BACK
B. COLOR	BLACK	BLACK	BLACK	WHITE	WHITE	LIGHT BEIGE
C. INSTALLED WEIGHT (lbs./ft ² w/o ballast)				0.25	0.25	< 0.28
4. COATING REQUIRED	NONE	NONE	NONE	NONE	NONE	NONE
5. USE IN:						
A. NEW ROOFING	X	X	X	X	X	X
B. REROOFING	X	X	X	X	X	X
6. FIELD LAP JOINT METHOD		SEF ADHERED	SELF ADHERED	HEAT WELD	HEAT WELD	HEAT WELD
7. TYPES OF ROOF SYSTEMS						
A. LOOSE LAID/BALLASTED (ballast: lbs./ft ²)				10	10	
B. PARTIALLY ADHERED (method)	MECH. FAST.			MECH. FAST.	MECH. FAST.	
C. FULLY ADHERED (method)		SELF ADHERED	SELF ADHERED	ADHESIVE	ADHESIVE	ADHESIVE
D. PROTECTED ROOF MEMBRANE ASSEMBLY				X	X	
8. MINIMUM SLOPE REQUIRED (inches per foot)	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	DEAD LEVEL	NONE
9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances)						
A. GLASS FIBER				X	X	X
B. MINERAL FIBER				X	X	
C. POLYSTYRENE				S O	S O	O
D. CELLULAR GLASS				O	O	O
E. PHENOLIC				X	X	
F. FIBERBOARD	X	X		X	X	
G. PERLITE	X	X		X	X	O
H. POLYISOCYANURATE	X	X		X	X	X
I. POLYURETHANE	X	X		X	X	X O
J. GYPSUM	X	X O	X O	X	X	X O
K. CONCRETE	X	X O	X O	S O	S O	X
L. WOOD PLANK	X		X O	X	X	X O
M. PLYWOOD	X	X O	X O	X	X	X O
N. EXISTING BUILT-UP MEMBRANE	X	X O	X O	S O	S O	X O
10. RESTRICTED REGIONS (refer to manufacturer's literature)	NONE	NONE	NONE	NONE	NONE	NONE
11. WORKABLE TEMPERATURE RANGE (degrees F)	40 - 120	55 - 120	55 - 120	-30 - 160	-30 - 160	0 - 120
12. FLASHING MATERIAL	SAME MATERIAL	SAME MATERIAL	SAME MATERIAL	ROOF MEMBRANE COATED METAL	ROOF MEMBRANE COATED METAL	ROOF MEMBRANE COATED METAL
13. FLASHING METHOD		STRAPPED METHOD	STRAPPED METHOD	MECH. ATTACH OR ADHERE	MECH. ATTACH OR ADHERE	HEAT WELD, WALL MASTIC, OR ADHESIVE
14. PREFORMED ACCESSORIES AVAILABLE (yes/no)	NO	YES	YES	YES	YES	YES
15. COUNTRY OF:						
A. ORIGIN	USA	USA	USA	USA	USA	USA
B. MANUFACTURE	USA	USA	USA	USA	USA	USA
16. YEAR OF FIRST COMMERCIAL USE						
A. OUTSIDE USA						1995
B. WITHIN USA	1987	1985	1985	1984	1984	1994
17. NUMBER OF SQUARES INSTALLED (100 ft ²)						
A. OUTSIDE USA						THOUSANDS
B. WITHIN USA	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
18. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
19. NUMBER OF REGIONAL LOCATIONS	20	20	20	3	3	20
20. LICENSED APPLICATOR AGREEMENT (yes/no)	YES	YES	YES	YES	YES	YES
21. FOR SALES INFORMATION, CONTACT:	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	SALES DEPT. JOE NUSSBAUM	J. NEWMAN	J. NEWMAN	800/927-8578
22. FOR TECHNICAL INFORMATION, CONTACT:	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	TECH. DEPT. JIM GANNON	T. NATHAN	T. NATHAN	800/927-8578
23. SEE MEMBRANE APPENDIX IF CHECKED						X

Other Prefabricated Sheet-applied Membranes Part 1: General Information

SEAMAN CORP.	STEVENS ROOFING SYSTEMS	STEVENS ROOFING SYSTEMS	UNIROOF CORPORATION	UNIROOF CORPORATION	VERSICO INCORPORATED
FIBERTITE	STEVENS EP .045	STEVENS EP .060	TRAFFIGARD	FORMFLEX	VERSIWELD PREMIER .045, .060
REINFORCED POLYESTER	10 X 10 POLYESTER	10 X 10 POLYESTER	FIBERGLASS REINFORCED ACRYLIC	ACRYLIC	
LIGHT BEIGE	BLACK/WHITE/GRAY/OTHERS	BLACK/WHITE/GRAY/OTHERS	VARIOUS	WHITE	GRAY, TAN, WHITE ON BLACK
< 0.25	0.21	0.30	0.125	0.125	0.22 - 0.32
NONE	NONE	NONE	NONE	NONE	NONE
X	X	X	X	X	X
X	X	X	X	X	X
HEAT WELD	HEAT WELD	HEAT WELD	SEAMLESS	SEAMLESS	HEAT WELD
10 MIN	10	10			10-15
BONDING ADHS.	MECH. FAST.	MECH. FAST.			MECH. FAST.
BONDING ADHS.	CONT. ADHES.	CONT. ADHES.	SELF-ADHERNG	SELF-ADHERNG	CONT. ADHES.
X	X	X			X
NONE	NONE	NONE	1/8"	1/8"	NONE
X	X	X			O
X	X	X			X
X S O	X O	X O	O	O	X
X S O	X O	X O			X
X	X O	X O	O	O	
X	X O	X O	X	X	X
X	X O	X O	X	X	X
X	X	X	O	O	X
X	X	X	O	O	X
X O	X	X	X	X	X
S	X	X	X	X	O
S	X	X	X	X	O
X S O	X	X	X	X	O
X S O	X O	X O	O	X	O
NONE	NONE	NONE	NONE	NONE	NONE
-30 - NO LIMIT	-15 - 140	-15 - 140	50 - 90	50 - 90	-25 - 180
ROOF MEMBRANE COATED METAL	REINFORCED & UNREINFORCED EP MEMBRANE	REINFORCED & UNREINFORCED EP MEMBRANE	SAME MATERIAL	SAME MATERIAL	VERSIWELD FLASHING OR COATED METAL
HEAT WELD, WALL MASTIC, OR ADHESIVE	CONTACT ADHESIVE & HEAT WELD	CONTACT ADHESIVE & HEAT WELD	ROLLER, SPRAY, OR BRUSH	ROLLER, SPRAY, OR BRUSH	CONTACT ADHESIVE AND HEAT WELD
YES	YES	YES	NO	NO	YES
USA	USA	USA	AUSTRALIA	ENGLAND	USA
USA	USA	USA	USA	USA	USA
1982	1992	1992	1969	1972	
1978	1992	1992	1980	1985	
THOUSANDS >1,000,000	MILLIONS MILLIONS	MILLIONS MILLIONS			MILLIONS
DIRECT	DISTRIBUTORS	DISTRIBUTORS	DISTR, DIRECT	DISTR, DIRECT	DISTRIBUTORS
20	108	108	8	8	150
YES	YES	YES	YES	YES	YES
800/927-8578	B. ABBOTT J. PEAK	B. ABBOTT J. PEAK	D. KONSTAN 407/869-5110	D. KONSTAN 407/869-5110	M. MCAULEY 800/992-7663
800/927-8578	TECH. DEPT. 877/TPO-ROOF	TECH. DEPT. 877/TPO-ROOF	OFFICE 407/869-5110	OFFICE 407/869-5110	J. WOHL 800/992-7663
X					X

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

1. COMPANY NAME		BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS
2. PRODUCT NAME		BONDCOTE 350 SERIES	BONDCOTE 400 SERIES	BONDCOTE 500 SERIES	BONDCOTE 600 SERIES
3. PRODUCT DESCRIPTION		ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)	ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)	ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)	ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)
4. THICKNESS	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
	RESULTS	35 MILS	40 MILS	50 MILS	60 MILS
5. TENSILE STRENGTH	METHOD	ASTM D 751 GRAB METHOD	ASTM D 751 GRAB METHOD	ASTM D 751 GRAB METHOD	ASTM D 751 GRAB METHOD
	RESULTS	ASTM D 882 390 X 300 LBS. 6000 PSI	ASTM D 882 390 X 300 LBS. 6000 PSI	ASTM D 882 450 X 330 LBS. 7500 PSI	ASTM D 882 465 X 350 LBS. 8000 PSI
6. LAP JOINT METHOD	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
	RESULTS	EXCEED PRODUCT STRENGTH	EXCEED PRODUCT STRENGTH	EXCEED PRODUCT STRENGTH	EXCEED PRODUCT STRENGTH
7. ELONGATION AT BREAK	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
	RESULTS	30 X 35%	30 X 35%	30 X 35%	30 X 35%
8. TENSILE SET	METHOD				
	RESULTS				
9. LOW TEMPERATURE FLEXIBILITY	METHOD	ASTM D 2136	ASTM D 2136	ASTM D 2136	ASTM D 2136
	RESULTS	-40 F, NO CRACKS	-40 F, NO CRACKS	-40 F, NO CRACKS	-40 F, NO CRACKS
10. WATER ABSORPTION	METHOD	ASTM D 570	ASTM D 570	ASTM D 570	ASTM D 570
	RESULTS	<3%	<3%	<3%	<3%
11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION	METHOD				
	RESULTS				
12. HEATING AGING	METHOD	ASTM D 3045	ASTM D 3045	ASTM D 3045	ASTM D 3045
	RESULTS	> 95% OF BREAKING STRENGTH > 90% OF ELONGATION	> 95% OF BREAKING STRENGTH > 90% OF ELONGATION	> 95% OF BREAKING STRENGTH > 90% OF ELONGATION	> 95% OF BREAKING STRENGTH > 90% OF ELONGATION
13. OZONE RESISTANCE	METHOD	ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP	ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP	ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP	ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP
	RESULTS	NO CRACKS, 7X MAGN.	NO CRACKS, 7X MAGN.	NO CRACKS, 7X MAGN.	NO CRACKS, 7X MAGN.
14. RESISTANCE TO ACCELERATED WEATHERING	METHOD	FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA	FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA	FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA	FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA
	RESULTS	NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS	NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS	NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS	NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS
15. DYNAMIC IMPACTING (PUNCTURING)	METHOD	FS 1018, METHOD 2031	FS 1018, METHOD 2031	FS 1018, METHOD 2031	FS101B, METHOD 2031
	RESULTS	290 LBS.	290 LBS.	325 LBS.	350 LBS.
16. TEAR RESISTANCE	METHOD				
	RESULTS				
17. TEARING STRENGTH	METHOD	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751, 8" X 10" SAMPLE
	RESULTS	120 X 110 LBS.	125 X 115 LBS.	130 X 120 LBS.	140 X 130 LBS.
18. LOW TEMPERATURE IMPACT	METHOD				
	RESULTS				
19. PERMEABILITY	METHOD	ASTM E 96, METHOD A	ASTM E 96, METHOD A	ASTM E 96, METHOD A	ASTM E 96, METHOD A
	RESULTS	0.22 US PERMS	0.22 US PERMS	0.22 US PERMS	0.22 US PERMS
20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION	METHOD	ASTM D 1204	ASTM D 1204	ASTM D 1204	ASTM D 1204
	RESULTS	<0.5%	<0.5%	<0.5%	<0.5%
21. CONE PENETRATION	METHOD				
	RESULTS				
22. SEE MEMBRANE APPENDIX IF CHECKED		X	X		

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

BONDCOTE ROOFING SYSTEMS	BONDCOTE ROOFING SYSTEMS	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CONSOLIDATED COATINGS CORP.
BONDCOTE 800 SERIES	BONDCOTE FLEECEBOND 1000	SURE-WELD REINFORCED TPO	POLYEPICHLORHYDRIN ECO/CO	E-Z ROOF PREMIUM WHITE
ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)	ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP)	REINFORCED THERMOPLASTIC POLYOLEFIN MEMBRANE	NONREINFORCED POLYEPICHLOROHYDRIN	
ASTM D 751 80 MILS	ASTM D 751 100 MILS	ASTM D 751 0.045 IN. , 0.060 IN. ±10%	ASTM D412 60 MIL ±10%	
ASTM D 751 GRAB METHOD ASTM D 882 490 X 400 LBS. 8500 PSI	ASTM D 751 GRAB METHOD ASTM D 882 390 X 300 LBS. 6000 PSI	ASTM D 751 310 LBF	ASTM D 412 1500 PSI (MIN)	
ASTM D 751 EXCEED PRODUCT STRENGTH	ASTM D 751 EXCEED PRODUCT STRENGTH	HEAT WELD RUPTURE OUTSIDE SEAM OVERLAP		
ASTM D 751 30 X 35%	ASTM D 751 30 X 35%	ASTM D 751 (FABRIC RUPTURE) 25%	ASTM D 412 200% (MIN)	
ASTM D 2136 -40 F, NO CRACKS	ASTM D 2136 -40 F, NO CRACKS	ASTM D 2137 -50 F	ASTM D 746 -20F (MIN)	
ASTM D 570 <3%	ASTM D 570 <3%	ASTM D 471 (7 DAYS @ 158 F) 2.0%		
ASTM D 3045 > 95% OF BREAKING STRENGTH > 90% OF ELONGATION	ASTM D 3045 > 95% OF BREAKING STRENGTH > 90% OF ELONGATION	ASTM D 573 (28 DAYS @ 240 F) TENSILE -310 LBF TEAR -100 LBF	ASTM D 573,168 HRS @240F 1500PSI (MIN) TENSILE 150% (MIN) ELONGATION	
ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP NO CRACKS, 7X MAGN.	ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP NO CRACKS, 7X MAGN.	ASTM D 1149 (168 HOURS @ 100 mPa) NO CRACKS	ASTM D 1149, 100 PPHM @ 50% STRAIN 168 HRS @104 F NO CRACKS	
FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS	FS191, METHOD 5804, CARBON ASTM G 90 EMMAGUA NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS	ASTM G 26 (5040 KJ/M ² , 176 F) NO LOSS OF BREAKING OR TEARING STRENGTH, NO SURFACE CRACKS		
FS101B, METHOD 2031 400 LBS.	FS #1018 METHOD 2031 290 LBS.			
			ASTM D 624 (DIE C) 150 LBF/IN (MIN)	
ASTM D 751, 8" X 10" SAMPLE 150 X 140 LBS.	ASTM D 751, 8" X 10" SAMPLE 125 X 115 LBS.	ASTM D 751 (TONGUE TEAR) 100 LBF		
ASTM E 96, METHOD A 0.22 US PERMS	ASTM E 96, METHOD A 0.22 US PERMS	ASTM E 96 (PROC. B OR BW) 0.05 PERMS	ASTM E 96, PROC B OR BW 2.5 PERM-MILS (MAX)	
ASTM D 1204 <0.5%	ASTM D 1204 <0.5%			
	X			

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

1. COMPANY NAME		CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	COOLEY ENGINEERED MEMBRANE
2. PRODUCT NAME		E-Z ROOF PREMIUM BLACK	E-Z ROOF WS WHITE	E-Z ROOF WS BLACK	C3
3. PRODUCT DESCRIPTION					TRI-POLYMER ALLOY ELVALOY KEE
4. THICKNESS	METHOD				ASTM D 751
	RESULTS				40 MILS
5. TENSILE STRENGTH	METHOD				ASTM D 751, GRAB
	RESULTS				300 X 300 LBS.
6. LAP JOINT METHOD	METHOD				ASTM D 638
	RESULTS				90%
7. ELONGATION AT BREAK	METHOD				ASTM D 751
	RESULTS				17% X 19%
8. TENSILE SET	METHOD				
	RESULTS				
9. LOW TEMPERATURE FLEXIBILITY	METHOD				ASTM D 2136
	RESULTS				-40 F, PASS
10. WATER ABSORPTION	METHOD				ASTM D 570
	RESULTS				7 DAYS @ 158 F 1% MAX.
11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION	METHOD				
	RESULTS				
12. HEATING AGING	METHOD				ASTM D 3045
	RESULTS				80% X 80%
13. OZONE RESISTANCE	METHOD				ASTM D 1149
	RESULTS				PASS, NO CRACKS, 7X MAGNIFICATION
14. RESISTANCE TO ACCELERATED WEATHERING	METHOD				ASTM D 882, ASTM 838
	RESULTS				PASS (2 MILLION LANGLEYS)
15. DYNAMIC IMPACTING (PUNCTURING)	METHOD				FS 1018 METHOD 2031
	RESULTS				280 LB.
16. TEAR RESISTANCE	METHOD				ASTM D 751
	RESULTS				100 LB. X 100 LB.
17. TEARING STRENGTH	METHOD				ASTM D 751
	RESULTS				100 X 100 LBS.
18. LOW TEMPERATURE IMPACT	METHOD				CTM 028
	RESULTS				-20 F, NO CRACKS
19. PERMEABILITY	METHOD				ASTM E 96
	RESULTS				0.003 PERMS
20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION	METHOD				ASTM D 1204, 6 HRS @ 176 F
	RESULTS				0.3%
21. CONE PENETRATION	METHOD				
	RESULTS				
22. SEE MEMBRANE APPENDIX IF CHECKED					

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

COOLEY ENGINEERED MEMBRANE	DURO-LAST INC.	DURO-LAST INC.	ERSYSTEMS	ERSYSTEMS
RAM	DURO-LAST 40 MIL	DURO-LAST 50 MIL	PERMAWELD FLEECE-BACKED	PERMAWELD
TRI-POLYMER ALLOY ELVALOY KEE	PVC BLEND REINFORCED WITH POLYESTER FABRIC	PVC BLEND REINFORCED WITH POLYESTER FABRIC	CPA MEMBRANE REINFORCED W/ POLYESTER FLEECE FABRIC	POLYESTER-REINFORCED CPA
ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
45 MILS	40 MILS NOMINAL	50 MILS	40 MILS NOM.	40 MIL NOM. AND 48 MIL NOM.
ASTM D 751, GRAB	ASTM D 751, GRAB METHOD	ASTM D 751, GRAB METHOD	ASTM D 882	ASTM D 751
350 X 325 LBS.	ASTM D882 435 X 350 LBS. 7,200 PSI	ASTM D882 450 X 380 LBS. 8,780 PSI	ASTM D 751 300 X 325 LBS. 8,000 PSI	ASTM D 882 315 X 325 LBS. 7,450 PSI
ASTM D 638	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
90%	350 LBS. (MIN)	350 LBS. (MIN)	> 350 LBS.	> 350 LBS.
ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
40% X 30%	35%	35%	35%	35% X 35%
ASTM D 2136	ASTM D 2136	ASTM D 2136	ASTM D 2136	ASTM D 2136 -30 F
-40 F, PASS	-40 F, NO CRACKS	-40 F, NO CRACKS	-40 F, PASS	NO CRACKS U
ASTM D 570 7 DAYS @ 158 F 1% MAX.			ASTM D 570 @ 70 F @ 122 F 48 HOURS 1.4%	ASTM D 570 @ 70 F @ 122 F 48 HOURS > 1%
	ASTM D 1204 < 0.1% CHANGE	ASTM D 1204 < 0.1% CHANGE	ASTM D 570 NO CHANGE	ASTM D 570 NO CHANGE
ASTM D 3045	ASTM D 3045	ASTM D-3045	14 DAYS @ 175 F	14 DAYS @ 175 F
80% X 80%	7 DAYS 194 F 90% BREAKING STRENGTH > 95% ELONGATION	7 DAYS 194 F 85% BREAKING STRENGTH > 90% ELONGATION	4,500,000 LANGLEYS OF TENSILE STRENGTH	100% STRENGTH RETENTION, NO CRACKING, CRAZING, BLISTERING
ASTM D 1149	ASTM D 1149, 100 PPHM, 1/8", 104 F-7 DAYS NO CRACKS, 7X	ASTM D 1149, 100 PPHM, 1/8", 104 F-7 DAYS NO CRACKS, 7X		
ASTM D882, ASTM 838	A. FS 191, MET 5804, CARBON A B. ASTM E 838 A. NO CRACKING 6000 HRS B. > 7 MILLION LANGLEYS	A. FS 191, MET 5804, CARBON A B. ASTM E 838 A. NO CRACKING 6000 HRS B. > 7 MILLION LANGLEYS	ASTM D 2565 ASTM E 838 20,000 HOURS 4.5 MILLION LANGLEYS	ASTM D 2565 ASTM E 838 15,000 HOURS 4 MILLION LANGLEYS
FS 1018 METHOD 2031	FS 1018, METHOD 2031	FS 1018, METHOD 2031	FS 101B, METHOD 2031	FS 101B, METHOD 2031
280 LB.	350 LBS.	375 LBS.	225 LBS.	250 LBS.
ASTM D 751	ASTM D 751, TONGUE 8 X 8 SPECIMEN 130 X 110 LBS.	ASTM D 751, TONGUE 8 X 8 SPECIMEN 140 X 100 LBS.	ASTM D 751 90 X 120 LBS.	ASTM D 751, 8-IN. X 8-IN. SAMPLE 110 LBS.
ASTM D 751	ASTM D 751, TONGUE 8 X 8 SPECIMEN 130 X 110 LBS.	ASTM D 751, TONGUE 8 X 8 SPECIMEN 140 X 100 LBS.	ASTM D 751 120 LBS.	ASTM D 751, 8-IN. X 8-IN. SAMPLE 110 LBS.
CTM 028	ASTM D 2136, -40 F	ASTM D 2136, -40 F	ASTM D 2136, -30 F	ASTM D 2136, -30 F
-20 F, NO CRACKS	NO CRACKING	NO CRACKING	NO CRACK	NO CRACK
ASTM E96	A. ASTM E 96, PRO BW B. ASTM E 96, VWT, PROC B, M, A A. 0.25 US PERMS B. 0.086 G/HR/MXM	A. ASTM E 96, PRO BW B. ASTM E 96, VWT, PROC B, M, A A. 0.22 PERMS B. 0.07 G/HR/MXM	ASTM E 96, PROC A 0.2 US PERMS	ASTM E 96, PROC A 1.39 G/MXM/24
ASTM D 1204, 6 HRS @ 176 F			ASTM D 1204	
0.3%			0.2%	
			X	X

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

1. COMPANY NAME		FLEX MEMBRANE INT'L INC.	FLEX MEMBRANE INT'L INC.	FLEX MEMBRANE INT'L INC.	GENFLEX ROOFING SYSTEMS
2. PRODUCT NAME		FLEX FB 100	FLEX FB ELVALOY	FLEX MF/R ELVALOY	GENFLEX TPO .045
3. PRODUCT DESCRIPTION		POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE	POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE	POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE	TPO THERMOPLASTIC OLEFIN
4. THICKNESS	METHOD	ASTM D 751	ASTM D 751	ASTM D 751, GRAB	ASTM D 751
	RESULTS	100 MIL NOM.	45 MIL NOM.	40 MIL NOM.	0.04 IN.
5. TENSILE STRENGTH	METHOD	ASTM D 638, PSI	ASTM D 751, GRAB	ASTM D 751	ASTM D 751
	RESULTS	MD 1844 TD 2111	> 340 LBS.	235 LBS.	225 LB./F
6. LAP JOINT METHOD	METHOD	ASTM D 638	ASTM D 638	ASTM D 751	HEAT WELD
	RESULTS	> 90%	90 %	> 400 LBS.	
7. ELONGATION AT BREAK	METHOD	ASTM D 638, %	ASTM D 751	ASTM D 751	ASTM D 412 DIEC
	RESULTS	MD 183 TD 108	> 28%	> 28%	500% ULTIMATE
8. TENSILE SET	METHOD				
	RESULTS				
9. LOW TEMPERATURE FLEXIBILITY	METHOD	ASTM D 2136	ASTM D 2136	ASTM D 2136	
	RESULTS	-40 F, PASS	-40 F, PASS	-40 F, PASS	
10. WATER ABSORPTION	METHOD	ASTM D 0573	ASTM D 570	ASTM D 570	ASTM D 471
	RESULTS	1.5 % MAX.	1.5% MAX.	1.5% MAX.	±4%
11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION	METHOD				
	RESULTS				
12. HEATING AGING	METHOD	ASTM D 0573	ASTM D 0573	ASTM D 3045	ASTM D 573
	RESULTS	90% STRENGTH RETENTION OF ORIGINAL	90% STRENGTH RETENTION OF ORIGINAL	90% STRENGTH RETENTION OF ORIGINAL	TENSILE STRENGTH 225 LB./F
13. OZONE RESISTANCE	METHOD	ASTM D 1149	ASTM D 1149	3 DAYS @ 100 PPHM – 100 F AND 3 DAYS @ 300 PPHM – 100 F NO CRACKING	ASTM D 1149
	RESULTS	PASS, NO CRACKS, 7X MAGNIFICATION	PASS, NO CRACKS, 7X MAGNIFICATION		PASS
14. RESISTANCE TO ACCELERATED WEATHERING	METHOD	ASTM D 2565 (XENON ARC)	ASTM D 2565 (XENON ARC)	ASTM D 2565 (XENON ARC)	ASTM D 26 ASTM G 23 PASS
	RESULTS	10 M HRS., NO CHANGE	10 M HRS., NO CHANGE	10 M HRS., NO CHANGE	
15. DYNAMIC IMPACTING (PUNCTURING)	METHOD	FS 1018, METHOD 2031	FS 1018, METHOD 2031	FS 1018, METHOD 2031	
	RESULTS	295 LBS.	260 LBS.	260 LBS.	
16. TEAR RESISTANCE	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	
	RESULTS	110 X 100 LBS.	100 X 100 LBS.	120 X 120 LBS.	
17. TEARING STRENGTH	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751, PROCEDURE B
	RESULTS	120 X 110 LBS.	100 X 100 LBS.	120 X 120 LBS.	55 LB./F
18. LOW TEMPERATURE IMPACT	METHOD	ASTM D 2136	ASTM D 2136	ASTM D 2136	ASTM D 2137
	RESULTS	-40 F, NO CRACKS	-40 F, NO CRACKS	-40 F, NO CRACKS	-40 F
19. PERMEABILITY	METHOD	ASTM E 96 WATER VAPOR TRANSMISSION	ASTM E 96 WATER VAPOR TRANSMISSION	ASTM E 96 WATER VAPOR TRANSMISSION	
	RESULTS	3.5/M ² /DAY	3.5/M ² /DAY	3.5/M ² /DAY	
20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION	METHOD	ASTM D 1204	ASTM D 1204	ASTM D 1204	ASTM D 1204
	RESULTS	< 0.5%	< 0.5%	< 0.5%	±2%
21. CONE PENETRATION	METHOD			37-GP-54	
	RESULTS			PASS	
22. SEE MEMBRANE APPENDIX IF CHECKED					

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

GENFLEX ROOFING SYSTEMS	HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.
GENFLEX TPO .060	HYLOAD 250	HYLOAD SAM	ALPROOF	ALPROOF CP
TPO THERMOPLASTIC OLEFIN	POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE
ASTM D 751 0.060 IN.	ASTM D 2083 60 MIL	ASTM D 2083 60 MIL	ASTM D 2083 60 MIL	ASTM D 2083 60 MIL
ASTM D 751 225 LB./F	ASTM D 412 1600 LB/SQ.IN	ASTM D 412 1500 LB/SQ.IN	ASTM D 412 1600 LB/SQ.IN	ASTM D 412 1600 LB/SQ.IN
HEAT WELD	HEAT WELD	SELF-ADHERED	HEAT WELD	HEAT WELD
ASTM D 412 DIEC 500% ULTIMATE	ASTM D 412 170%	ASTM D 412 170%	ASTM D 412 170%	ASTM D 412 170%
	CGSB 37GP56M PASS	CGSB 37GP56M PASS	CGSB 37GP56M PASS	CGSB 37-GP56M PASS
ASTM D 471 ±4%				
ASTM D 573 TENSILE STRENGTH 225 LB./F				
ASTM D 1149 PASS				
ASTM D 26 ASTM G 23 PASS	CGSB37-GP56M PASS	CGSB37-GP56M PASS	CGSB37-GP56M PASS	CGSB 37-GP56M PASS
	CGSB37-GP56M PASS	CGSB37-GP56M PASS	CGSB37-GP56M PASS	CGSB 37-GP56M PASS
	ASTM D 624 330 LBS.	ASTM D 624 270 LBS.	ASTM D 624 330 LBS.	ASTM D 624 330 LBS.
ASTM D 751, PROCEDURE B 55 LB./F				
ASTM D 2137 -40 F				
	WATER VAPOR TRANSMISSION ASTM E 96 PROC A 0.136/GRAINS/IN. HG. SQ. FT.	WATER VAPOR TRANSMISSION ASTM E 96 PROC A 0.136/GRAINS/IN. HG. SQ. FT.	WATER VAPOR TRANSMISSION ASTM E 96 PROC A 0.136/GRAINS/IN. HG. SQ. FT.	WATER VAPOR TRANSMISSION ASTM E 96 PROC A 0.136/GRAINS/IN. HG. SQ. FT.
ASTM D 1204 ±2%				

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

1. COMPANY NAME		HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.
2. PRODUCT NAME		HYLOAD 150E	ALPSAM WS	HYLOAD WS	ALPSAM
3. PRODUCT DESCRIPTION		POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE	POLYESTER REINFORCED KEE
4. THICKNESS	METHOD	ASTM D 2083	ASTM D 2083	ASTM D 2083	ASTM D 2083
	RESULTS	60 MIL	60 MIL	75 MIL	60 MIL
5. TENSILE STRENGTH	METHOD	ASTM D 412	ASTM D 412	ASTM D 412	ASTM D 412
	RESULTS	1600 LB/SQ.IN	1500 LB/SQ.IN	1500 LB/SQ.IN	1300 LB/SQ.IN
6. LAP JOINT METHOD	METHOD	HEAT WELD	HEAT WELD	HEAT WELD	SELF-ADHERED
	RESULTS				
7. ELONGATION AT BREAK	METHOD	ASTM D 412	ASTM D 412	ASTM D 412	ASTM D412
	RESULTS	170%	170%	170%	170%
8. TENSILE SET	METHOD				
	RESULTS				
9. LOW TEMPERATURE FLEXIBILITY	METHOD	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M
	RESULTS	PASS	PASS	PASS	PASS
10. WATER ABSORPTION	METHOD				
	RESULTS				
11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION	METHOD				
	RESULTS				
12. HEATING AGING	METHOD				
	RESULTS				
13. OZONE RESISTANCE	METHOD				
	RESULTS				
14. RESISTANCE TO ACCELERATED WEATHERING	METHOD	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M
	RESULTS	PASS	PASS	PASS	PASS
15. DYNAMIC IMPACTING (PUNCTURING)	METHOD	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M	CGSB 37-GP56M
	RESULTS	PASS	PASS	PASS	PASS
16. TEAR RESISTANCE	METHOD	ASTM D 624	ASTM D 624	ASTM D 624	ASTM D 624
	RESULTS	330 LBS.	165 LBS.	165 LBS.	165 LBS.
17. TEARING STRENGTH	METHOD				
	RESULTS				
18. LOW TEMPERATURE IMPACT	METHOD				
	RESULTS				
19. PERMEABILITY	METHOD	WATER VAPOR TRANSMISSION ASTM E 96 PROC A	WATER VAPOR TRANSMISSION ASTM E 96 PROC A	WATER VAPOR TRANSMISSION ASTM E 96 PROC A	WATER VAPOR TRANSMISSION ASTM E 96 PROC A
	RESULTS	0.136/GRAINS/IN. HG. SQ. FT.	0.136/GRAINS/IN. HG. SQ. FT.	0.136/GRAINS/IN. HG. SQ. FT.	0.136/GRAINS/IN. HG. SQ. FT.
20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION	METHOD				
	RESULTS				
21. CONE PENETRATION	METHOD				
	RESULTS				
22. SEE MEMBRANE APPENDIX IF CHECKED					

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.	HYLOAD, INC.	SEAL-DRY/USA, INC.
HY BASE	HY BASE SAM	HY BASE SAM VR	PMVB	SEAL-DRY SYSTEM 5000
			POLYESTER REINFORCED KEE	POLYESTER REINFORCED CPA
			70 MIL	ASTM D 751 40 MIL NOM
			ASTM D 412 1500 LB/SQ.IN	A. ASTM D 751, GRAB METHOD B. ASTM D 882 A. 300 X 325 LBS. B. 8000 PSI
			SELF-ADHERED	ASTM D 751 >350 LBS.
			ASTM D 412 170%	ASTM D 751 35% X 35%
			CGSB 37-GP56M PASS	ASTM D 2136 -30 F NO CRACKS
				ASTM D 570 @ 70 F, @ 122 F, 48 HRS. < 1.0%
				ASTM D 570 NO CHANGE
				14 DAYS @ 175 F, 100% STRENGTH RETAINED NO CRACKING, CRAZING, BLIST
				ASTM D 1149 PASS, NO CRACKS, 7X
			CGSB37-GP56M PASS	A. ASTM D 2565 WEATHER MTR B. ASTM E 838 (DSET) A. 15,000 HRS. B. 4,500,000 LANGLEYS
			CGSB 37-GP56M PASS	FS 101B, METHOD 2031 225 LBS.
			ASTM D 624 165 LBS.	ASTM D 751, 8" X 8" SAMPLE 100 X 120 LBS.
				ASTM D 751, 8" X 8" SAMPLE 100 X 120 LBS.
				ASTM D 2136 -30 F NO CRACK
			WATER VAPOR TRANSMISSION ASTM E 96 PROC A 0.136/GRAINS/IN. HG. SQ. FT.	ASTM E 96, PROC A 1.39 G/MXM/24H

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

1. COMPANY NAME		SEAL-DRY/USA, INC.	SEAMAN CORP.	SEAMAN CORP.	STEVENS ROOFING SYSTEMS
2. PRODUCT NAME		SEAL-DRY SYSTEM 3000	FIBERTITE FB	FIBERTITE	STEVENS EP .045
3. PRODUCT DESCRIPTION		POLYESTER REINFORCED CPA	POLYESTER REINFORCED EIP WITH FLEECE BACK	POLYESTER REINFORCED EIP	REINFORCED TPO
4. THICKNESS	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 751
	RESULTS	40 MIL NOM	40 MIL	33 MILS NOM	0.045 IN.
5. TENSILE STRENGTH	METHOD	A. ASTM D 751 B. ASTM D882	A. ASTM D 751 B. ASTM D 882	A. ASTM D 882 B. ASTM D 751, GRAB METHOD	ASTM D 751 (BREAK STRENGTH)
	RESULTS	A. 300 X 325 LBS. B. 8000 PSI	A. 375 X 300 LBS. B. 8500 PSI	A. 8500 PSI B. 450 LBS. X 450 LBS.	310 LB./F
6. LAP JOINT METHOD	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	HEAT WELD
	RESULTS	>350 LBS.	> 400 LBS.	>400 LBS.	RUPTURE OUTSIDE SEAM OVERLAP
7. ELONGATION AT BREAK	METHOD	ASTM D 751	ASTM D 751	ASTM D 751	ASTM D 412
	RESULTS	35% X 35%	15% WARP X 15% FILL	20% WARP, 30% FILL	700%
8. TENSILE SET	METHOD				
	RESULTS				
9. LOW TEMPERATURE FLEXIBILITY	METHOD	ASTM D 2136 -30 F	ASTM D 2146	ASTM D 2136	ASTM D 2137
	RESULTS	NO CRACKS	-30 F, NO CRACKS	-30 F, NO CRACKS	-45 C
10. WATER ABSORPTION	METHOD	ASTM D 570 @ 70 F, @ 122 F, 48 HRS.	ASTM D 471 14 DAYS @ 70 C	ASTM D 471 14 DAYS @ 70 C	ASTM D 471 (7 DAYS @ 158 F)
	RESULTS	<1.0%	1%	1%	2%
11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION	METHOD	ASTM D 570			
	RESULTS	NO CHANGE			
12. HEATING AGING	METHOD	14 DAYS @ 175 F, 100% STRENGTH RETAINED	ASTM D 3045 (160 F/7 DAYS)	ASTM D 3045 (160 F/7 DAYS)	ASTM D 573 (28 DAYS @ 212 F)
	RESULTS	NO CRACKING, CRAZING, BLIST	>90% STRENGTH RETENTION	>90% STRENGTH RETENTION	BREAK: 275 LB./F
13. OZONE RESISTANCE	METHOD	ASTM D 1149	3 DAYS@100PPHM -100F & 3 DAYS@300PPHM-100 F NO CRACKING	3 DAYS@100PPHM-100 F & 3 DAYS@300PPHM-100 F NO CRACKING	ASTM D 1149
	RESULTS	PASS, NO CRACKS, 7X			PASS
14. RESISTANCE TO ACCELERATED WEATHERING	METHOD	A. ASTM D 2565 WEATHER MTR B. ASTM E 838 (DSET)	ASTM D 2565	A. ASTM D 2565 B. ASTM E 838	ASTM G-26 (4000 HRS. @ 176 F)
	RESULTS	A. 15,000 HRS. B. 4,500,000 LANGLEYS	5000 HRS., NO CRACKING	A. 5,000 HOURS, NO CRACKING B. 3 MILLION LANGLEYS	PASS
15. DYNAMIC IMPACTING (PUNCTURING)	METHOD	FS 101B, METHOD 2031	ASTM D 5635	ASTM D 5635	FTM 101 B
	RESULTS	225 LBS.	20 JOULES	20 JOULES	350 LB./F
16. TEAR RESISTANCE	METHOD	ASTM D 751, 8" X 8" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	
	RESULTS	100 X 120 LBS.	100 X 100 LBS.	120 X 120	
17. TEARING STRENGTH	METHOD	ASTM D 751, 8" X 8" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751, 8" X 10" SAMPLE	ASTM D 751 (PROCEDURE B)
	RESULTS	100 X 120 LBS.	100 X 100 LBS.	120 X 120	100 LB./F
18. LOW TEMPERATURE IMPACT	METHOD	ASTM D 2136 -30 F	ASTM D 2136, -30 F	ASTM D 2136,-30 F	
	RESULTS	NO CRACK	NO CRACKING	NO CRACKING	
19. PERMEABILITY	METHOD	ASTM E 96, PROC A	WATER VAPOR TRANSMISSION, ASTM E 96, PROC A	WATER VAPOR TRANSMISSION, ASTM E 96, PROC A	ASTM E 96 (PROCEDURE B)
	RESULTS	1.39 G/MXM/24H	1.3 G/MXM/24H	1.3 G/MXM/24H	0.035 PERMS
20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION	METHOD		ASTM D 1204	37-GP-54M	
	RESULTS		0.50%	SHALL NOT CHANGE MORE THAN 0.24	
21. CONE PENETRATION	METHOD		37-GP-54M	37-GP-54M	
	RESULTS		PASS	PASS	
22. SEE MEMBRANE APPENDIX IF CHECKED			X	X	

Other Prefabricated Sheet-applied Membranes Part 2: Test Results

STEVENS ROOFING SYSTEMS	UNIROOF CORPORATION	UNIROOF CORPORATION	VERSICO INCORPORATED
STEVENS EP .060	TRAFFIGARD	FORMFLEX	VERSIWELD PREMIER
REINFORCED TPO	FIBERGLASS REINFORCED ACRYLIC	ACRYLIC	TPO THERMOPLASTIC OLEFIN
ASTM D 751 0.060 IN.			ASTM D412 0.385 MM MIN 0.015 IN. MIN
ASTM D 751 (BREAK STRENGTH) 310 LB./F	ASTM D 2370 211 N		ASTM 0751 GRAB METHOD 1 KN 225 LBF
HEAT WELD RUPTURE OUTSIDE SEAM OVERLAP			HEAT WELD
ASTM D 412 700%	ASTM D 2370 740% (NONREINFORCED)		ASTM D 412 DIE C 15% MIN FOR REINFORCING FABRIC ONLY
ASTM D 2137 -45 C			
ASTM D 471 (7 DAYS @ 158 F) 2%			ASTM D471 at 70 C FOR 166 HRS +4, -4 ON EXPOSED SURFACE
ASTM D 573 (28 DAYS @ 212 F) BREAK: 275 LB./F			ASTM D 573 AGE BREAKING STRENGTH 1-0 KN 225 LBF
ASTM D 1149 PASS			ASTM D 1149 PASS
ASTM G-26 (4000 HRS. @ 176 F) PASS			
FTM 101 B 350 LB./F			
ASTM D 751 (PROCEDURE B) 100 LB./F			ASTM D751 PROCEDURE B 55 N 245 LBF
ASTM E 96 (PROCEDURE B) 0.035 PERMS			
			ASTM D1204 AT 212° F +2, -2

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	ALDO PRODUCTS CO. INC.	ALDO PRODUCTS CO. INC.	ALDO PRODUCTS CO. INC.	ALDO PRODUCTS CO. INC.	ANDEK CORP.
2. PRODUCT NAME	ALDOCOAT 374 BASE	ALDOCOAT 374 TOP	ALDOCOAT 384 BASE/TOP	ALDOCOAT 384 BASE/TOP	R.A.C.
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)	X	X			
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	YES GRAY	YES WHITE	YES	YES ALUMINUM	NO SILVER
3.3 COLORS AVAILABLE					
4. NAME OF PRODUCT: BASE COATING	ALDOCOAT 374 GRAY		ALDOCOAT 384		R.A.C.
TOP COATING		ALDOCOAT 374 WHITE		ALDOCOAT 384	R.A.C.
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	1	1	1	1	1
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	13 – 15	13 – 15	13 – 15	13 – 15	15
7. FILM CURE TIME BASE COATING TOP COATING	8 HOURS	12 HOURS	6 HOURS	8 HOURS	8 HOURS
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/8"	1/8"	1/8"	1/8"	NONE
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS	X X X P X	X X X P X	X X X P X	X X X P X	X P X X X
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	40 – 85 10 15	40 – 85 10 15	40 – 85 10 15	40 – 85 10 15	30 – 100 10 15
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	NONE	NONE	NONE
15. RECOMMENDED RECOATING SCHEDULE (years or none)	5	5	5	5	10
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	450 315 160 NO CHANGE 0.5 MAX	450 315 160 NO CHANGE 0.5 MAX	950 300 160 NO CHANGE 0.3 MAX	950 300 160 NO CHANGE 0.3 MAX	620 570 210 NO CHANGE NONE NONE
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	1 2.5 – 3.5 40 MIN. 90 MIN.	1 2.5 – 3.5 40 MIN. 90 MIN.	1 2.5 – 3.5 40 90	1 2.5 – 3.5 40 90	1 2.5 – 3.5 40 MIN. 90 MIN.
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	NO	NO	NO	NO	NO
20. YEAR OF FIRST COMMERCIAL USE	1980	1980	1980	1980	1978
21. NUMBER OF SQUARES INSTALLED (100 ft ²)	100,000	100,000	100,000	100,000	220,000
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	YES	YES	YES	YES
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	5	5			5
25. FOR SALES INFORMATION, CONTACT:	R. BRENK	R. BRENK	R. BRENK	R. BRENK	HARVEY LISS
FOR TECHNICAL INFORMATION, CONTACT:	W. KRAMER	W. KRAMER	W. KRAMER	W. KRAMER	NEIL SHEARER
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

ANDEK CORP.	ANDEK CORP.	ANDEK CORP.	CONKLIN CO. INC.	CONKLIN CO. INC.	CONKLIN CO. INC.	CONKLIN CO. INC.	CONKLIN CO. INC.	CONKLIN CO. INC.
R.A.C. OZ	POLAROOF NW	POLAROOF AC	RAPID ROOF III BASE COAT	RAPID ROOF III TOP COAT	POLYTUFF II BASE COAT	POLYTUFF II TOP COAT	BENCHMARK BASE COAT	BENCHMARK TOP COAT
		X	X	X			X	X
						X		
X					X			
ETHYLENE ELASTOMER								
NO SILVER	YES ANY COLOR	NO ANY COLOR	NO TAN	NO WHITE, TAN, GRAY	YES SILVER, GRAY	YES WHITE	YES BLUE	YES WHITE, GRAY
R.A.C. OZ	POLAROOF NW	POLAROOF AC	RAPID ROOF III BASE COAT		POLYTUFF II BASE COAT		BENCHMARK BASE COAT	
R.A.C. OZ	POLAROOF NW	POLAROOF AC		RAPID ROOF III TOP COAT		POLYTUFF II TOP COAT		BENCHMARK TOP COAT
1	1	1	1		1		1	
1	1	1		1		1		1
NO	NO	NO		OPTIONAL	NO	NO		OPTIONAL
15	12	15	13		16.0		13.5	
15	12	15		12		4.0		13.5
8 HOURS	14	2	2 – 8 HOURS		2 – 4 HOURS		2 – 8 HOURS	
8 HOURS	16	1		2 – 8 HOURS		30 MINS		2 – 8 HOURS
NONE	NONE	2	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
X	P	P	P	P	P	P	P	P
P	P	P	P	P	P	P	P	P
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
X	X	X						
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
20 – 100	0 – 90	45 – 90	50 – 100	50 – 100	40 – 100	40 – 100	50 – 100	50 – 100
10	10	10	15	15	15	15	15	15
15	15	15	25	25	25	25	25	25
X	X	X	X	X	X	X	X	X
ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER	ROLLER	ROLLER	ROLLER	ROLLER	ROLLER
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
NONE	YES	YES	YES	YES	NONE	NONE	NONE	NONE
10	10	10	10+	10+	10+	10+	10+	10+
1400	864	250	67	201	1400	1400	325	476
570	550	500	377	262	630	630	375	118
630	280	120	160	160	160	160	160	160
NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
NONE	NONE	NONE						
NONE	NONE	1.3%					<12%	<12%
YES	NO	YES	YES	YES	YES	YES	YES	YES
1	2	1	1	1	1	1	1	1
2.5 – 3.5	2.5 – 3.5	2.5 – 3.5	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0
40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.
90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.
NO	NO	NO	NO	NO	NO	NO	NO	NO
1988	1985	1996	1994	1994	1982	1982	1991	1991
45,000	52,000	15,000	>1,000,000	>1,000,000	> 150,000	> 150,000	>1,000,000	>1,000,000
YES	YES	YES	NO	NO	NO	NO	NO	NO
DISTRs, DIRECT	DISTRs, DIRECT	DISTRs, DIRECT	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS
5	5	5	5	5	5	5	5	5
HARVEY LISS	HARVEY LISS	HARVEY LISS	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	0 800/888-8838	BUILD. PRODS. 800/888-8838
NEIL SHEARER	NEIL SHEARER	NEIL SHEARER	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838	BUILD. PRODS. 800/888-8838

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	DOW CORNING CORPORATION	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS
2. PRODUCT NAME	DOW CORNING 3-5000 SILICONE ROOF COATING	ERATHANE 300 BASE	ERATHANE 300	ERAGUARD 4000	ERATHANE 300
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)	 X 	 X 	 X 	 X 	 X
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	NO				
3.3 COLORS AVAILABLE	DK GRAY, GRAY WHITE, BEIGE	GRAY	GRAY	GRAY AND WHITE	GRAY
4. NAME OF PRODUCT: BASE COATING	SAME	ERATHANE 300 BASE		ERAGUARD 4000	ERATHANE 300
TOP COATING	SAME		ERATHANE 300	ERAGUARD 4000	ERATHANE 300
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	 1 OPTIONAL	 1 	 1 OPTIONAL	 1 OPTIONAL	 1 OPTIONAL
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	 8 – 10 7 – 10	 25 	 10	 11 11	 16 16
7. FILM CURE TIME BASE COATING TOP COATING	 2 – 6 HOURS 2 – 6 HOURS	 24 HRS @ 75F 	 12 HRS @ 75F	 4 HRS @ 70F 4 HRS @ 70F	 12 HRS @ 75F 12 HRS @ 75F
8. MINIMUM SLOPE REQUIRED (inches per foot)	NO PONDING	1/8"	1/8"	1/8"	1/8"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS	 P X X X X	 X X X X X	 X X X X X	 X X X P 	 X X X X X
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	 >32 10 25	 40+ 7 25	 40+ 7 25	 40+ 5 25	 40+ 7 25
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	 X 	 X 	 X 	 X 	 X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	NONE	NONE	NONE	NONE	NONE
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	 400 150 NONE NO CHANGE 0.31	 975 825 NO CHANGE	 660 200 NO CHANGE	 450 200 NO CHANGE	 660 200 NO CHANGE
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	 1 2.5 40 90	 1 3 40 98	 	 1 3 40 98	 40 MIN.
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	NO	YES		YES	YES
20. YEAR OF FIRST COMMERCIAL USE	1974	1993	1979	1981	1979
21. NUMBER OF SQUARES INSTALLED (100 ft ²)	MILLIONS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	YES		YES	YES
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DISTR, DIRECT		DISTR, DIRECT	DISTR, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	7	14		14	14
25. FOR SALES INFORMATION, CONTACT:	PROD INFORM. 517/496-6000	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747
FOR TECHNICAL INFORMATION, CONTACT:	B. SWISHER 770/751-7979	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	FOAM ENTERPRISES	FOAM ENTERPRISES	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.
ERAGUARD 1000	ERATHANE 300 BASE	ERAKOTE	ROCK COAT #50	ROCK ASPHALT #30	FUTURA-THANE 5007	FUTURA-FLEX 550	FUTURA-THANE 5600	FUTURA-THANE 5650
X			X					
	X	X			X	X	X	X
				X				
WHITE AND CUSTOM	GRAY	WHITE AND CUSTOM	NO	NO	YES GRAY	YES WHITE, OTHER COLORS	YES BUFF	YES WHITE
ERAGUARD 1000	ERATHANE 300 BASE		ROCK COAT #50	ROCK ASPHALT #30	SAME	FUTURA-THANE 5007	SAME	FUTURA-THANE 5600
ERAGUARD 1000		ERAKOTE	ROCK COAT #50	NA	FUTURA-FLEX 550	SAME	FUTURA-THANE 5650	SAME
1	1		1	1	1		1 – 2	
1		1	1			1		1
OPTIONAL		NO	NO	YES	NO	NO	NO	NO
16 MIN.	25		15	5 MAX	20 – 40		20 – 24	
16 MIN.		7	15	NONE		10		10 – 15
24 HRS @ 70F	24 HRS. @ 75F		12 – 24 HOURS		<5 MINS @ 75F		1 – 3 HRS @ 75F	
24 HRS @ 70F		6 HRS. @ 75F	12 – 24 HOURS	NA		6 – 8 HRS @ 75F		1 – 3 HRS @ 75F
1/8"	1/8"	1/8"	PROP DRAINAGE	PROP DRAINAGE	1/8"	1/8"	1/8"	1/8"
X	X	X	P	X	X P	X P	X P	X P
X	X	X	P	X	X P T	X P T	X P T	X P T
X	X	X	X	X	X P	X P	X P	X P
X	X	X	X	X	X P	X P	X P	X P
X	X	X			P	P	P	P
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
40+	40+	40+	45	30	30 – 120	40 – 110	32 – 120	32 – 120
7	7	7	15	15	10	10	10	10
25	25	25	30	30	15	15	15	15
X	X	X	X	X	X	X	X	X
						ROLLER, BRUSH	ROLLER	ROLLER
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	YES	YES	YES	YES	YES	YES
NONE	NONE	NONE	10 – 15	NONE	8 – 10	8 – 10	8 – 10	8 – 10
250	975	1500	>150		3200±50	2700±50	1225 ± 50	1800 ± 50
300	825	350	>200		300±25	275±25	310 ± 25	300 ± 25
					140		160	
NO CHANGE	NO CHANGE	NO CHANGE	SLIGHT CHALK.		NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
					NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
					1.5	1.5	< 1.5	< 1.5
YES	YES	YES	YES	YES	YES	YES	YES	YES
1	1	1	1.5		1 – 1 1/2	1 – 1 1/2	1 1/2	1 1/2
3	3	3	2.7		2.5 – 3	2.5 – 3	3.0	3.0
40 MIN.	40 MIN.	40 MIN.	40		40 MIN.	40 MIN.	45	45
98	98	98	>90		90 MIN.	90 MIN.	90 MIN.	90 MIN.
YES	YES	YES	YES	YES	NO	NO	NO	NO
1982	1993	1979	1988	1988	1983	1979	1986	1986
THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	3 MILLION+	5 MILLION+	500,000 +	1 MILLION+
YES	YES	YES	NO	NO	YES	YES	YES	YES
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
14	14	14	7	7	5	5	5	5
J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. ANDERSEN	J. ANDERSEN	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100
J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. ANDERSEN	J. ANDERSEN	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100
			X	X				

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.
2. PRODUCT NAME	FUTURA-THANE 5600	FUTURA-THANE 5625	FUTURA-THANE 516	ELASTO-BOND 801	FUTURA-FLEX 550
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)				X	
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	YES	YES	YES	YES	YES
3.3 COLORS AVAILABLE	BUFF	ALUMINUM	GRAY	BLACK, GRAY	WHITE, OTHER COLORS
4. NAME OF PRODUCT: BASE COATING	SAME	FUTURA-THANE 5600	SAME	SAME	ELASTO-BOND 801 (BASE)
TOP COATING	FUTURA-FLEX 5625	SAME	SAME	FUTURA-FLEX 550	FUTURA-THANE 550 (TOP) OR SAME
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	1 – 2 NO	1 NO	1 – 2 OPTIONAL	1 – 3 NO	1 NO
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	20 – 26	10 – 20	30 – 40	20 – 35	10 – 15
7. FILM CURE TIME BASE COATING TOP COATING	1 – 3 HRS @ 75F	1 – 3 HRS @ 75F	6 – 12 HRS @ 75F	8 – 10 HRS @ 75F	6 – 8 HRS @ 75F
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/8"	1/8"	1/8"	1/8"	1/8"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDLED BUILT-UP ROOFING E. OTHER COATINGS	X P X P T X P X P P	X P X P T X P X P P	X P X P T X P X P P	X P X P T X P X P P	X P X P T X P X P P
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	32 – 120 10 15	32 – 120 10 15	40 – 110 10 15	40 – 110 10 15	40 – 110 10 15
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH	X ROLLER, BRUSH
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	NO	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	5 – 10	5 – 10	5 – 10	5 – 10	5 – 10
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	1225±50 310±25 160 NO CHANGE NO CHANGE 1.5 MAX	850±50 300±25 160 NO CHANGE NO CHANGE 1.5 MAX	500±100 200±30 160 NO CHANGE NO CHANGE 1 MAX	375±25 180±25 160 NO CHANGE NO CHANGE 0.5	2700±50 275±25 160 NO CHANGE NO CHANGE 1.5
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	1 – 1 1/2 2.5 – 3 40 MIN. 90 MIN.	1 – 1 1/2 2.5 – 3 40 MIN. 90 MIN.	1 – 1 1/2 2.5 – 3 40 MIN. 90 MIN.	1 – 1 1/2 2.5 – 3 40 MIN. 90 MIN.	1 – 1 1/2 2.5 – 3 40 MIN. 90 MIN.
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	NO	NO	NO	NO	NO
20. YEAR OF FIRST COMMERCIAL USE	1986	1986	1988	1980	1979
21. NUMBER OF SQUARES INSTALLED (100 ft²)	2 MILLION+	2.5 MILLION+	600,000+	1 MILLION+	5 MILLION+
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	YES	YES	YES	YES
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	5	5	5	5	5
25. FOR SALES INFORMATION, CONTACT:	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100
FOR TECHNICAL INFORMATION, CONTACT:	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	FUTURA COATINGS, INC.	GACO WESTERN INC.
ELASTO-BOND 820	ACRO-BOND 440	ACRO-BOND 442	ACRO-BOND 448	FUTURA-THANE 17060	FUTURA-FLEX 510	5615 BASE	5615 TOP	URECAP
	X	X	X					
X				X	X	X	X	X
NO DARK GRAY, LIGHT GRAY	NO LIGHT BLUE	NO WHITE	NO WHITE, GRAY, OTHERS	YES ALUMINUM	YES BLACK	YES GRAY	YES ALUMINUM	YES GRAYS, BLACK, ALUMINUM
ELASTO-BOND 820	SAME	ACRO-BOND 440	SAME	FUTURA-FLEX 510	SAME	SAME	5615 BASE	URECAP
ELASTO-BOND 820	ACRO-BOND 442	SAME	SAME	SAME	FUTURA-THANE 17060	5615 TOP		URECAP
1	1		1		1 – 2	1 – 2		2
1		1	1	1	1		1	1
OPTIONAL	NO	OPTIONAL	OPTIONAL	OPTIONAL	NO	OPTIONAL	OPTIONAL	NO
10 – 12 1/2	15 – 18		15 – 18		20 – 60	20 – 40		22
10 – 12 1/2		15 – 18	15 – 18	10 – 20			10 – 15	14
3 – 4 HRS @ 75F	1 1/2 – 3 HOURS		1 1/2 – 3 HOURS		4 – 6 HOURS	6 – 8 HRS @ 75F		12 HOURS
3 – 4 HRS @ 75F		1 1/2 – 3 HOURS	1 1/2 – 3 HOURS	6 – 8 HOURS			6 – 8 HRS @ 75F	12 HOURS
1/2"	1/2"	1/2"	1/2"	1/8"	1/8"	1/8"	1/8"	1/4"
X P	X P	X P	X P	X P	X P	X P	X P	P
X P T	X P T	X P T	X P	X P	X P	X P	X P	P
X P	X P	X P	X P	X P	X P	X P	X P	P
X P	X P	X P	X P	X P	X P	X P	X P	X P
P	P	P	P	X P	X P	X	X	P
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
40 – 110	50+	50+	50+	32 – 120	45 – 110	32 – 120	32 – 120	40 – 100
10	10	10	10	10	10	10	10	15
15	15	15	15	15	15	15	15	25
X	X	X	X	X	X	X	X	X
ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	ROLLER, BRUSH	
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	YES	YES	YES	YES	YES	YES
5 – 10	5 – 10	5 – 10	5 – 10	8 – 10	5 – 10	8 – 10	8 – 10	NONE
450-550	300	300	300	700	300			2200
140±10	270	270	120	120	300	400	400	350
	62	62						
NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	
NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	
0.5±0.1				1.5% MAX.	.75 MAX.			
YES	YES	YES	YES	YES	YES	YES	YES	YES
1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1 – 1 1/2	1
2.5 – 3	2.5 – 3	2.5 – 3	2.5 – 3	2.5 – 3	2.5 – 3	2.5	2.5	2.4 – 3.2
40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40 MIN.	40	40	43 – 58
90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90 MIN.	90	90	90 – 91
NO	NO	NO	NO	NO	NO	NO	NO	YES
1987	1979	1979	1988	1994	1990	1996	1996	1988
1.2 MILLION+	2 MILLION+	2 MILLION+	1 MILLION+	100,000+	200,000+			
YES	YES	YES	YES	YES	YES	YES	YES	NO
DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT	DISTR, DIRECT
5	5	5	5	5	5	5	5	3
B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	J. FREEMESSER 800/869-0958
B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	B. SCHENKE 314/521-4100	A. JENKINS 800/456-4226
								X

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.
2. PRODUCT NAME	URESIELD	URECAP	URESIELD	URECAP	URECAP
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)					
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	YES	YES	YES	YES	YES
3.3 COLORS AVAILABLE	ALUMINUM	BLACK	ALUMINUM	BLACK	GRAYS, BLACK, ALUMINUM
4. NAME OF PRODUCT: BASE COATING	URESIELD	SAME	URECAP	SAME	URECAP
TOP COATING	URESIELD	URESIELD	SAME	URECAP	SAME
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)					
	2	1		1	
	1		1		1
	NO	NO	NO	NO	NO
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING					
	22	22		22	
	14		10		14
7. FILM CURE TIME BASE COATING TOP COATING					
	12 HOURS	12 HOURS		12 HOURS	
	12 HOURS		12 HOURS		12 HOURS
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/4"	1/4"	1/4"	1/4"	1/4"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS					
	P	P	P	P	P
	P	P	P	P	P
	P	P	P	P	P
	X	X	X	X	X
	P	P	P	P	P
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)					
	40 – 100	40 – 100	40 – 100	40 – 100	40 – 100
	15	15	15	15	15
	25	25	25	25	25
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)					
	X	X	X	X	X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	NONE	NONE	NONE	NONE	NONE
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)					
	1600	1000	1600	1000	2200
	400	350	400	350	350
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)					
	1	1	1	1	1
	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2
	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58
	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES	YES	YES
20. YEAR OF FIRST COMMERCIAL USE	1974	1989	1974	1989	1988
21. NUMBER OF SQUARES INSTALLED (100 ft ²)					
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	NO	NO	NO	NO	NO
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	3	3	3	3	3
25. FOR SALES INFORMATION, CONTACT:	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958
FOR TECHNICAL INFORMATION, CONTACT:	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226
26. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.
A-5511	A-5500	URECAP	A-5500	UB-64	UA-6500	UB-64	A-5500	URECAP
X	X		X				X	
		X		X	X	X		X
NO GRAY	NO WHITE	YES BLACK	NO WHITE	YES GRAY	YES WHITE	YES GRAY	NO WHITE	YES BLACK
SAME	A-5511	SAME	URECAP	SAME	UB-64	SAME	UB-64	SAME
A-5500	SAME	A-5500	SAME	UA-6500	SAME	UA-5500	SAME	UA-6500
2		1		2		2		1
NO	1 NO	NO	1 NO	NO	1 NO	NO	1 NO	NO
22		22		22		22		22
	9.5		9.5		12		9.5	
18 HOURS		12 HOURS		12 HOURS		12 HOURS		12 HOURS
	18 HOURS		18 HOURS		24 HOURS		18 HOURS	
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
P	P	P	P	P	P	P	P	P
P	P	P	P	P	P	P	P	P
P	P	P	P	P	P	P	P	P
X	X	X	X	X	X	X	X	X
P	P	P	P	P	P	P	P	P
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
50 – 100	50 – 100	40 – 100	50 – 100	40 – 100	40 – 100	40 – 100	50 – 100	40 – 100
15	15	15	15	15	15	15	15	15
25	25	25	25	25	25	25	25	25
X	X	X	X	X	X	X	X	X
				X	X	X		
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	YES	YES	YES	YES	YES	YES
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
225	225	1000	225	2500	2700	2500	225	1000
200	200	350	200	450	250	450	200	350
				2.0	2.8	2.0		
YES	YES	YES	YES	YES	YES	YES	YES	YES
1	1	1	1	1	1	1	1	1
2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2
43 – 58	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58
90 – 91	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91
YES	YES	YES	YES	YES	YES	YES	YES	YES
1978	1978	1989	1978	1984	1977	1984	1978	1989
NO	NO	NO	NO	NO	NO	NO	NO	NO
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
3	3	3	3	3	3	3	3	3
J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958
A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226
X	X	X	X	X	X	X	X	X

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.
2. PRODUCT NAME	UA-6500	UB-7050	URESIELD	UB-7050	UA-6500
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)					
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	YES	YES	YES	YES	YES
3.3 COLORS AVAILABLE	WHITE	OLIVE	ALUMINUM	OLIVE	WHITE
4. NAME OF PRODUCT: BASE COATING	URECAP	SAME	UB-7050	SAME	UB-7050
TOP COATING	SAME	URESIELD	SAME	UA-6500	SAME
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)					
	1	1	1	1	1
	NO	NO	NO	NO	NO
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING					
	12	22	10	22	10
7. FILM CURE TIME BASE COATING TOP COATING					
		0.50 HR		0.50 HR	
	24 HOURS		12 HOURS		24 HOURS
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/4"	1/4"	1/4"	1/4"	1/4"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS					
	P	P	P	P	P
	P	P	P	P	P
	P	P	P	P	P
	X	X	X	X	X
	P	P	P	P	P
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)					
	40 – 100	50 – 100	40 – 100	50 – 100	40 – 100
	15	15	15	15	15
	25	25	25	25	25
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)					
	X		X		X
	X	X		X	X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	NONE	NONE	NONE	NONE	NONE
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)					
	2700	2900	1600	2900	2700
	250	190	400	190	250
	2.8	2.5		2.5	2.8
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)					
	1	1	1	1	1
	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2
	43 – 58	43 – 58	43 – 58	43 – 58	43 – 58
	90 – 91	90 – 91	90 – 91	90 – 91	90 – 91
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES	YES	YES
20. YEAR OF FIRST COMMERCIAL USE	1977	1990	1974	1990	1977
21. NUMBER OF SQUARES INSTALLED (100 ft ²)					
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	NO	YES	NO	YES	NO
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	3	3	3	3	3
25. FOR SALES INFORMATION, CONTACT:	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958
FOR TECHNICAL INFORMATION, CONTACT:	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226
26. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X	X

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GARDNER ASPHALT CORP./ APOC DIVISION	GARDNER ASPHALT CORP./ APOC DIVISION	GARDNER ASPHALT CORP./ APOC DIVISION	G.C.S. COATINGS	G.C.S. COATINGS
UB-7050	A-5500	UB-64	U-66	APOC #252 SUN- WHITE ELASTO- MERIC RF COATING	GARDNER ELASTOMERIC ROOF COATING	APOC #337	VAP-O-LOC	TRI-COAT
				X	X			
				X				
X	X	X	X					
						X		
							BLEND OF POLYMERS	EPDM EMULSION
YES OLIVE	NO WHITE	YES GRAY	YES SIX STANDARD	YES WHITE, TAN, RED, GRAY	YES WHITE	YES BLACK	YES VARIOUS	NO VARIOUS
SAME	UB-7050	SAME	UB-64	APOC #252 ROOF COATING	GARDNER WHITE ROOF PATCH	APOC #337	VAP-O-LOC	TRI-COAT
A-5500	SAME	U-66	SAME	APOC #252 ROOF COATING	SAME	APOC #252	VAP-O-LOC	TRI-COAT
1		2		1	1	1	1	1
	1		1	1	2	1	1	1
NO	NO	NO	NO	NO	NO		NO	NO
22		22		8 – 10	10 – 12	10 – 12		12 – 15
	9.5		10	8 – 10	10 – 12	8 – 10		12 – 15
0.50 HR		12 HOURS		4 – 6 HOURS	4 – 6 HOURS	4 – 6 HOURS	2 HOURS	2 – 4 HOURS
	18 HOURS		18 HOURS	4 – 6 HOURS	4 – 6 HOURS	4 – 6 HOURS	2 HOURS	2 – 4 HOURS
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	NONE	1/8"
P	P	P	P	P	P	P	P	P
P	P	P	P	T	T	T	P	P
P	P	P	P	X	X	X	P	P
X	X	X	X	P	P	P		P
P	P	P	P	X	X	X		X
SELF	SELF	SELF	SELF	SELF	SELF		SELF	SELF
50 – 100	50 – 100	40 – 100	40 – 100	50 – 100	50 – 90	60 – 100	0 – 120	40 – 110
15	15	15	15	10	10	15	15	20
25	25	25	25	15	15	15	15	20
	X	X	X	X	X	X	X	X
X		X	X	X	X	X		
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	YES	NONE	NONE	NONE	NONE	YES
NONE	NONE	NONE	NONE	5	5	5		10
2900	225	2600	1400	250 – 300	250 – 300	150	1500	500
190	200	300	450	250 – 300	250 – 300	150 – 200	600	300
								28
				NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
2.5		2.0	2.0	<20	<20	<20	0.2	0.4
YES	YES	YES	YES	YES	NO	YES	NO	YES
1	1	1	1					1
2.4 – 3.2	2.4 – 3.2	2.4 – 3.2	2.4 – 3.2				2.5 – 3.5	2.5 – 3.5
43 – 58	43 – 58	43 – 58	43 – 58				45 MIN.	45 MIN.
90 – 91	90 – 91	90 – 91	90 – 91				90 MIN.	90 MIN.
YES	YES	YES	YES	NO	NO	NO	NO	NO
1990	1978	1984	1972	1984	1985	1984	1986	1989
								25,000
YES	NO	NO	NO	NO	NO	NO	NO	NO
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRIBUTORS	DISTRIBUTORS	DISTRIBUTORS		
3	3	3	3	13	13	13	10	10
J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	J. FREEMESSER 800/869-0958	T. HYER 800/237-1155	T. HYER 800/237-1155	T. HYER 800/237-1155		
A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	A. JENKINS 800/456-4226	J. HUNTER 800/237-1155	J. HUNTER 800/237-1155	J. HUNTER 800/237-1155		
X	X	X	X					

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	G.C.S. COATINGS	G.C.S. COATINGS	G.C.S. COATINGS	G.E. SILICONES DIVISION OF GENERAL ELECTRIC	G.E. SILICONES DIVISION OF GENERAL ELECTRIC
2. PRODUCT NAME	GENERIC ACRYLIC	GEO-THERM	SILICONE 70-W	SCM3308 BASE COAT	SCM3304 TOP COAT
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)	X	X			
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	NO	NO		NO	NO
3.3 COLORS AVAILABLE	VARIOUS	VARIOUS		DARK GRAY	MED. GRAY
4. NAME OF PRODUCT: BASE COATING	GENERIC ACRYLIC	GEO-THERM	SILICONE 70-W		SCM3308 BASE COAT
TOP COATING	GENERIC ACRYLIC	GEO-THERM	SILICONE 70-W	SCM3304 TOP COAT	
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	1 1 OPTIONAL	1 1 OPTIONAL	1 1 OPTIONAL	1 YES	 1 YES
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	12 – 15 12 – 15	12 – 15 12 – 15	15 15	10-12	10-12
7. FILM CURE TIME BASE COATING TOP COATING	2 – 4 HOURS 2 – 4 HOURS	2 – 4 HOURS 2 – 4 HOURS	2 – 4 HOURS 2 – 4 HOURS	20 MINS. 	 1 HR
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/8"	NONE	NONE	1/8"	1/8"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS	 X	 X	 X	 X	 X
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF		
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	40 – 110 20 20	40 – 110 20 20	40 – 110 20 20	40 MIN. 10 15	40 MIN. 10 15
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X 	X 	X 	 X 	 X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	5	10	10	NONE	NONE
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	400 200 25 NO CHANGE 50 0.8 MAX.	308 620 28 NO CHANGE 50 0.8 MAX.	1500 600 28 NO CHANGE 50 0.8 MAX.	500 – 600 100 – 150 NONE NONE 0.5 MAX	500 – 600 100 – 150 NONE NONE 0.5 MAX
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	NO	YES	NO	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	1 2.5 – 3.5 45 MIN. 90 MIN.	1 2.5 – 3.5 45 MIN. 90 MIN.	1 2.5 – 3.5 45 MIN. 90 MIN.	1 3.0 40 MIN. 90 MIN.	1 3.0 40 MIN. 90 MIN.
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	NO	NO	NO	NO	NO
20. YEAR OF FIRST COMMERCIAL USE	1987	1982	1987	1973	1973
21. NUMBER OF SQUARES INSTALLED (100 ft ²)	80,000	140,000		1,000,000+	1,000,000+
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	NO	NO	NO	YES	YES
23. METHODS OF DISTRIBUTION (distributors and/or direct)				DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	10	10	10	7	7
25. FOR SALES INFORMATION, CONTACT:				W. BILINSKI 770/662-1083	W. BILINSKI 770/662-1083
FOR TECHNICAL INFORMATION, CONTACT:				J. LINDYBERG 518/233-2313	J. LINDYBERG 518/233-2313
26. SEE MEMBRANE APPENDIX IF CHECKED				X	X

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

G.E. SILICONES DIVISION OF GENERAL ELECTRIC	G.E. SILICONES DIVISION OF GENERAL ELECTRIC	NATIONAL COATINGS CORPORATION	NEOGARD, A DIVISION OF JONES-BLAIR CO.	NEOGARD, A DIVISION OF JONES-BLAIR CO.	NEOGARD, A DIVISION OF JONES-BLAIR CO.	NEOGARD, A DIVISION OF JONES-BLAIR CO.	NEOGARD, A DIVISION OF JONES-BLAIR CO.	NEOGARD, A DIVISION OF JONES-BLAIR CO.
SCM3408 BASE COAT	SCM 3404 TOP COAT	ACRYSHIELD	PERMATHANE II FR	PERMATHANE FR	PERMATHANE FR	ELASTACRYL FR	SILICONE FR	PERMA-SIL TC FR
		X				X		
X	X		X	X	X		X	X
NO DARK GRAY	NO MED. GRAY	NO GRAY, OFF-WHITE, WHITE, CUSTOM	NO GRAY, WHITE, TAN	NO GRAY, WHITE, TAN	NO GRAY, WHITE, TAN	NO GRAY, WHITE, TAN	NO GRAY, WHITE, TAN	NO GRAY, WHITE, TAN
	SCM3408 BASECOAT	ACRYSHIELD	PERMATHANE II FR	PERMAGARD FR		ELASTACRYL FR	SILICONE FR	PERMAGARD TC FR
SCM3404 TOP COAT		ACRYSHIELD	PERMATHANE II		URETHANE R	ELASTACRYL FR	SILICONE FR	
		1	1-2	2		2-3	1 OR 2	1-2
		1	1		2		1 OR 2	
		OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
10-12		12		26 AVG				20 AVG
	10-12	12	38 AVG		12 AVG	27 AVG	20 MIN	
.5-2 HOURS		2-8 HOURS		24 HOURS		24 HOURS		24 HOURS
	.5-2 HOURS	2-8 HOURS	24 HOURS		24 HOURS	24 HOURS	6-8 HOURS	
1/8"	1/8"	1/8"	NONE	NONE	NONE	1/2"	1/2"	1/4"
		P						
		P						
		X						
		P						
X	X	X						
		SELF	SELF	SELF	SELF	SELF	SELF	SELF
40 MIN.	40 MIN.	50-110	40-110	40-110	40-110	60-110	40-110	40-110
10	10	15	15	15	15	15	15	15
15	15	25	25	25	25	25	25	25
X	X	X	X		X	X	X	X
			X	X				
X	X	ROLLER						
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	NONE	NONE	NONE	NONE	NONE	NONE
NONE	NONE	10	5-10	5-10	5-10	5-10	5-10	5-10
200	200	646	1250	400	2500	125	450	275
400	400	402	400	500	450	300	200	500
			160	160	160	160	160	160
		NO CHANGE	SLIGHT		SLIGHT	SLIGHT	SLIGHT	
			3	4	4	20 MAX	1	3
YES	YES	YES	YES	YES	YES	YES	YES	YES
1	1	1	1	1	1	1	1	1
3.0	3.0	2.5-3.0	2.7-3.2	2.7-3.2	2.7-3.2	2.7-3.2	2.7-3.2	2.7-3.2
40 MIN.	40 MIN.	40	50	50	50	50	50	50
90 MIN.	90 MIN.	91	90	90	90	90	90	90
NO	NO	YES	NO	NO	NO	NO	NO	NO
1995	1995	1981	1984	1979	1979	1976	1984	1985
25,000	25,000	100,000	> 100,000	> 100,000	> 100,000	> 100,000	> 50,000	8,000
YES	YES	YES	YES	YES	YES	YES	YES	YES
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
10	10	5	8	8	8	8	8	8
W. BILINSKI 770/662-1083	W. BILINSKI 770/662-1083	D. VARAIS 805/388-7112	ROOFING SALES 800/321-6588	ROOFING SALES 800/321-6588	ROOFING SALES 800/321-6588	ROOFING SALES 800/321-6588	ROOFING SALES 800/321-6588	ROOFING SALES 800/321-6588
J. LINDYBERG 518/233-2313	J. LINDYBERG 518/233-2313	TECHNICAL DEPT. 805/388-7112	TECHNICAL DEPT. 800/321-6588	TECHNICAL DEPT. 800/321-6588	TECHNICAL DEPT. 800/321-6588	TECHNICAL DEPT. 800/321-6588	TECHNICAL DEPT. 800/321-6588	TECHNICAL DEPT. 800/321-6588
X	X							

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	NEOGARD, A DIVISION OF JONES-BLAIR CO.	PLASTIC COATINGS CORPORATION	PLASTIC COATINGS CORPORATION	PLASTIC COATINGS CORPORATION	POLYDYNE
2. PRODUCT NAME	PERMA-SIL TC FR	JAXSAN 600	JAXSAN 601	JAXSAN 607	AQUADYNE 50-0771
3.1 COATING DESCRIPTION					
A. ACRYLIC		X	X	X	
B. BUTYL					
C. HYPALON					
D. NEOPRENE					
E. SILICONE	X				
F. URETHANE					
G. VINYL					
H. MODIFIED ASPHALT					
I. OTHER (type)					MOISTURE CURE
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	NO	NO		NO	
3.3 COLORS AVAILABLE	GRAY, WHITE, TAN		BRITE WHITE		GRAY
4. NAME OF PRODUCT: BASE COATING		JAXSAN 600	JAXSAN 601	JAXSAN 607	SAME
TOP COATING	SILICONE FR	JAXSAN 600	JAXSAN 601	JAXSAN 607	UREDYNE 30-8000
5. NUMBER OF COATING APPLICATIONS REQUIRED					
BASE COATINGS		1 OR 2	1 OR 2	1	2
TOP COATINGS	1 – 2			1	
GRANULES REQUIRED (yes, no, or optional)	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	
6. REQUIRED DRY FILM THICKNESS: (mils)					
BASE COATING		15 – 20	15 – 20	15 – 20	18-24
TOP COATING	18 AVG	15 – 20	15 – 20	15 – 20	
7. FILM CURE TIME					
BASE COATING	24 HOURS	1 – 3 HOURS	2 – 4 HOURS	1 – 4 HOURS	6 HOURS
TOP COATING		1 – 3 HOURS	2 – 4 HOURS	1 – 4 HOURS	
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/4"	NONPONDING	NONPONDING	NONPONDING	1/4"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required)					
A. CONCRETE DECKS		X	X	P	P
B. PLYWOOD DECKS		P	P	P	
C. METAL DECKS		P	P	X	P
D. EXISTING SPUDDED BUILT-UP ROOFING		X	X	X	
E. OTHER COATINGS		X	X	X	P
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS					
RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F)	40 – 110	50+	50+	50+	75
MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph)	15	15	15	15	
MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	25	25	25	25	
12. APPLICATION EQUIPMENT REQUIREMENTS					
SINGLE-COMPONENT AIRLESS SPRAY	X	X	X	X	X
MULTIPLE-COMPONENT AIRLESS SPRAY					
OTHER (roller, brush, etc.)				X	
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	NONE	YES	YES	YES	NONE
15. RECOMMENDED RECOATING SCHEDULE (years or none)	5 – 10	10 +	10 +	10 – 15	
16. PHYSICAL PROPERTIES OF THE COATING					
TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi)	450	375	375	320	450 – 600
ELONGATION PER ASTM D 412 OR OTHER (%)	200	200 +	200 +	240	300 – 400
IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs)	160	98	98		
ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change)	SLIGHT	NO CHANGE	NO CHANGE	NO CHANGE	
HEAT AGING PER ASTM D 573 OR OTHER (%)					
WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	1	9 MAX	9 MAX	10	D-471: 1.5
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES		YES	YES
18. FOAM INSULATION REQUIREMENTS					
MINIMUM THICKNESS (inches)	1	1	1	1	1
NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³)	2.7 – 3.2				2.5
COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	50			2.5	38
CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	90	95	95		90
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	NO	NO	NO	NO	NO
20. YEAR OF FIRST COMMERCIAL USE	1984	1967	1968	1995	1986
21. NUMBER OF SQUARES INSTALLED (100 ft ²)	8,000	> 6 MILLION	> 6 MILLION		
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	NO	NO	NO	NO
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	8	10	10	10	7
25. FOR SALES INFORMATION, CONTACT:	ROOFING SALES 800/321-6588	L. WIDDECOMBE III	L. WIDDECOMBE III	L. WIDDECOMBE II	R. EWALD
FOR TECHNICAL INFORMATION, CONTACT:	TECHNICAL DEPT. 800/321-6588	G. WIDDECOMBE	G. WIDDECOMBE	G. WIDDECOMBE	T. MEYER R. EWALD
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

POLYDYNE	POLYDYNE	POLYDYNE	POLYDYNE	POLYDYNE	POLYDYNE	POLYDYNE	POLYDYNE	POLYTHANE SYSTEMS, INC.
UREDYNE 30-8000	UREDYNE 30-0102	UREDYNE 30-8000	UREDYNE 30-0750	ACRYDYNE 40-0226	AQUADYNE 50-0771	POLY SIL 20-0200	POLY PERM 60-0003	GE SILICONES
				X	X		X	
						X		X
X	X	X	X					
YES AMBER	YES STRAW, GRAY	YES AMBER	BURGUNDY	WHITE	NO GRAY	NO WHITE, LIGHT/DARK GRAY	YES BLACK	NO ANY COLOR
AQUADYNE 50-0771	SAME	UREDYNE 30-0102	SAME	UREDYNE 30-0750	AQUADYNE 50-0771	POLY SIL 0208	POLY PERM 60-0003	SCM3408
SAME	UREDYNE 30-8000	UREDYNE 30-8000	ACRYDYNE 40-0216	SAME	AQUADYNE 50-0771	POLY SIL 0207	POLY PERM 60-0003	SCM3404
1	1	1	1	1	1	1	1 – 2	1
				2		OPTIONAL	NA	1
								YES
	18 – 24		18 – 24		18 – 24	15	20+	20
10-12		10 – 12		10 – 14	18 – 24	10		
	4 HOURS		2 – 4 MIN.		2 – 4 MIN.	1 HR	24 HOURS	1 HR
4 HOURS		4 HOURS		4 1/2 HOURS	6 HOURS	1 HR		1 HR
1/4"	1/4"	1/4"	0	1"	1/4"	0	1" – 12"	NO PONDING
P	P	P	P	P	P	P	X	X
			P	P		P	X	X
P	P	P	P	P	P	P	X	X
			P	P		P	X	X
P	P	P	P	P	P	P	X	X
SELF	SELF	SELF	SELF	SELF	SELF	SELF		SELF
75	75	75	70	70	70	75	70	40 – 100
						15	15	20
						30	30	25
X	X	X	X	X	X	X	X	X
							ROLLER, BRUSH	X
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
								10 – 20
2500	1700	2500	3200±200	200	450 – 600	700	200	550
500	300 – 350	500	125		300 – 400	150	180	150
			300 – 400	280			NA	
						NA	NA	NONE
						NA	NA	
D-471: 1.5	1.5	1.5			D-471: 1.5	D-411:1.5	0.5%	0.5 MAX
YES	YES	YES	YES	YES	YES	YES	NO	
1	1	1	1	1	1	1	1	1
2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.7
38	38	38	50	50	40	40	40	40
90	90	90	90	90	40	90	90	90
NO	NO	NO	NO	NO	NO	NO	NO	YES
1986	1986	1986	1986	1986	1986	1992	1992	1972
NO	NO	NO	NO	NO	NO	YES	YES	YES
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DIRECT
7	7	7	7	7	7	7	7	9
R. EWALD	R. EWALD	R. EWALD	R. EWALD	R. EWALD	R. EWALD	R. EWALD	R. EWALD	R. STOCKDALE
T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	T. MEYER R. EWALD	R. STOCKDALE

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	POLYTHANE SYSTEMS, INC.	POLYTHANE SYSTEMS, INC.	PREMIUM POLYMERS	PREMIUM POLYMERS	PREMIUM POLYMERS
2. PRODUCT NAME	EVEREST ACRYLIC	EVEREST HIGH PERFORMANCE ACRYLIC	URETHANE 2820	SILICONE 1620	BUTYL 5511
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)	X	X			X
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	NO	NO	NO	NO	YES
3.3 COLORS AVAILABLE	ANY COLOR	ANY COLOR	GRAY	GRAY, LIGHT GRAY	BLACK
4. NAME OF PRODUCT: BASE COATING	EVERCOAT 510	EVERCOAT 5410	2820 ALIPHATIC	1620	5511
TOP COATING	EVERCOAT 500	EVERCOAT 5400	2820 ALIPHATIC	1620	
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	1 1 OPTIONAL	1 1 OPTIONAL	1 1 NO	1 1 OPTIONAL	2
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	30	30	12 – 18 12 – 18	8 – 10 7 – 10	25 – 30
7. FILM CURE TIME BASE COATING TOP COATING	1 HR 1 HR	1 HR 1 HR	1 – 3 HOURS 1 – 3 HOURS	2 – 6 HOURS 2 – 6 HOURS	4 – 6 HOURS
8. MINIMUM SLOPE REQUIRED (inches per foot)	NO PONDING	NO PONDING	1/8"	1/8"	1/8"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS	X X X X X	X X X X X	P P P P P	P P P P P	P P P P P
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	40 – 100 20 25	40 – 100 20 25	35 – 120 10 15	50 – 100 10 15	50 – 110 10 15
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X X	X X	X X	X X	X X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	NONE	NONE	NONE	NONE	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	10 – 20	10 – 20	10	10	
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	279 502	430 912	2300 125	500 170	200 180
		D 471, 8.62%	NO CHANGE	NO CHANGE NO CHANGE	
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	NO
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	1 2.7 40 90	1 2.7 40 90	1.0 3.0 40 90	1.0 3.0 40 90	1.0 3.0 48 90
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES	YES	YES
20. YEAR OF FIRST COMMERCIAL USE	1981	1989	1984	1992	1987
21. NUMBER OF SQUARES INSTALLED (100 ft ²)			THOUSANDS	THOUSANDS	THOUSANDS
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	YES	YES	YES	YES
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	9	9	6	6	6
25. FOR SALES INFORMATION, CONTACT:	M. CULLINS	M. CULLINS	ROOFING 800/756-3626	ROOFING 800/756-3626	ROOFING 800/756-3626
FOR TECHNICAL INFORMATION, CONTACT:	M. CULLINS	M. CULLINS	ROOFING 800/756-3626	ROOFING 800/756-3626	ROOFING 800/756-3626
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

PREMIUM POLYMERS	PREMIUM POLYMERS	PREMIUM POLYMERS	PREMIUM POLYMERS	PREMIUM POLYMERS	SWD URETHANE COMPANY	SWD URETHANE COMPANY	SWD URETHANE COMPANY	UCSC
ACRYLIC 4270	ACRYLIC 4200 SERIES	ACRYLIC 4300 SERIES	URETHANE 2857	ACRYLIC 4270	SWD 1929	SWD 1929 F	1929 H	DURASIL
X	X	X		X	X	X	X	
			X					X
NO WHITE	NO GRAY, WHITE	NO GRAY, WHITE	NO PURPLE	NO WHITE	NO WHITE, GRAY, BUFF	NO WHITE, GRAY, BUFF	NO WHITE, GRAY, BUFF	NO GRAY, WHITE
	4200 SERIES	4300 SERIES	2857 100% SOLIDS		SWD 1929	SWD 1929 F	1929 H	DURASIL BASE
4270	4200 SERIES	4300 SERIES		4270	SAME	SAME	SAME	DURASIL TOP
1	1	1	1	1	1	1	1	1 – 2
OPTIONAL	OPTIONAL	OPTIONAL	NO	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
	12 – 15	12 – 15	30 – 45		15	36	36	10 – 15
12 – 15	12 – 15	12 – 15		12 – 15	8	12	12	10 – 15
	4.5 HOURS	4.5 HOURS	5 MINS.		24 HOURS	24 HOURS	24 HOURS	4 HOURS
4.5 HOURS	4.5 HOURS	4.5 HOURS		4.5 HOURS	24 HOURS	24 HOURS	24 HOURS	24 HOURS
1/8"	1/8"	1/8"	1/8"	1/8"	1/4"	1/4"	1/4"	1/8"
P	P	P	P	P	P	P	P	P
P	P	P	P	P	P	P	P	P
P	P	P	P	P	P	P	P	X
P	P	P	P	P	P	P	P	X
	P	P	P	P	P	P	P	P
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
50 – 110	50 – 110	50 – 110	35 – 120	50 – 110	< 50	< 50	<50	50 – 100
10	10	10	10	10	15	15	15	15
15	15	15	15	15	25	25	25	25
X	X	X		X				X
			X					
X	X	X		X	X	X	X	
NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
	NONE	NONE	NONE	NONE				NONE
8	8	8		8	5	5		10 – 15
250	250	250	2800	250	250	280		600±50
280	280	280	225	280	489	355		150±25
NO CHANGE	NO CHANGE	NO CHANGE		NO CHANGE	NO CHANGE	NO CHANGE		NONE
					5	5		>0.1
NO	NO	YES	YES	YES	YES	YES	YES	YES
1.0	1.0	1.0	1.0	1.0	1	1	1	1 – 2
3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5
40	40	40	40	40	40	40	40	40
90	90	90	90	90	<90	<90	<90	>90
YES	YES	YES	YES	YES	YES	YES	YES	YES
1986	1986	1986	1984	1986	1972	1972	1972	1981
THOUSANDS	MILLIONS	MILLIONS	THOUSANDS	MILLIONS	MILLIONS	MILLIONS	MILLIONS	
NO	NO	NO	YES	NO	YES	YES	YES	YES
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DIRECT
6	6	6	6	6	1	1	1	9
ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	D. RUDD 800/828–1394	D. RUDD 800/828–1394	D. RUDD 800/828–1394	L. WRIGHT 800/289–8272
ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	ROOFING 800/756–3626	D. RUDD 800/828–1394	D. RUDD 800/828–1394	D. RUDD 800/828–1394	L. WRIGHT 800/289–8272

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	UCSC	UCSC	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS
2. PRODUCT NAME	DURASHIELD	DURATHANE	DIATHON	DIATHON QUICK SET	DIATHON HIGH TENSILE
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)	X		X	X	X
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	YES	NO	NO	NO	NO
3.3 COLORS AVAILABLE	WHITE, TAN, CUSTOM	DARK GRAY	PEARL WHT, MED. GRAY, CUSTOM	PEARL WHT, MED. GRAY, CUSTOM	PEARL WHT, MED. GRAY, CUSTOM
4. NAME OF PRODUCT: BASE COATING	DURASHIELD	DURATHANE	DIATHON	DIATHON QS	DIATHON HT
TOP COATING	DURASHIELD	DURATHANE, DURASHIELD	DIATHON	DIATHON QS	DIATHON HT
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)	2 1 – 2 OPTIONAL	2 1 OPTIONAL	1 1 OPTIONAL	1 1 OPTIONAL	1 1 OPTIONAL
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	25 10	24 16	11 MIN. 11	11 MIN. 11 MIN.	11 MIN. 11 MIN.
7. FILM CURE TIME BASE COATING TOP COATING	4 – 8 HOURS 12 HOURS	12 – 16 HOURS 72 HOURS	3 HRS (MED GRAY) 4 1/2 HRS (WHITE)	3 HRS (MED GRAY) 4 1/2 HRS (WHITE)	3 HRS (MED GRAY) 4 1/2 HRS (WHITE)
8. MINIMUM SLOPE REQUIRED (inches per foot)	1/8"	1/8"	1/2"	1/2"	1/2"
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS	P P X X P	P P X X P	P X X X X	P X X X X	X X X X X
10. FLASHING MATERIAL (type or self-flashing)	SELF	SELF	SELF	SELF	SELF
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	50 – 100 15 25	50 – 100 15 25	50 – 110 12 20	50 – 110 12 20	425 475 NO CHANGE
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X X X	X X X	X X X	X X X	X X X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	NONE	NONE	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)	10 – 15	10 – 15	5	5	5
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)	425 315 >160 10,000 HOURS 2.4	425±25 300±50 2.4	250 – 440 280 – 320 NO CHANGE 8%	250 – 440 280 – 320 NO CHANGE 8%	425 475 NO CHANGE 8%
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)	YES	YES	YES	YES	YES
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)	1 – 2 2.5 40 > 90	1 – 2 2.5 40 > 90	1 2.5 – 3.0 40 MIN. 90 MIN.	1 2.5 – 3.0 40 MIN. 90 MIN.	2.5 – 3.0 475 NO CHANGE 8%
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	NO	NO	NO
20. YEAR OF FIRST COMMERCIAL USE	1981	1981	1971	1995	1993
21. NUMBER OF SQUARES INSTALLED (100 ft²)			5 MILLION		
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	YES	YES	NO	NO	
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	9	9	8	8	
25. FOR SALES INFORMATION, CONTACT:	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
FOR TECHNICAL INFORMATION, CONTACT:	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS
DIATHON SOLAR CURE	DIATHON 4500	ACRON 60	UNISIL 600	UNISIL	ELASTRON 858	ELASTUFF 101	ELASTUFF 102	BERM 600
X	X	X			X			X
			X	X		X	X	
NO WHITE	NO PEARL WHT, MED. GRAY, CUSTOM	NO	NO GRAY, LT. GRAY, WHITE	NO LT. GRAY, WHITE, CUSTOM	YES GRAY, TAN	NO MEDIUM GRAY	NO IVORY WHITE, LIMITED CUSTOM	NO LT. GRAY, TAN, CUSTOM
DIATHON SC	DIATHON 4500	ACRON 60	UNISIL 600	UN ISIL	SAME	SAME	ELASTUFF 101	BERM 500 DIATHON
DIATHON SC	DIATHON 4500	ACRON 60	UNISIL 600	UNISIL	DIATHON, ELAS-TUFF 102	ELASTUFF 102	SAME	BERM 600
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	NO	OPTIONAL	OPTIONAL
11 MIN.	11 MIN.	11 MIN.	6 – 11 MIN.	6 – 11 MIN.	15 – 18	17		11 MIN.
11 MIN.	11 MIN.	11 MIN.	11 MIN.	11 MIN.	7 – 9		7	11 MIN.
	3 HRS (MED GRAY)	3 HRS (MED GRAY)	2 – 3 HOURS	2 – 3 HOURS	4 – 6 HOURS	6 – 8 HOURS		1 1/2 – 2 HOURS
4 1/2 HRS (WHITE)	4 1/2 HRS (WHITE)	4 1/2 HRS (WHITE)	2 – 3 HOURS	2 – 3 HOURS			8 – 12 HOURS	1 1/2 – 2 HOURS
1/2"	1/2"	1/2"	1/2 "	1/2 "	1/2"	1/2"	1/2"	1/2"
		P	P	P	P	P	P	X
X	X	X	P	P	X	P	P	X
		X	P	P	X	P	P	P
		X			X			X
		X	P	P	X	X	X	X
SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF	SELF
		50 – 110	40 – 110	40 – 110	50 – 110	40 – 110	40 – 110	50 – 110
12	12	12	12	12	12	12	12	12
20	20	20	20	20	20	20	20	20
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
		NONE	NONE	NONE	NONE	NONE	NONE	NONE
YES	YES	YES	YES	YES	YES	YES	YES	YES
		5		5	5	5	5	5
250	240	200	650	650	300	1000	2500	250
300	145	180	150	150	75	500	400	240
NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE			NO CHANGE	NO CHANGE
				0.1 MAX		1.0 MAX	2.5 MAX	
YES	YES	YES	YES	YES	YES	YES	YES	YES
		1	1	1	1	1	1	1
2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0	2.5 – 3.0
		40 MIN.	40 MIN.	40 MIN.	40	40	40	40 MIN.
		90 MIN.	90 MIN.	90 MIN.	90	90	90	90 MIN.
NO	NO	NO	NO	YES	NO	NO	NO	NO
1995	1986	1989	1994	1987	1965	1989	1989	1990
	20 MILLION	50 MILLION	3 MILLION	20,000	500,000	3,000	5,000	
		NO	NO	NO	NO	NO	NO	NO
DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
		8	8	4	4	4	4	8
B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383

Spray Polyurethane Foam-Based Systems Part 1: Protective Coatings

1. COMPANY NAME	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS
2. PRODUCT NAME	UNISEAL EPOXY SEALER	UNI-TILE EPOXY SEALER	ACRILEX 300 ACRYLIC PRIMER	UNIBASE ACRYLIC ADHES/PRIMER	ADHERE-IT EPDM PRIMER
3.1 COATING DESCRIPTION A. ACRYLIC B. BUTYL C. HYPALON D. NEOPRENE E. SILICONE F. URETHANE G. VINYL H. MODIFIED ASPHALT I. OTHER (type)			X	X	
					X
	EPOXY	EPOXY			
3.2 VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0)	NO	NO	NO	NO	NO
3.3 COLORS AVAILABLE	CLEAR, BLACK	CLEAR, BLACK	LT. GRAY	TRANSPARENT GREEN	CLEAR
4. NAME OF PRODUCT: BASE COATING					
TOP COATING					
5. NUMBER OF COATING APPLICATIONS REQUIRED BASE COATINGS TOP COATINGS GRANULES REQUIRED (yes, no, or optional)					
6. REQUIRED DRY FILM THICKNESS: (mils) BASE COATING TOP COATING	1/2 – 2 MIN.	1/2 – 2 MIN.	1/2 – 2 MIN.		
7. FILM CURE TIME BASE COATING TOP COATING	8 HOURS	3 HOURS	1 – 24	1 – 2	1/2 – 1
8. MINIMUM SLOPE REQUIRED (inches per foot)					
9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) A. CONCRETE DECKS B. PLYWOOD DECKS C. METAL DECKS D. EXISTING SPUDDED BUILT-UP ROOFING E. OTHER COATINGS					
					X
10. FLASHING MATERIAL (type or self-flashing)	SELF				
11. APPLICATION CONDITIONS RECOMMENDED AMBIENT AIR TEMPERATURE RANGE (degrees F) MAXIMUM PERMITTED WIND VELOCITY WITHOUT SCREEN (mph) MAXIMUM PERMITTED WIND VELOCITY WITH WIND SCREEN (mph)	50 – 110 12 20	50 – 110 12 20	50 – 110 12 20	50 – 110 12 20	50 – 110 12 20
12. APPLICATION EQUIPMENT REQUIREMENTS SINGLE-COMPONENT AIRLESS SPRAY MULTIPLE-COMPONENT AIRLESS SPRAY OTHER (roller, brush, etc.)	X X	X X	X X	X X	X X
13. RESTRICTED REGIONS (yes/none)	NONE	NONE	NONE	NONE	NONE
14. RESTRICTED BUILDING USES (yes/none)	YES	YES	YES	YES	YES
15. RECOMMENDED RECOATING SCHEDULE (years or none)					
16. PHYSICAL PROPERTIES OF THE COATING TENSILE STRENGTH PER ASTM D 412 OR OTHER (psi) ELONGATION PER ASTM D 412 OR OTHER (%) IMPACT RESISTANCE PER ASTM D 2794 OR OTHER (inch lbs) ACCELERATED WEATHERING PER ASTM D 822 OR OTHER (color change) HEAT AGING PER ASTM D 573 OR OTHER (%) WATER ABSORPTION PER ASTM D 570 OR OTHER (%)				1000 650	
17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no)					
18. FOAM INSULATION REQUIREMENTS MINIMUM THICKNESS (inches) NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³) COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi) CLOSED CELL CONTENT PER ASTM D 2856 OR OTHER (%)					
19. FOAM AVAILABLE FROM MANUFACTURER (yes/no)					
20. YEAR OF FIRST COMMERCIAL USE	1995	1970	1993	1996	1995
21. NUMBER OF SQUARES INSTALLED (100 ft ²)					
22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no)	NO	NO	NO	NO	NO
23. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT	DISTRS, DIRECT
24. NUMBER OF REGIONAL SERVICE LOCATIONS	8	8	8	8	8
25. FOR SALES INFORMATION, CONTACT:	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
FOR TECHNICAL INFORMATION, CONTACT:	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
26. SEE MEMBRANE APPENDIX IF CHECKED					

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Spray Polyurethane Foam-Based Systems Part 2: Insulation

1. COMPANY NAME	ERSYSTEMS	FOAM ENTERPRISES INC.	FOAM ENTERPRISES INC.	FOAM ENTERPRISES INC.	FOAM ENTERPRISES INC.	FOAM ENTERPRISES INC.
2. PRODUCT NAME	ER FOAM 3.0	FE 303-2.5	FE 303-2.7	FE 303-3.0	FE 314-3.0	FE 302-2.5
3. RECOMMENDED TYPES OF PROTECTIVE COVERINGS						
A. ACRYLIC	X	X	X	X	X	X
B. BUTYL	X	X	X	X	X	X
C. HYPALONS	X	X	X	X	X	X
D. NEOPRENE	X	X	X	X	X	X
E. SILICONES	X	X	X	X	X	X
F. URETHANES	X	X	X	X	X	X
G. VINYL	X	X	X	X	X	X
H. MODIFIED ASPHALTS	X	X	X	X	X	X
I. AGGREGATE	X	X	X	X	X	X
4. SYSTEM COATING AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES	YES	YES	YES
5. REQUIRED APPLICATION CONDITIONS						
AMBIENT AIR TEMPERATURE RANGES (degrees F)	40 – 50	40	40	40	40	40
MAXIMUM AMBIENT RELATIVE HUMIDITY (%)	80 – 85	80	80	80	80	80
MAXIMUM ALLOWABLE WIND VELOCITY WITHOUT WIND SCREEN (mph)	15	15	15	15	15	15
MAXIMUM ALLOWABLE WIND VELOCITY WITH WIND SCREEN (mph)	25 – 30	30	30	30	30	30
6. PHYSICAL PROPERTIES OF THE FOAM						
NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³)	3 – 3.2	2.5 – 2.65	2.65 – 2.80	2.8 – 3.0	3.0 – 3.45	2.5 – 2.65
COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	50	30 – 45	41 – 55	45 – 60	45 – 55	45
CLOSED-CELL CONTENT PER ASTM D 2856 OR OTHER (% min)	90	88 – 95	88 – 95	88 – 95	87 – 96	>90
THERMAL RESISTANCE R-VALUE AT:						
1 inch	6.25	6.25	6.25	6.25		6.66
2 inches	12.5	12.5	12.5	12.5		13.33
3 inches	18.75	18.75	18.75	18.75		19.98
7. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM(yes/no)	YES	YES	YES	YES	YES	YES
8. YEAR OF FIRST COMMERCIAL USE	1996	1989	1984	1984	1990	1984
9. NUMBER OF SQUARES INSTALLED (100 ft ²)	THOUSANDS	THOUSANDS	THOUSANDS	THOUSANDS	HUNDREDS	THOUSANDS
10. MANUFACTURER-QUALIFIED APPLICATORS REQUIRED (yes/no)	NO	NO	NO	NO	NO	NO
11. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT
12. NUMBER OF REGIONAL SERVICE LOCATIONS	14	7	7	7	7	7
13. FOR SALES INFORMATION, CONTACT:	J. LEONARD 800/403-7747	J.L. ANDERSEN	J.L. ANDERSEN	J.L. ANDERSEN	J.L. ANDERSEN	J.L. ANDERSEN
FOR TECHNICAL INFORMATION, CONTACT:	J. LEONARD 800/403-7747	W. STANSKY	W. STANSKY	W. STANSKY	W. STANSKY	W. STANSKY
14. SEE MEMBRANE APPENDIX IF CHECKED		X	X	X	X	

1. COMPANY NAME	FOAM ENTERPRISES INC.	FOAM ENTERPRISES INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.
2. PRODUCT NAME	FE 302-2.7	FE 302-3.0	POLYFOAM 251 WINTER SPEED	POLYFOAM 251 REGULAR SPEED	POLYFOAM 251 SUMMER SPEED	POLYFOAM 303 WINTER SPEED
3. RECOMMENDED TYPES OF PROTECTIVE COVERINGS						
A. ACRYLIC	X	X	X	X	X	X
B. BUTYL	X	X	X	X	X	X
C. HYPALONS	X	X	X	X	X	X
D. NEOPRENE	X	X	X	X	X	X
E. SILICONES	X	X	X	X	X	X
F. URETHANES	X	X	X	X	X	X
G. VINYL	X	X	X	X	X	X
H. MODIFIED ASPHALTS	X	X	X	X	X	X
I. AGGREGATE	X	X	X	X	X	X
4. SYSTEM COATING AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES	YES	YES	YES
5. REQUIRED APPLICATION CONDITIONS						
AMBIENT AIR TEMPERATURE RANGES (degrees F)	40	40	40 – 55	55 – 80	80 – 120	40 – 55
MAXIMUM AMBIENT RELATIVE HUMIDITY (%)	80	80	85	85	85	85
MAXIMUM ALLOWABLE WIND VELOCITY WITHOUT WIND SCREEN (mph)	15	15	10	15	15	10
MAXIMUM ALLOWABLE WIND VELOCITY WITH WIND SCREEN (mph)	30	30	20	25	25	20
6. PHYSICAL PROPERTIES OF THE FOAM						
NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³)	2.65 – 2.70	3.0 – 3.4	2.5	2.5	2.5	3.0
COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	55	43 – 53	44	44	44	52
CLOSED-CELL CONTENT PER ASTM D 2856 OR OTHER (% min)	>90	86 – 96	95	95	95	95
THERMAL RESISTANCE R-VALUE AT:						
1 inch	6.25	6.25	7	7	7	7
2 inches	12.5	12.5	14	14	14	14
3 inches	18.75	18.75	21	21	21	21
7. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM(yes/no)	YES	YES	YES	YES	YES	YES
8. YEAR OF FIRST COMMERCIAL USE	1984	1984	1986	1986	1986	1986
9. NUMBER OF SQUARES INSTALLED (100 ft ²)	THOUSANDS	THOUSANDS	3,750	13,500	7,000	11,500
10. MANUFACTURER-QUALIFIED APPLICATORS REQUIRED (yes/no)	NO	NO	YES	YES	YES	YES
11. METHODS OF DISTRIBUTION (distributors and/or direct)	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT	DISTR,DIRECT
12. NUMBER OF REGIONAL SERVICE LOCATIONS	7	7	3	3	3	3
13. FOR SALES INFORMATION, CONTACT:	J.L. ANDERSEN	J.L. ANDERSEN	J. FREEMESSER	J. FREEMESSER	J. FREEMESSER	J. FREEMESSER
FOR TECHNICAL INFORMATION, CONTACT:	W. STANSKY	W. STANSKY	800/869-0958 A. JENKINS 800/456-4226	800/869-0958 A. JENKINS 800/456-4226	800/869-0958 A. JENKINS 800/456-4226	800/869-0958 A. JENKINS 800/456-4226
14. SEE MEMBRANE APPENDIX IF CHECKED		X				

NA=not applicable

Spray Polyurethane Foam-Based Systems Part 2: Insulation

GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	GACO WESTERN INC.	G.C.S. COATINGS	NATIONAL COATINGS	NORTH CAROLINA FOAM INDUSTRIES	NORTH CAROLINA FOAM INDUSTRIES	NORTH CAROLINA FOAM INDUSTRIES
POLYFOAM 303 REGULAR SPEED	POLYFOAM 303 SUMMER SPEED	POLYFOAM 275 WINTER SPEED	POLYFOAM 275 REGULAR SPEED	POLYFOAM 275 SUMMER SPEED	GEO-FOAM NF 0250 SB	SPRAY FOAM	NCFI SYSTEM 591-2.5	NCFI SYSTEM 591-2.8	NCFI SYSTEM 692-2.5
X	X	X	X	X	X	X	X	X	
X	X	X	X	X			X	X	
X	X	X	X	X			X	X	
X	X	X	X	X			X	X	
X	X	X	X	X	X		X	X	
X	X	X	X	X			X	X	
X	X	X	X	X			X	X	
X	X	X	X	X			X	X	
X	X	X	X	X			X	X	X
YES	YES	YES	YES	YES	YES	YES	NO	NO	NO
55 – 80	80 – 120	50 – 70	70 – 90	90 – 120	40 – 85	50 – 110	50 MIN.	50 MIN.	50 MIN
85	85	85	85	85	80	95			
15	15	10	15	15	15	15	15	15	15
25	25	20	25	25	15	25			
3.0	3.0	2.75	2.75	2.75	2.5	2.5 – 3.0	2.7	3.0	2.7
52	52	42	42	42	45	42+	35	45	35
95	95	94	94	94	90	91	90	90	90
7	7	7	7	7	5.1	7	6.7	6.7	6.7
14	14	14	14	14	10.2	14	13.0	13.0	13.0
21	21	21	21	21	15.3	21	20.0	20.0	20.0
YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
1986	1986	1995	1995	1995	1991	1981	1991	1991	1992
16,000	5,700	14,400	67,800	45,000		50,000			
YES	YES	YES	YES	YES	YES	YES	NO	NO	YES
DISTRs,DIRECT 3	DISTRs,DIRECT 3	DISTRs,DIRECT 3	DISTRs,DIRECT 3	DISTRs,DIRECT 3		DIRECT 5	DIRECT 1	DIRECT 1	DIRECT 1
J. FREEMESSER 800/869-0958 A. JENKINS 800/456-4226	J. FREEMESSER 800/869-0958 A. JENKINS 800/456-4226	J. FREEMESSER 800/869-0958 A. JENKINS 800/456-4226	J. FREEMESSER 800/869-0958 A. JENKINS 800/456-4226	J. FREEMESSER 800/869-0958 A. JENKINS 800/456-4226		D. VARVAIS 805/388-7112 TECH. DEPT 805/388-7112	S. RIDDLE 336/789-9161 C. TOLBERT 336/789-9161	S. RIDDLE 336/789-9161 C. TOLBERT 336/789-9161	S. RIDDLE 336/789-9161 C. TOLBERT 336/789-9161
					X		X	X	X

NORTH CAROLINA FOAM INDUSTRIES	POLYTHANE SYSTEMS, INC.	POLYTHANE SYSTEMS, INC.	POLYTHANE SYSTEMS, INC.	PREMIUM POLYMERS, INC.	SWD URETHANE COMPANY	SWD URETHANE COMPANY	SWD URETHANE COMPANY	UCSC	UCSC
NCFI SYSTEM 692-2.8	PSI-SH200-25	PSI-SH200-27	PSI-SH200-30	PREMIUM 241-30	SWD 525-2.0	SWD 525-2.5	SWD 525-3.0	UCSC 1.5	UCSC 1.7
	X	X	X	X	X	X	X	X	X
	X	X	X	X				X	X
	X	X	X	X				X	X
	X	X	X	X					
	X	X	X	X				X	X
	X	X	X	X	X	X	X	X	X
				X					
X	X	X	X	X	X	X	X	X	X
NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
50 MIN	50 – 110	50 – 110	50 – 110	40 – 95	55	55	55	40 – 110	40 – 110
					80	80	80	85	85
15	10	10	10	15	15	15	15	15	15
	20	20	20	20	25	25	25	25	25
3.0	2.5	2.7	3.0	3.0	1.8 – 2.1	2.3 – 2.6	2.8 – 3.2	1.5	1.5
45	40	45	50	47	25 – 30	35 – 40	50 – 55	19	22
90	90	90	90	95	90 – 95	90 – 95	90 – 95	<90	<90
6.7	6.7	6.7	6.7	6.5	6.7	6.7	6.7	6.25	6.25
13.0	13.4	13.4	13.4	13	13.4	13.4	13.4	12.5	12.5
20.0	20.1	20.1	20.1	19.5	20.1	20.1	20.1	18.75	18.75
YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
1992	1981	1981	1981	1991	1972	1972	1972	1981	1981
	300,000	300,000	300,000		HUNDREDS	THOUSANDS	THOUSANDS		
YES	YES	YES	YES	YES	NO	NO	NO	YES	YES
DIRECT 1	DIRECT 15	DIRECT 15	DIRECT 15	DISTRs,DIRECT 9	DISTRs,DIRECT 1	DISTRs,DIRECT 1	DISTRs,DIRECT 1	DIRECT 9	DIRECT 9
S. RIDDLE 336/789-9161 C. TOLBERT 336/789-9161	R. STOCKDALE 713/350-9000 R. STOCKDALE 713/350-9000	R. STOCKDALE 713/350-9000 R. STOCKDALE 713/350-9000	R. STOCKDALE 713/350-9000 R. STOCKDALE 713/350-9000	SALES 800/756-3626 TECH. SERVICE 800/756-3626	D. RUDD 800/828-1394 D. RUDD 800/828-1394	D. RUDD 800/828-1394 D. RUDD 800/828-1394	D. RUDD 800/828-1394 D. RUDD 800/828-1394	L. WRIGHT 800/289-8272 L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272 L. WRIGHT 800/289-8272
X									

Spray Polyurethane Foam-Based Systems Part 2: Insulation

1. COMPANY NAME	UCSC	UCSC	UCSC
2. PRODUCT NAME	UCSC 2.0	UCSC 2.5	UCSC 3.0
3. RECOMMENDED TYPES OF PROTECTIVE COVERINGS			
A. ACRYLIC	X	X	X
B. BUTYL	X		X
C. HYPALONS	X		X
D. NEOPRENE			
E. SILICONES	X	X	X
F. URETHANES	X	X	X
G. VINYL			
H. MODIFIED ASPHALTS			
I. AGGREGATE	X	X	X
4. SYSTEM COATING AVAILABLE FROM MANUFACTURER (yes/no)	YES	YES	YES
5. REQUIRED APPLICATION CONDITIONS			
AMBIENT AIR TEMPERATURE RANGES (degrees F)	40 – 110	40 – 110	40 – 110
MAXIMUM AMBIENT RELATIVE HUMIDITY (%)	85	85	85
MAXIMUM ALLOWABLE WIND VELOCITY WITHOUT WIND SCREEN (mph)	15	15	15
MAXIMUM ALLOWABLE WIND VELOCITY WITH WIND SCREEN (mph)	25	25	25
6. PHYSICAL PROPERTIES OF THE FOAM			
NOMINAL DENSITY PER ASTM D 1622 OR OTHER (lbs/ft ³)	2.0	2.5	3.0
COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	29	40	50
CLOSED-CELL CONTENT PER ASTM D 2856 OR OTHER (% min)	<90	<90	<90
THERMAL RESISTANCE R-VALUE AT:			
1 inch	6.25	6.25	6.25
2 inches	12.5	12.5	12.5
3 inches	18.75	18.75	18.75
7. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM(yes/no)	YES	YES	YES
8. YEAR OF FIRST COMMERCIAL USE	1981	1981	1981
9. NUMBER OF SQUARES INSTALLED (100 ft ²)			
10. MANUFACTURER-QUALIFIED APPLICATORS REQUIRED (yes/no)	YES	YES	YES
11. METHODS OF DISTRIBUTION (distributors and/or direct)	DIRECT	DIRECT	DIRECT
12. NUMBER OF REGIONAL SERVICE LOCATIONS	9	9	9
13. FOR SALES INFORMATION, CONTACT:	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272
FOR TECHNICAL INFORMATION, CONTACT:	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272	L. WRIGHT 800/289-8272
14. SEE MEMBRANE APPENDIX IF CHECKED			

THIS PAGE INTENTIONALLY LEFT BLANK

Metal Roof Panels

1. COMPANY NAME	AEP-SPAN		AEP-SPAN	
2. PRODUCT NAME	SPAN-LOK (SL)		SNAP-SEAM (SN)	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION			STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24	KYNAR, BARE	22, 24	KYNAR, BARE
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032, 0.040	KYNAR	0.032	KYNAR
COPPER (oz.)			16, 20	
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		45	
D. PANEL WIDTHS (in.)	16, 18		10, 12, 18, 24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	NA		30-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED	2, 3	F		
CRIMPED (45 degrees)	2, 3	F		
ROLL FORMED (180 degrees)	2, 3	F		
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP			1 3/4	F
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED	X		X	
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP			X	
MOVEABLE CLIP (designed allowable movement, inches)	1			
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED			X	
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1993		1985	
B. NUMBER OF SQUARES INSTALLED	50,000+		50,000+	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	40		40	
FOR SALES INFORMATION, CONTACT: S. CORDOVA			S. CORDOVA	
FOR TECHNICAL INFORMATION, CONTACT: J. DAH			J. DAH	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	0/6.24 PSF		0 @ 6.24 PSF	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.013/6.24 PSF		0.059 @ 6.24 PSF	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

AEP-SPAN		AEP-SPAN		AEP-SPAN	
STRUCTURAL BATTEN SEAM SN (SBS)		HIGH-SEAM (HS)		CAP-SEAM (CS)	
YES		YES		YES	
YES		YES		YES	
STRUCTURAL BATTEN		STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR, BARE	22, 24	KYNAR, BARE	22, 24	KYNAR, BARE
0.032	KYNAR	0.032, 0.040	KYNAR	0.032	KYNAR
16, 20		16, 20		16, 20	
45		45		45	
10, 12, 18, 24		12, 20		12, 20	
2:12		3:12		3:12	
OPTIONAL		REQUIRED		REQUIRED	
30-LB. FELT		30-LB. FELT		30-LB. FELT	
		X			
				X	
X					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2	F	1 1/2	N	1	F
X		X		X	
X		X		X	
		X		X	
X		X		X	
1985		1980		1989	
50,000+		50,000+		25,000+	
YES		YES		YES	
DIRECT		DIRECT		DIRECT	
40		40		40	
S. CORDOVA J. DAH		S. CORDOVA J. DAH		S. CORDOVA J. DAH	
0 @ 6.24 PSF		NONE		0 @ 6.24 PSF	
0.059 @ 6.24 PSF		NONE		0.059 @ 6.24 PSF	
UL-90		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	AEP-SPAN		AEP-SPAN	
2. PRODUCT NAME	BATTEN SEAM (BS)		BERMUDA	
3. ARCHITECTURAL APPLICATIONS (yes/no) STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	BATTEN SEAM		BERMUDA	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24	KYNAR, BARE	22, 24	KYNAR, BARE
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032, 0.040	KYNAR		
COPPER (oz.)	16, 20			
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		30	
D. PANEL WIDTHS (in.)	16, 24		9.5	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		4:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		REQUIRED	
C. UNDERLAYMENT (type or NA)	30-LB. FELT		40-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL				
BATTEN	X			
OTHER (specify)			HORIZONTAL	
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK			1	N
SNAP-ON CAP	2	N		
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED	X		X	
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1978		1975	
B. NUMBER OF SQUARES INSTALLED	20,000+		5,000+	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	40		40	
FOR SALES INFORMATION, CONTACT: S. CORDOVA			S. CORDOVA	
FOR TECHNICAL INFORMATION, CONTACT: J. DAH			J. DAH	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		NONE	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

AEP-SPAN		AEP-SPAN		AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS	
SQUARE BATTEN (SB)		STANDING SEAM (SS)		STANDING SEAM II PANELS	
YES				YES YES	
STANDING SEAM		STANDING SEAM		FIELD-LOCKED STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR, BARE	24	KYNAR, BARE	24, 22	UNFINISHED, KYNAR 500
45		45		60	
12		12		24	
3:12		3:12		1/4:12	
REQUIRED		REQUIRED		OPTIONAL	
30-LB. FELT		30-LB. FELT			
		X			
				X	
X					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1	N	1	N		
				3	F
X		X			
X		X		X X	
				1 1/4, 2 1/2	
1975		1975		1977	
10,000+		10,000+			
YES		YES		YES	
DIRECT		DIRECT			
40		40			
S. CORDOVA J. DAH		S. CORDOVA J. DAH		K. FISCHER J. SAVAGE	
NONE		NONE		NONE	
NONE		NONE		NONE	
NONE		NONE		UL-90	
				X	

Metal Roof Panels

1. COMPANY NAME	AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS		AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS	
2. PRODUCT NAME	STANDING SEAM 360		LONG SPAN PANELS	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	FIELD FORMED STANDING SEAM		LAPPED SEAMS	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24, 22	UNFINISHED, KYNAR 500	24, 26	UNFINISHED, KYNAR 500
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	60		45	
D. PANEL WIDTHS (in.)	24		36	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)				
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL	X		X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED			1 1/4	E
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)	3	F		
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED			X	
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X			
MOVEABLE CLIP (designed allowable movement, inches)	2			
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1996		1973	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	K. FISCHER		K. FISCHER	
FOR TECHNICAL INFORMATION, CONTACT:	J. SAVAGE		J. SAVAGE	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90, FM I-60, I-90, I-120		UL-90, FM I-135	
14. SEE APPENDIX IF CHECKED	X		X	

NA=not applicable

Metal Roof Panels

AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS		AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS		AMERICAN BUILDINGS ROOFING AND ARCH. PRODUCTS	
MANSARD FASCIA		LOC-SEAM PANEL		MULTI-RIB PANEL	
YES		YES		YES	
NO		YES		YES	
FLAT PANEL		FIELD-FORMED STANDING SEAM		LAPPED SEAMS	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	UNFINISHED, KYNAR 500	22, 24	UNFINISHED, KYNAR 500	26, 24	UNFINISHED, KYNAR 500
30		64		45	
10,18		12,16		36	
3:12		1/4:12		1/2:12	
REQUIRED		OPTIONAL			
30-LB. FELT					
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		2, 3	F	3/4	E
1	F				
				X	
X		X			
		X			
1989		1989		1985	
YES		YES		YES	
K. FISCHER J. SAVAGE		K. FISCHER J. SAVAGE		K. FISCHER J. SAVAGE	
NONE		NO LEAKAGE @ 20 PSF		NONE	
NONE		0.009 SCFM/SF @ 20 PSF		NONE	
NONE		UL-90		UL-90	
X		X		X	

Metal Roof Panels

1. COMPANY NAME	AMERICAN STEEL BUILDING CO., INC.		ARS INDUSTRIES	
2. PRODUCT NAME	EXPANDEK STANDING SEAM		SSB	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	HINGE LOCKED STANDING SEAM		LOCK FORM BATTEN SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	22, 24, 26	DEXSTAR 850, UNFINISHED	22, 24,26	KYNAR 500, SILICON POLYESTER, UNFINISHED
STAINLESS STEEL (ga.)			22, 24	
GALVALUME (ga.)	22, 24, 26	DEXSTAR 850, UNFINISHED	22, 24,26	KYNAR 500, SILICON POLYESTER, UNFINISHED
ALUMINIZED STEEL (ga.)			22, 24	
ALUMINUM (in.)			0.032, 0.040	KYNAR 500, SILICON POLYESTER, ANODIZED
COPPER (oz.)			16, 20	
TERNE METAL (ga.)			24	
ZINC (ga.)			24	
C. MAXIMUM LENGTH (lf.)	60		60	
D. PANEL WIDTHS (in.)	18,20,24		8, 12, 16, 18, 20, 24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	NOT USED		OPTIONAL	
C. UNDERLAYMENT (type or NA)	NA		30-LB. FELT OR EQUIVALENT	
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN			X	
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)			1 1/2	F, E
ROLL FORMED (180 degrees)			1 1/2	F, E
DOUBLE ROLL FORMED (two 180 degrees)			1 1/2	F, E
ROLL AND LOCK			2 1/2	F, E
SNAP-ON CAP			1 1/2	N
SNAP TOGETHER	3	E	1 3/4	F, E
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED			X	
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)	1		1 1/2	
9. SPECIALTY APPLICATIONS				
CURVED			X	
TAPERED				
OTHER	WALLS AND FACADES			
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1984		1984	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)			YES	
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	G. VEILLEUX		205/836-6777	
FOR TECHNICAL INFORMATION, CONTACT:	S. HALVORSON		205/836-6777	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NO PENETRATION AT 20 PSF FOR 15 MINUTES	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		LEAKAGE AT SEAM NOT TO EXCEED 0.005 CFM PSF OF PANEL AT 10 PSF DIFFERENTIAL PRESSURE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

ARS INDUSTRIES		ARS INDUSTRIES		ARS INDUSTRIES	
SSC		SS LB		SS 1.5	
YES		YES		YES	
NO		NO		YES	
SNAP-ON BATTEN		BATTEN SEAM		LOCK FORM STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500, SILICON POLYESTER, UNFINISHED	24, 26	KYNAR 500, SILICON POLYESTER, UNFINISHED	22, 24,26	KYNAR 500, SILICON POLYESTER, UNFINISHED
26		24, 26		22, 24	
24, 26	KYNAR 500, SILICON POLYESTER, MILL	24, 26	KYNAR 500, SILICON POLYESTER, MILL	22, 24,26	KYNAR 500, SILICON POLYESTER, MILL
24, 26		24,26		22, 24	
0.032	KYNAR 500, SILICON POLYESTER, ANODIZED	0.032, 0.040	KYNAR 500, SILICON POLYESTER, ANODIZED	0.032, 0.040	KYNAR 500, SILICON POLYESTER, ANODIZED
16, 20		16, 20		16, 20	
24,26		24		24	
24, 26		24		24	
60		60		60	
12, 16, 18, 20, 24		8, 12, 16, 18, 20, 24		8, 12, 16, 18, 20, 24	
3:12		3:12		1/4:12	
REQUIRED		REQUIRED		OPTIONAL	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
					X
X		X			
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
				1 1/2	F, E
				1 1/2	F, E
1	F	1 1/2	N		
					X
X		X			
					1 1/2
X					
X					
1984		1984		1984	
YES		YES		YES	
YES					
205/836-6777		205/591-5105		205/591-5105	
205/836-6777		205/591-1010		205/591-1010	
NONE		NONE		NO PENETRATION AT 20 PSF FOR 15 MINUTES	
NONE		NONE		LEAKAGE AT SEAM NOT TO EXCEED 0.005 CFM PSF OF PANEL AT 10 PSF DIFFERENTIAL PRESSURE	
NONE		NONE		UL-90	

Metal Roof Panels

1. COMPANY NAME	ARS INDUSTRIES		ATAS INTERNATIONAL, INC.	
2. PRODUCT NAME	SS 2.5		MONARCH ROOF PANEL	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	SNAP-ON BATTEN		INTEGRAL STANDING AND BATTEN SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24, 26	KYNAR 500, SILICON POLYESTER, UNFINISHED	22, 24	KYNAR 500, UNFINISHED
STAINLESS STEEL (ga.)	24, 26			
GALVALUME (ga.)	24, 26	KYNAR 500, SILICON POLYESTER, MILL	22, 24	KYNAR 500, UNFINISHED
ALUMINIZED STEEL (ga.)	24,26			
ALUMINUM (in.)	0.032, 0.040	KYNAR 500, SILICON POLYESTER, ANODIZED	0.032,0.040, 0.050	KYNAR 500
COPPER (oz.)	16, 20		16,20	
TERNE METAL (ga.)	24			
ZINC (ga.)	24			
C. MAXIMUM LENGTH (lf.)	60		70	
D. PANEL WIDTHS (in.)	12, 16, 18		12, 16	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT OR EQUIVALENT		30-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL				
BATTEN	X		X	
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK	2 1/2	F, E		
SNAP-ON CAP	2 1/2			
SNAP TOGETHER			2, 2 1/2	F
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)	2 1/2			
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED	X			
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1984		1981	
B. NUMBER OF SQUARES INSTALLED			>100,000	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)			DISTRIBUTORS	
E. NUMBER OF REGIONAL SERVICE LOCATIONS			2	
FOR SALES INFORMATION, CONTACT:	205/591-5105		J. BUSH (610/395-8445)	
FOR TECHNICAL INFORMATION, CONTACT:	205/591-1010		J. BUSH (610/395-8445)	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO PENETRATION AT 20 PSF FOR 15 MINUTES		NO LEAKAGE AT 10 PSF	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	LEAKAGE AT SEAM NOT TO EXCEED 0.005 CFM PSF OF PANEL AT 10 PSF DIFFERENTIAL PRESSURE		0.13 CFM PER SQ. FT. AT 4.00 PSF	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED			X	

NA=not applicable

Metal Roof Panels

ATAS INTERNATIONAL, INC.		ATAS INTERNATIONAL, INC.		ATAS INTERNATIONAL, INC.	
MULTI-PURPOSE PANEL		PC SNAP-ON SYSTEM		PC SNAP-ON SYSTEM	
YES		YES		YES	
YES		NO		NO	
STRUCTURAL STANDING AND BATTEN SEAM		SNAP-ON SEAM		SNAP-ON BATTEN	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR 500, UNFINISHED	24	KYNAR 500, UNFINISHED	24	KYNAR 500, UNFINISHED
24	KYNAR 500, UNFINISHED	24	KYNAR 500, UNFINISHED	24	KYNAR 500, UNFINISHED
0.032,0.040	KYNAR 500, ANODIZED	0.032,0.040	KYNAR 500, ANODIZED	0.032, 0.040	KYNAR 500, ANODIZED
16,20		16,20		16,20	
40		65		65	
12, 16		12 5/8, 15 1/4		12 1/2,16 1/2	
3:12		3:12		3:12	
OPTIONAL		OPTIONAL		OPTIONAL	
30-LB. FELT		30-LB. FELT		30-LB. FELT	
		X			
X					
				X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1 1/4	N	1 1/4	N	1 1/2	N
X					
		X		X	
		X		X	
		X		X	
1977		1984		1984	
>100,000		>100,000		>100,000	
NO		NO		NO	
DISTRIBUTORS		DISTRIBUTORS		DISTRIBUTORS	
2		2		2	
J. BUSH (610/395-8445)		J. BUSH (610/395-8445)		J. BUSH (610/395-8445)	
J. BUSH (610/395-8445)		J. BUSH (610/395-8445)		J. BUSH (610/395-8445)	
NO LEAKAGE AT 9.75 PSF		NONE		NONE	
0.11 CFM PER SQ. FT. AT 4.00 PSF		NONE		NONE	
UL-90		UL-90			
X		X		X	

Metal Roof Panels

1. COMPANY NAME	ATAS INTERNATIONAL, INC.		ATAS INTERNATIONAL, INC.	
2. PRODUCT NAME	METAFOR		DUTCH SEAM	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	CORRUGATED		STRUCTURAL STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)			22, 24	KYNAR 500, UNFINISHED
STAINLESS STEEL (ga.)				
GALVALUME (ga.)			22, 24	KYNAR 500, UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032, 0.040	KYNAR 500	0.032, 0.040	KYNAR 500, ANODIZED
COPPER (oz.)			16, 20	
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	40		65	
D. PANEL WIDTHS (in.)	12		11, 15, 1- 1/4	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT		30-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG			X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)	SQUARE CORRUGATIONS			
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER	5/8	N	1 5/8	F
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED	X			
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP			X	
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED	X			
TAPERED			X	
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1981		1981	
B. NUMBER OF SQUARES INSTALLED	>100,000		>100,000	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DISTRIBUTORS		DISTRIBUTORS	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	2		2	
FOR SALES INFORMATION, CONTACT: J. BUSH (610/395-8445)			J. BUSH (610/395-8445)	
FOR TECHNICAL INFORMATION, CONTACT: J. BUSH (610/395-8445)			J. BUSH (610/395-8445)	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NO LEAKAGE @12.0 PSF(69 MPH)	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		0.08 CFM/FE 2 @1.57 PSF(25 MPH)	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		UL-90	
14. SEE APPENDIX IF CHECKED	X		X	

NA=not applicable

Metal Roof Panels

BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.	
TEE-PANEL		HIGH SEAM TEE-PANEL		BATTEN SEAM PANEL	
YES		YES		YES	
NO		YES		YES	
SNAP-ON STANDING SEAM		SNAP-ON CAP STANDING SEAM		BATTEN STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
16		16		16	
12 3/4		18 1/4		16	
1:12		1:12		1:12	
REQUIRED		REQUIRED		OPTIONAL	
NO. 30 FELT OR EQUIVALENT		NO. 30 FELT OR EQUIVALENT		NO. 30 FELT OR EQUIVALENT	
X		X			
				X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1	F	1, 1 1/2	F	1 3/4	F
X		X		X	
X		X			
X		X			
FREE-FORM COMPOUND CURVED					
1969		1970		1970	
NO		NO		NO	
D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)	
NO MEASURABLE INFILTRATION AT 5 GALLONS PSF AT STATIC PRESSURE OF 2.86 PSF DIFFERENTIAL		NO MEASURABLE INFILTRATION AT 5 GALLONS PSF AT STATIC PRESSURE OF 2.86 PSF DIFFERENTIAL		NONE	
NO MEASURABLE INFILTRATION AT STATIC PRESSURE DIFFERENTIAL OF 1.57 PSF		NO MEASURABLE INFILTRATION AT STATIC PRESSURE DIFFERENTIAL OF 1.57 PSF		NONE	
UL-90		UL-90		UL-90	
X		X		X	

Metal Roof Panels

1. COMPANY NAME	BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.	
2. PRODUCT NAME	ZEE-LOCK		DOUBLE-LOCK DL-1, DL-1.5	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	LOCK-FORMED STANDING SEAM		LOCK-FORMED STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)	16		16	
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)				
D. PANEL WIDTHS (in.)	16		17, 18	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/2:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)				
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)	2	F	1, 1 1/2	N
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1989		1987	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009)	
FOR TECHNICAL INFORMATION, CONTACT:	R. MARKS (800/231-8127)		R. MARKS (800/231-8127)	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO MEASURABLE INFILTRATION AT 5 GALLONS PSF AT STATIC PRESSURE OF 20.00 PSF		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NO MEASURABLE INFILTRATION AT STATIC PRESSURE DIFFERENTIAL OF 6.24 PSF		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90, FM I-60, FM I-120		NONE	
14. SEE APPENDIX IF CHECKED	X		X	

NA=not applicable

Metal Roof Panels

BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.	
CEE-LOCK PANEL		"R" PANEL		"M" PANEL	
YES		YES		YES	
YES		YES		YES	
SNAP-ON STANDING SEAM		CORRUGATED ROOF PANEL		CORRUGATED ROOF PANEL	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
16					
40		40		40	
16 1/2		36		36	
1:12		1:12		1:12	
OPTIONAL		NOT USED		NOT USED	
NO. 30 FELT OR EQUIVALENT		NA		NA	
X					
		X			
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		1 1/4	E	3/4	E
1 1/2	F				
		X		X	
X		X		X	
1989		1989		1988	
NO		NO		NO	
D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)	
NO MEASURABLE INFILTRATION AT 5 GALLONS PSF AT STATIC PRESSURE OF 20.00 PSF		NONE		NONE	
NO MEASURABLE INFILTRATION AT STATIC PRESSURE DIFFERENTIAL OF 6.24 PSF		NONE		NONE	
UL-90		UL-90		NONE	
X					

Metal Roof Panels

1. COMPANY NAME	BERRIDGE MANUFACTURING CO.		BERRIDGE MANUFACTURING CO.	
2. PRODUCT NAME	BERMUDA ROOF		CURVED FLAT SEAM	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	HORIZONTAL PLANK ROOF SYSTEM		CURVED FLAT SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24	KYNAR 500, HYLAR 5000	24	KYNAR 500, HYLAR 5000
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)	16			
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	40		40	
D. PANEL WIDTHS (in.)			8	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		3:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		REQUIRED	
C. UNDERLAYMENT (type or NA)	NO. 30 FELT OR EQUIVALENT		ICE/WATER GUARD	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL				
BATTEN				
OTHER (specify)	HORIZONTAL PLANK		CURVED FLAT SEAM	
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER	1	F		
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED			X	
C. CLIP, CONCEALED				
FIXED CLIP	X			
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED			X	
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1991		1970	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)			DISTRIBUTORS, DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009)		D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009)	
FOR TECHNICAL INFORMATION, CONTACT:	R. MARKS (800/231-8127)		R. MARKS (800/231-8127)	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		NONE	
14. SEE APPENDIX IF CHECKED	X			

NA=not applicable

Metal Roof Panels

BERRIDGE MANUFACTURING CO.		BHP STEEL BUILDING PRODUCTS USA INC.		BHP STEEL BUILDING PRODUCTS USA INC.	
S-TILE		SELECT SEAM WIDE BATTEN		SELECT SEAM NARROW BATTEN	
YES		YES		YES	
NO		NO		NO	
S-TILE		ARCHITECTURAL BATTEN		ARCHITECTURAL STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR 500, HYLAR 5000	22, 24	PVF, UNFINISHED	22, 24	PVF, UNFINISHED
24	KYNAR 500, HYLAR 5000	22, 24	PVF, UNFINISHED	22, 24	PVF, UNFINISHED
		20		20	
40		45		45	
32 11/16		17 1/2, 22 1/2		16 1/4, 21 1/4	
3:12		3:12		3:12	
OPTIONAL		REQUIRED		REQUIRED	
NO. 30 FELT/ ICE/WATER GUARD		30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
					X
		X			
S-TILE					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
	E				
		1 7/8	N	1	E
X					
		X		X	
		X		X	
		MANSARD, FASCIA		MANSARD, FASCIA	
1993				1993	
YES		NO		NO	
DISTRIBUTORS, DIRECT		SUBCONTRACTORS		SUBCONTRACTORS	
		7		7	
D. DOYLE (800/231-8127)/G. GILLUM (800/669-0009) R. MARKS (800/231-8127)		800/726-2727 800/726-2727		800/726-2727 800/726-2727	
NONE		NONE		NO LEAKAGE @ 25 PSF	
NONE		NONE		LESS THAN 0.02 CFM/LF SEAM	
NONE		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	BHP STEEL BUILDING PRODUCTS USA INC.		BHP STEEL BUILDING PRODUCTS USA INC.	
2. PRODUCT NAME	KLIP RIB		WEATHER SEAM-24	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	CONCEALED FASTENER TRAPEZOIDAL RIB		FLOATING-CLIP STRUCTURAL STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	22, 24, 26	PVF, SMP, UNFINISHED	22, 24	POLY, SMP, PVF, UNFINISHED
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24, 26	PVF, SMP, UNFINISHED	22, 24	POLY, SMP, PVF, UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	100		55	
D. PANEL WIDTHS (in.)			24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT OR EQUIVALENT		NA	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL			X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER	1 5/8	F	3	F
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X			
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)			2 1/8	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER	MANSARD, FASCIA			
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1965		1985	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	800/726-2727		800/726-2727	
FOR TECHNICAL INFORMATION, CONTACT:	800/726-2727		800/726-2727	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO LEAKAGE @ 20 PSF		NO LEAKAGE ON 24 HR. 6" STANDING WATER TEST	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.009 CFM/SQ. FT. @ 20 PSF			
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

BHP STEEL BUILDING PRODUCTS USA INC.		BHP STEEL BUILDING PRODUCTS USA INC.		BHP STEEL BUILDING PRODUCTS USA INC.	
DESIGN SPAN		SKYLINE ROOFING		DESIGN SPAN BATTEN	
YES		YES		YES	
YES		NO		YES	
KNIFE-EDGE STANDING SEAM		ARCHITECTURAL STANDING SEAM		ARCHITECTURAL BATTEN	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	PVF, SMP, UNFINISHED	24, 26	PVF, SMP	22, 24	PVF, UNFINISHED
22, 24	PVF, SMP, UNFINISHED	24, 26	PVF, SMP	22, 24	PVF, UNFINISHED
16,20				20	
55		35		45	
12, 17, 18, 24		12, 16, 18		12, 17, 18, 24	
3:12		3:12		3:12	
OPTIONAL		REQUIRED		OPTIONAL	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1 3/4	F	1	E	1 3/4	F
		X			
X				X	
		MANARD, FASCIA		X	
1991		1992		1991	
NO		NO		NO	
		RETAIL/WHOLESALE		SUBCONTRACTORS	
800/726-2727 800/726-2727		800/726-2727 800/400-3867		800/726-2727 800/400-3867	
NO LEAKAGE @ 20 PSF		NO LEAKAGE @ 20 PSF (24 GAUGE ONLY)		NO LEAKAGE @ 20 PSF	
0.14 CFM/LF @ 20 PSF		LESS THAN 0.02 CFM/LF @ 20 PSF (24 GAUGE ONLY)		.14 CFM/LF @ 20 PSF	
UL-90		UL-60 (24 GAUGE ONLY)			
X					

Metal Roof Panels

1. COMPANY NAME	BUTLER ROOF DIVISION		BUTLER ROOF DIVISION	
2. PRODUCT NAME	MR-24		VSR	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	DOUBLE LOCK STANDING SEAM		CRIMPED STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	22, 24	KYNAR 500/HYLAR 5000	22, 24	KYNAR 500/HYLAR 5000
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24	UNFINISHED	22, 24	UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	60		45	
D. PANEL WIDTHS (in.)	24		16	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	NOT USED		OPTIONAL	
C. UNDERLAYMENT (type or NA)	NA			
6. PANEL PROFILE				
VERTICAL LEG			X	
TRAPEZOIDAL	X			
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)	2 3/4	F	2	F
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP			X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)	2 1/2		2 1/2	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1969		1988	
B. NUMBER OF SQUARES INSTALLED	> 1 BILLION			
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS	6		6	
FOR SALES INFORMATION, CONTACT:	800/998-7663		800/998-7663	
FOR TECHNICAL INFORMATION, CONTACT:	800/998-7663		800/998-7663	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90, FM I-60, FM I-75		UL-90, FM I-60, FM I-105	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

BUTLER ROOF DIVISION		BUTLER ROOF DIVISION		BUTLER ROOF DIVISION	
CMR-24		BUTLERIB II		GENESIS 360	
YES		NO		YES	
YES		YES		NO	
DOUBLE LOCK STANDING SEAM		ROLL FORMED MULTI-RIB		DOUBLE LOCK STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24, 26	KYNAR 500/HYLAR 5000	24, 26, 28	KYNAR 500/HYLAR 5000	24	KYNAR 500/HYLAR 5000
22, 24, 26	UNFINISHED	24, 26, 28	UNFINISHED	24	UNFINISHED
60		40		45	
24		36		12, 16, 24	
1/4:12		1/2:12		1/2:12	
REQUIRED		NOT USED		REQUIRED	
		NA			
				X	
X		X			
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		1 1/2	E		
2 3/4	F			1	F
		X			
				X	
2 1/2					
1974		1969		1997	
YES		YES		YES	
6		6			
800/998-7663		800/998-7663		800/998-7663	
800/998-7663		800/998-7663		800/998-7663	
NONE		NONE			
NONE		NONE			
UL-90, FM I-60, FM I-75		UL-90, FM I-90		UL-90	
X					

Metal Roof Panels

1. COMPANY NAME	BUTLER ROOF DIVISION		CURVELINE INC.	
2. PRODUCT NAME	GENESIS FASCIA		CURVELINE	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	INTERLOCKING		CURVED TRAPEZOIDAL PANELS	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24	KYNAR 500/HYLAR 5000	18, 26	SILICON POLYESTER, CORRESTAN, DEXSTAR 850, KYNAR 500, UNFIN.
STAINLESS STEEL (ga.)			22, 26	
GALVALUME (ga.)	24	UNFINISHED	18, 26	UNFINISHED
ALUMINIZED STEEL (ga.)			18, 26	UNFINISHED
ALUMINUM (in.)			0.032, 0.040, 0.050	UNFINISHED, ANODIZED
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		30	
D. PANEL WIDTHS (in.)	12, 16, 24		18, 24, 36, 40	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		1:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		NOT USED	
C. UNDERLAYMENT (type or NA)			NA	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL			X	
BATTEN				
OTHER (specify)			SNAP LOCK	
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED	1			
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)		N	3/4, 1 1/2, 3, 4	E
DOUBLE ROLL FORMED (two 180 degrees)			3/4, 1 1/2, 3, 4	E
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER			1 1/2, 3	E
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED			X	
B. THROUGH-FASTENED, CONCEALED			X	
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP			X	
MOVEABLE CLIP (designed allowable movement, inches)			X	
9. SPECIALTY APPLICATIONS				
CURVED			X	
TAPERED				
OTHER			MITERED	
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1997		1985	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	800/998-7663		T. HOLMAN, D. KLOCEK	
FOR TECHNICAL INFORMATION, CONTACT:	800/998-7663		D. KLOCEK	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)			13.24 PSF/15 MIN.=0	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)			20 PSF = MAX. 0.003 CFM/SQ. FT.	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		NO	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

ENGLERT INC.		ENGLERT INC.		ENGLERT INC.	
SERIES 2500		SERIES 1000		SERIES 2000	
YES		YES		YES	
YES		NO		YES	
MECHANICAL SEAM		SNAP-LOCK		SNAP-LOCK	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL
22, 24	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL
0.032, 0.040	KYNAR 500/HYLAR 5000	0.032	KYNAR 500/HYLAR 5000	0.032, 0.040	KYNAR 500/HYLAR 5000
16, 20		16		16, 20	
26				26	
TO 200		TO 200		TO 200	
12, 16, 18		12, 16, 20		12, 16, 18	
1/4:12		3:12		3:12	
OPTIONAL		REQUIRED		OPTIONAL	
30-LB. FELT		30-LB. FELT		30-LB. FELT	
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2	F				
		1 1/2	N	1 3/4	F
X		X		X	
X					
1993		1993		1991	
YES		NO		YES	
DIRECT		DIRECT		DIRECT	
10		10		10	
K. CORCORAN J. TRIPOD		K. CORCORAN J. TRIPOD		K. CORCORAN J. TRIPOD	
15.1 PSF/15 MIN.=0		NONE NONE		15.1 PSF/15 MIN.=0	
6.24 PSF/MAX .013 CFM/FT. SQ.				6.24 PSF/MAX .014 CFM/FT. SQ.	
UL-90		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	ENGLERT INC.		ENGLERT INC.	
2. PRODUCT NAME	SERIES 1100		SERIES 2400	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	SNAP-LOCK		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24, 26	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24, 26	KYNAR 500/HYLAR 5000, MILL	22, 24	KYNAR 500/HYLAR 5000, MILL
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032	KYNAR 500/HYLAR 5000	0.032, 0.040	KYNAR 500/HYLAR 5000
COPPER (oz.)	16		16, 20	
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	TO 200		TO 200	
D. PANEL WIDTHS (in.)	16		12, 16, 18	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT			
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK			2	
SNAP-ON CAP				
SNAP TOGETHER	1 1/4	N		N
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)			X	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1995		1990	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	10		10	
FOR SALES INFORMATION, CONTACT:	K. CORCORAN		K. CORCORAN	
FOR TECHNICAL INFORMATION, CONTACT:	J. TRIPOD		J. TRIPOD	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE			
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE			
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

FABRAL		FABRAL		FABRAL	
COT-R-CAP		SLIM SEAM		DECOR-RIB	
YES		YES		YES	
YES		YES		NO	
STRUCTURAL SNAP-ON BATTEN SEAM		INTEGRAL STANDING SEAM		INTEGRAL BATTEN SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500	24	KYNAR 500	22, 24	KYNAR 500
22	KYNAR 500, UNPAINTED	24	KYNAR 500, UNPAINTED	22, 24	KYNAR 500, UNPAINTED
0.032, 0.040	KYNAR 500	0.032, 0.040	KYNAR 500	0.032, 0.040	KYNAR 500
16,20		16, 20			
150		40		40	
16		12, 16		12, 16	
1/2:12		1:12		3:12	
OPTIONAL		OPTIONAL		REQUIRED	
30-LB. FELT		30-LB. FELT		30-LB. FELT	
		X			
X					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2 1/2		1 1/2	F	1 1/2	N
X		X		X	
		X			
1979		1987		1982	
NO		NO		NO	
L. REESE M. CROUCHER, JR.		L. REESE M. CROUCHER, JR.		L. REESE M. CROUCHER, JR.	
NO PENETRATION UNDER 5 GAL.-PER-HOUR SPRAY AT 6.4 PSF PRESSURE DIFFERENTIAL		NO PENETRATION UNDER 5 GAL.-PER-HOUR SPRAY AT 25 PSF PRESSURE DIFFERENTIAL		NO PENETRATION UNDER 5 GAL.-PER-HOUR SPRAY AT 4 PSF PRESSURE DIFFERENTIAL	
MAXIMUM OF 0.01 CU. FT. PER MINUTE PER SQ. FT. AT 6.4 PSF		MAXIMUM OF 0.09 CU. FT. PER MINUTE PER SQ. FT. AT 1.57 PSF		MAXIMUM OF 0.01 CU. FT. PER MINUTE PER SQ. FT. AT 4 PSF	
UL-90		UL-90		UL-60	
X		X		X	

Metal Roof Panels

1. COMPANY NAME	FABRAL		FABRAL	
2. PRODUCT NAME	2 1/2" SSR		1 1/2" SSR	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	STANDING SEAM ROOF PANEL		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	18, 20, 22, 24, 26	UNFINISHED, S.P., KYNAR, VP	24	SUPER ALURITE
STAINLESS STEEL (ga.)	18, 20, 22, 24, 26	MILL		
GALVALUME (ga.)	18, 20, 22, 24, 26	MILL, SP, KYNAR		
ALUMINIZED STEEL (ga.)	18, 20, 22, 24, 26	UNFINISHED, S.P., KYNAR, VP		
ALUMINUM (in.)	0.032, 0.04, 0.05	PLAIN WITH STUCCO EMBOSING, SP, KYNAR W/VO STUCCO EMOSS.		
COPPER (oz.)	16			
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	42		40	
D. PANEL WIDTHS (in.)	18		16	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/2:12		1/2: 12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)				
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP	2 1/2	F	1 1/2	F
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1980		1987	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	L. REESE		L. REESE	
FOR TECHNICAL INFORMATION, CONTACT:	M. CROUCHER, JR.		M. CROUCHER, JR.	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	5 GAL./HR. PER SQ. FT. PRESSURE DIFFERENTIAL 20 PSF, 15 MIN WATER PENETRATION, NONE		NO PENETRATION AT 25 PSF	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.0 CU. FT./MIN PER SQ. FT. W/ 20 PSF PRES.		0.09 AT 1.57 PSF	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED	X		X	

NA=not applicable

Metal Roof Panels

FABRAL		FABRAL		FABRAL	
STAND'N SEAM		3" SNAP-RIB SSR		GRANDCURVE	
YES		NO		YES	
YES		YES		NO	
STRUCTURAL DOUBLE-LOCK STANDING SEAM		STANDING SEAM		SNAP-ON BATTEN SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500	24, 26	SILICONIZED POLYESTER, KYNAR	22, 24	KYNAR 500
22	KYNAR 500, UNPAINTED	24, 26	SILICONIZED POLYESTER, KYNAR, PLAIN	22, 24	KYNAR 500, UNPAINTED
		24, 26	PLAIN, S.P., KYNAR		
0.032, 0.040	KYNAR 500			0.032, 0.040	KYNAR 500
16, 20				16, 20	
150		42			
12, 16		24			
1/2: 12		1/2:12		1:12	
OPTIONAL		NOT USED		REQUIRED	
30-LB. FELT		NA		30-LB. FELT	
X					
		X			
				X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2 1/2	F				
		3	F	1 3/4, 2	
X				X	
		2			
				YES	
1987		1989		1997	
NO		NO		NO	
L. REESE M. CROUCHER, JR.		L. REESE M. CROUCHER, JR.		L. REESE M. CROUCHER, JR.	
NO PENETRATION UNDER 5 GAL-PER-HOUR SPRAY AT 20 PSF DIFFERENTIAL		NONE			
MAXIMUM OF 0.008 CU. FT. PER MINUTE PER SQ. FT. AT 20 PSF		NONE			
UL-90		UL-60, UL-90			
X		X		X	

Metal Roof Panels

1. COMPANY NAME	FOLLANSBEE STEEL		FOLLANSBEE STEEL	
2. PRODUCT NAME	VIROTIN		TCS II	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION			DOUBLE LOCK STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)				
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)	28, 30	GILSINITE	26, 28	PREWEATHER WASH COAT ONLY
C. MAXIMUM LENGTH (lf.)	20		20	
D. PANEL WIDTHS (in.)	17, 21		17, 21	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		3:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		REQUIRED	
C. UNDERLAYMENT (type or NA)	ROSIN SIZED PAPER		ROSIN SIZED PAPER	
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)	1	N	1	N
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)	X		X	
9. SPECIALTY APPLICATIONS				
CURVED	X		X	
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1997		1997	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DISTRIBUTORS		DISTRIBUTORS	
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	J. BONAR		J. BONAR	
FOR TECHNICAL INFORMATION, CONTACT:	E. THOMAS		E. THOMAS	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		NONE	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

FOLLANSBEE STEEL		FOLLANSBEE STEEL		GALVAMET, INC.	
TERNETT		TERNE COATED STAINLESS		GALVALOK I	
YES		YES		YES	
NO		NO		YES	
DOUBLE LOCK STANDING SEAM		DOUBLE LOCK STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
				22, 24, 26	BARE, MODIFIED POLYESTER AND KYNAR 500
		26, 28	PREWEATHER WASH COAT OR UNFINISHED		
28, 30	ACRYLIC SHOP COAT				
20		20		45	
17, 21		17, 21		12, 18, 24	
3:12		3:12		1/4:12	
REQUIRED		REQUIRED		OPTIONAL	
ROSIN SIZED PAPER		ROSIN SIZED PAPER		RIGID BOARD, ISO, FLEXIBLE FIBERGLASS	
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1	N	1	N		
				3	F
X		X		X	
X		X		X	
X		X		2 1/2	
1998		1967		1995	
NO		NO		DIRECT	
DISTRIBUTORS				22	
J. BONAR E. THOMAS		J. BONAR E. THOMAS		J. GEORTNER J. GEORTNER	
NONE		NONE		NO LEAKAGE AT 4 PSF	
NONE		NONE		0.043 CFM; 0.029 CFM; 0.022 CFM AT 4 PSF	
NONE		NONE		UL-90	

Metal Roof Panels

1. COMPANY NAME	GALVAMET, INC.		THE GARLAND CO., INC.	
2. PRODUCT NAME	GALVALOK II		R-MER LITE	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	STANDING SEAM			
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	22, 24, 26	BARE, MODIFIED POLYESTER AND KYNAR 500		
STAINLESS STEEL (ga.)				
GALVALUME (ga.)			30	SILICONE MODIFIED POLYESTER, FLUOROCARBON, PLASTISOL
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		100	
D. PANEL WIDTHS (in.)	12, 18, 24		144	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		REQUIRED	
C. UNDERLAYMENT (type or NA)	RIGID BOARD, ISO, FLEXIBLE FIBERGLASS			
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL	X			
BATTEN				
OTHER (specify)			FLAT SEAM	
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				E
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)	3	F		
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED			X	
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)	2 1/2			
9. SPECIALTY APPLICATIONS				
CURVED			X	
TAPERED			X	
OTHER			X	
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1995		1980	
B. NUMBER OF SQUARES INSTALLED			> 80,000	
C. LICENSED APPLICATOR AGREEMENT (yes/no)			YES	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	22			
FOR SALES INFORMATION, CONTACT: J. GEORTNER			D. SOKOL (800/321-9336)	
FOR TECHNICAL INFORMATION, CONTACT: J. GEORTNER			M. HUBER (800/321-9336)	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO LEAKAGE AT 4 PSF		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.043 CFM; 0.029 CFM; 0.022 CFM AT 4 PSF		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		FM, UL I-60, I-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

INNOVATIVE METALS COMPANY, INC.		INNOVATIVE METALS COMPANY, INC.		INNOVATIVE METALS COMPANY, INC.	
SERIES 300 PANELS		SNAP-LOK STANDING SEAM		PERM-LOC STANDING SEAM	
YES		YES		YES	
YES		YES		NO	
STRUCTURAL STANDING SEAM		ARCHITECTURAL STANDING SEAM		ARCHITECTURAL STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	UNFINISHED				
22, 24	KYNAR, UNFINISHED	22, 24	KYNAR, UNFINISHED	24	KYNAR, UNFINISHED
.032, .040, .50	KYNAR	.032, .040	KYNAR	0.032	KYNAR
16, 20	UNFINISHED	16, 20	UNFINISHED	16, 20	UNFINISHED
60		60		45	
12, 16, 18		10, 12, 16, 18		13, 21	
1/2:12		1 1/2:12		3:12	
OPTIONAL		OPTIONAL		REQUIRED	
NA		30-LB. FELT		30-LB. FELT	
X		X		X	
BATTEN OPTIONAL					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2 3/8	F				
2 3/8	F				
		1 3/4	F	7/8	N
X		X		X	
X				X	
X		X		X	
FIELD ROLL					
1985		1991		1986	
100,000+		50,000+		50,000+	
YES		YES		YES	
DIRECT		DIRECT		DIRECT	
30		30		30	
H.C. HOLLISTER G.R. JONES		H.C. HOLLISTER G.R. JONES		H.C. HOLLISTER G.R. JONES	
0/20 PSF		0/20 PSF			
.0036 SCFM/20 PSF		.0022 SCFM/20 PSF			
UL-90, FM 1-60, FM 1-75, FM 1-90, FM 1-75, FM 1-120, FM 1-135		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	INNOVATIVE METALS COMPANY, INC.		IPS INSULATED PANEL SYSEMS	
2. PRODUCT NAME	SS PANEL SYSTEM		RWP ROOFING PANEL	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	ARCHITECTURAL STANDING SEAM		PREINSULATED ROLLFORMED MULTI RIB	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)			22, 24, 26	KYNAR 500, SILICON POLYESTER
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24	KYNAR, UNFINISHED	22, 24, 26	KYNAR 500, SILICON POLYESTER UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032	KYNAR		
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		48	
D. PANEL WIDTHS (in.)	14 1/2, 22 1/2		36	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		1:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		NOT USED	
C. UNDERLAYMENT (type or NA)	30-LB. FELT		NA	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL			X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED			1 1/4	
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP	1	F		
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED			X	
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X			
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED	X			
TAPERED	X			
OTHER			X	
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1981		1981	
B. NUMBER OF SQUARES INSTALLED	50,000+			
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT			
E. NUMBER OF REGIONAL SERVICE LOCATIONS	30			
FOR SALES INFORMATION, CONTACT:	H.C. HOLLISTER		A. ANDREWS	
FOR TECHNICAL INFORMATION, CONTACT:	G.R. JONES		R. WILMER	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	0/20 PSF		NO LEAKAGE AT 20 PSF DIFFERENTIAL PRESSURE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0/577/20 PSF		NO LEAKAGE AT 20 PSF DIFFERENTIAL PRESSURE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90			
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

IPS INSULATED PANEL SYSEMS		MBCI		MBCI	
SSP ROOFING PANEL		ULTRA-DEK 124		DOUBLE-LOK 124	
YES		YES		YES	
YES		YES		YES	
PREINSULATED ROLLFORMED STANDING SEAM		STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500, SILICON POLYESTER				
22, 24	KYNAR 500, SILICON POLYESTER UNFINISHED	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF) , OR 300 METALLIC (PVDF)	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)
48		50 (STANDARD)		50 (STANDARD)	
36		12, 18, 24		12, 18, 24	
1/4:12		1/4:12		1/4:12	
NOT USED		OPTIONAL		OPTIONAL	
NA					
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		3		3	
2 7/8	E			3	F
2 7/8	E	3	F		
1/2		2 1/2 (1 1/4 EACH DIRECTION)		2 1/2 (1 1/4 EACH DIRECTION)	
X					
1986		1983		1983	
NO		YES		YES	
		DIRECT		DIRECT	
		21		21	
A. ANDREWS R. WILMER		W. DICKINSON T. WOLFE		W. DICKINSON T. WOLFE	
NO LEAKAGE AT 20 PSF DIFFERENTIAL PRESSURE		NO LEAKAGE AT 4 PSF		NO LEAKAGE AT 4 PSF	
NO LEAKAGE AT 20 PSF DIFFERENTIAL PRESSURE		0.022 CFM/SQ. FT. AT 4 PSF		0.022 CFM/SQ. FT. AT 4 PSF	
UL-90		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	MBCI		MBCI	
2. PRODUCT NAME	CRAFTSMAN SERIES HIGH BATTEN		CRAFTSMAN SERIES LARGE BATTEN	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	LOCK FORM SEPARATE BATTEN		LOCK FORM SEPARATE BATTEN	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	50 (STANDARD)		50 (STANDARD)	
D. PANEL WIDTHS (in.)	12, 16 1/2		12, 16 1/2	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		3:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		REQUIRED	
C. UNDERLAYMENT (type or NA)	30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL				
BATTEN	X		X	
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP	2	F	2	F
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER	TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT		TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT	
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1983		1983	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	21		21	
FOR SALES INFORMATION, CONTACT:	W. DICKINSON		W. DICKINSON	
FOR TECHNICAL INFORMATION, CONTACT:	T. WOLFE		T. WOLFE	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO LEAKAGE AT 4 PSF		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.048 CFM/ SQ. FT. AT 4 PSF; 0.045 CFM/SQ. FT.		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

MBCI		MBCI		MBCI	
CRAFTSMAN SERIES SMALL BATTEN		LOKSEAM		BATTENLOK	
YES		YES		YES	
NO		YES		YES	
LOCK FORM SEPARATE BATTEN		STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)	22, 24, 26	BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC (PVDF)
50 (STANDARD)		50 (STANDARD)		50 (STANDARD)	
12, 16 1/2		10, 12, 18		12, 16	
3:12		3:12		1/4:12	
REQUIRED		OPTIONAL		OPTIONAL	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT			
		X		X	
X					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
				2	F
1	F				
		1 3/4	F		
		X		X	
X		X			
TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT					
1983		1991		1991	
NO		NO		NO	
DIRECT		DIRECT		DIRECT	
21		21		21	
W. DICKINSON T. WOLFE		W. DICKINSON T. WOLFE		W. DICKINSON T. WOLFE	
NO LEAKAGE AT 4 PSF		NO LEAKAGE AT 1.57 PSF		NO LEAKAGE AT 1.57 PSF	
0.048 CFM/SQ. FT. AT 4 PSF; 0.045 CFM/SQ. FT.		0.0160 CFM/SQ. FT. AT 1.57 PSF		0.000 AT 1.57 PSF	
UL-90		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	MBCI		MBCI	
2. PRODUCT NAME	SL-16		S-36	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	1 x 16 INTERLOCKING ARCH. STANDING SEAM ROOF		1 1/2 X 12 X 36 EXPOSED FASTENER PANEL	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	26, 24	SMP, PVDF SIGNATURE 200, 300, 300 METALLIC	26, 24	SMP, PVDF SIGNATURE 200, 300, 300 METALLIC
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	50		55	
D. PANEL WIDTHS (in.)	16		36	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		OPTIONAL	
C. UNDERLAYMENT (type or NA)	15-LB. FELT		15-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)			1 1/2	F
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER	1	N		
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED			X	
B. THROUGH-FASTENED, CONCEALED	X			
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED			X	
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1989		1991	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS	21		21	
FOR SALES INFORMATION, CONTACT:	W. DICKINSON		W. DICKINSON	
FOR TECHNICAL INFORMATION, CONTACT:	T. WOLFE		T. WOLFE	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE			
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

MBCI		MBCI		MBCI	
P-36		PBR-36		MASTERLINE	
YES		YES		YES	
YES		YES		YES	
5/8 X 9 X 36 EXPOSED FASTENER PANEL		1 1/4 X 12 X 36 EXPOSED FASTENER PANEL		1 3/4 X 18-12-10 STRUT SSR	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
26, 29, 30	SMP, UNFINISHED	26, 29, 30	SMP, UNFINISHED		
				24	
		26	UNFINISHED	24, 26	SIGNATURE 200, 300, 300 METALLIC
				16	
45		56		55	
36		36		10, 12, 18	
3:12		1/2:12		3:12	
OPTIONAL		OPTIONAL		OPTIONAL	
15-LB. FELT		15-LB. FELT		NA	
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
5/8	F	1 1/2	F		
				1 3/4	F
X		X			
1987		1977		1991	
NO		NO		NO	
21		21		21	
W. DICKINSON T. WOLFE		W. DICKINSON T. WOLFE		W. DICKINSON T. WOLFE	
NONE		NONE		NO PENETRATION AT 6.24 PSF WITH 5 GAL/HR/SF 8-IN./HR	
NONE		NONE		10-IN.=0.0143 CFM/SF @ 6.24 PSF; 12-IN.=0.0215 CFM/SF @ 6.24 PSF; 18-IN.=0.0257 CFM/SF @ 6.24 PSF	
NONE		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	MBCI		MCELROY METAL INC.	
2. PRODUCT NAME	SUPRA-RIB		MASTERLOK-90	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	1 1/2 X 7.2 X 36		SNAP-ON STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24, 26	SIGNATURE 200, 300, 300 METALLIC	22, 24, 26	KYNAR, UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.034	SIGNATURE 200, 300, 300 METALLIC		
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	55		50	
D. PANEL WIDTHS (in.)	36		12, 18, 24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)			30-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL	X		X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER			3	F
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED	X			
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP			X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)			X	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1991		1986	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)			DISTRIBUTORS/DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	21		16	
FOR SALES INFORMATION, CONTACT:	W. DICKINSON		K. GIESEKE	
FOR TECHNICAL INFORMATION, CONTACT:	T. WOLFE		E. OSTEN	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO PENETRATION AT 12 PSF WITH 5 GALLONS/HOUR (8"/HOUR)		NO LEAKAGE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	YES		0.02 @ 1.57 PSF	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

MCELROY METAL INC.		MCELROY METAL INC		MCELROY METAL INC.	
MEDALLION I & II		MEGA-RIB		MULTI-RIB	
YES		YES		YES	
NO		YES		YES	
BATTEN CAP		OVERLAPPING		OVERLAPPING	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
		18, 20	KYNAR, UNFINISHED		
22, 24	KYNAR, UNFINISHED		22, 24, 26	22, 24, 26, 29	KYNAR, SILICONIZE POLYESTER, UNFINISHED
				0.024, 0.032	MILL, STUCCO EMBOSSED
40		40		40	
12, 14, 16, 18, 20		36		36	
3:12		1:12		1:12	
REQUIRED		OPTIONAL		OPTIONAL	
30-LB. FELT		30-L.B. FELT		30-LB. FELT	
		X		X	
X					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		1 1/2	E	1 1/4	E
1, 1 1/2	N				
		X		X	
1990		1990		1965	
NO		NO		NO	
DISTRIBUTORS/DIRECT		DISTRIBUTORS/DIRECT		DISTRIBUTORS/DIRECT	
16		16		16	
K. GIESEKE E. OSTEN		K. GIESEKE E. OSTEN		K. GIESEKE E. OSTEN	
NO LEAKAGE		NONE		NONE	
0.005 @ 1.57 PSF		NONE		NONE	
UL-90		NONE		UL-90	

Metal Roof Panels

1. COMPANY NAME	MCELROY METAL INC.		MCELROY METAL INC.	
2. PRODUCT NAME	MAX-RIB		MULTI-COR	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		NO	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	OVERLAPPING		OVERLAPPING	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	29	KYNAR, UNFINISHED		
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	24, 26, 29	KYNAR, SILICONIZE POLYESTER, UNFINISHED	22, 24, 26	KYNAR, UNFINISHED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.017, 0.024	MILL, STUCCO EMBOSSED	0.024, 0.032	MILL, STUCCO EMBOSSED
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	40		40	
D. PANEL WIDTHS (in.)	36		29 1/4, 32	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	2:12		1:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT		30-LB. FELT	
6. PANEL PROFILE				
VERTICAL LEG				
TRAPEZOIDAL	X			
BATTEN				
OTHER (specify)			CORRUGATED	
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED	3/4	E	7/8	E
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED	X		X	
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1976		1976	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DISTRIBUTORS/DIRECT		DISTRIBUTORS/DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	16		16	
FOR SALES INFORMATION, CONTACT:	K. GIESEKE		K. GIESEKE	
FOR TECHNICAL INFORMATION, CONTACT:	E. OSTEN		E. OSTEN	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		NONE	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

MCELROY METAL INC.		MCELROY METAL INC.		MERCHANT & EVANS, INC.	
M-COR		MEDALLION-LOK		INTERLOCK-18	
NO		YES		YES	
YES		YES		YES	
				INTERLOCKING	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
29	UNFINISHED			22, 24	KYNAR 500
22, 24, 26, 29	KYNAR, UNFINISHED	22, 24	KYNAR 500, UNFINISHED	22, 24	KYNAR 500, MILL
				22, 24	KYNAR 500, MILL
0.024, 0.032	MILL, STUCCO EMBOSSED			0.032, 0.040	KYNAR 500, MILL, ANODIZED
				16,20	MILL
40		40		60	
34 3/4, 37 3/8		16, 18		10, 18	
2:12		3:12		1:12	
OPTIONAL		OPTIONAL		OPTIONAL	
30-LB. FELT		30-LB. FELT		NA	
				X	
CORRUGATED					
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1/2	E				
				2	F
		1 3/4	F		
X					
		X		X	
				UNLIMITED	
				X	
1983		1993		1991	
NO		NO		NO	
		9			
DISTRIBUTORS/DIRECT 16		DISTRIBUTORS/DIRECT 16			
K. GIESEKE E. OSTEN		K. GIESEKE E. OSTEN		D. BROWN T. THOMPSON	
NONE		NO LEAKAGE		NO PENETRATION AT 15 PSF FOR 15 MINUTES	
NONE		.57 @ 1.57 PSF		0.005 CFM PER SQ. FT. AT 6.24 PSF DIFFERENTIAL	
NONE		UL-90		UL-90	
				X	

Metal Roof Panels

1. COMPANY NAME	MERCHANT & EVANS, INC.		MERCHANT & EVANS, INC.	
2. PRODUCT NAME	ZIP RIB		B 1515 R	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	INTERLOCKING, MECHANICALLY SEAMED		BATTEN SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	18, 20, 22, 24	KYNAR 500	22, 24	KYNAR 500
STAINLESS STEEL (ga.)	24	MILL		
GALVALUME (ga.)	18, 20, 22, 24	KYNAR 500, MILL	22, 24	KYNAR 500
ALUMINIZED STEEL (ga.)	18, 20, 22, 24	KYNAR 500, MILL	22, 24	KYNAR 500
ALUMINUM (in.)	0.032, 0.040, 0.050	KYNAR 500, MILL, ANODIZED	0.032, 0.040	KYNAR 500, MILL, ANODIZED
COPPER (oz.)	16,20	MILL	16,20	MILL
TERNE METAL (ga.)	24	MILL (TCSS)		
ZINC (ga.)	0.027	MILL	0.027	MILL
C. MAXIMUM LENGTH (lf.)	105		60	
D. PANEL WIDTHS (in.)	12, 16		11, 15, 18, 22	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		REQUIRED	
C. UNDERLAYMENT (type or NA)	NA		30-LB. FELT OR EQUIVALENT	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL				
BATTEN			X	
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK	2 1/2	F	1 1/2	N
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X			
SLIP CLIP	X		X	
MOVEABLE CLIP (designed allowable movement, inches)	2 5/8			
9. SPECIALTY APPLICATIONS				
CURVED	X		X	
TAPERED	X		X	
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1964		1971	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	D. BROWN		D. BROWN	
FOR TECHNICAL INFORMATION, CONTACT:	T. THOMPSON		T. THOMPSON	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO PENETRATION AT 15 PSF FOR 15 MINUTES		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.005 CFM PER SQ. FT. AT 6.24 PSF DIFFERENTIAL		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		NONE	
14. SEE APPENDIX IF CHECKED	X			

NA=not applicable

Metal Roof Panels

MERCHANT & EVANS, INC.		MERCHANT & EVANS, INC.		MERCHANT & EVANS, INC.	
# 114 R		# 305		# 306	
YES		YES		YES	
NO		NO		NO	
INTEGRAL BATTEN SEAM		INTEGRAL STANDING SEAM		BATTEN SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR 500	22, 24	KYNAR 500	22, 24	KYNAR 500
22, 24	KYNAR 500	22, 24	KYNAR 500	22, 24	KYNAR 500, MILL
22, 24	KYNAR 500	22, 24	KYNAR 500	22, 24	KYNAR 500
0.032, 0.040	KYNAR 500, MILL, ANODIZED	0.032, 0.040	KYNAR 500, MILL, ANODIZED	0.032, 0.040	KYNAR 500, MILL, ANODIZED
16,20	MILL	16,20	MILL	16,20	MILL
0.027	MILL	0.027	MILL	0.027	MILL
60		60		45	
9 3/4, 13, 17		12, 15 1/4, 19 1/4		10 1/8, 14, 17 1/2, 21 1/2, 22	
2:12		2:12		2:12	
REQUIRED		REQUIRED		REQUIRED	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
		X			
X				X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
				1, 1 1/4, 1 1/2, 2	F
1 1/4	N	1 3/8	F		
X		X		X	
				X	
				X	
1968		1984		1989	
NO		NO		NO	
D. BROWN T. THOMPSON		D. BROWN T. THOMPSON		D. BROWN T. THOMPSON	
NONE		NO PENETRATION AT 15 PSF FOR 15 MINUTES		NO PENETRATION AT 15 PSF FOR 15 MINUTES	
NONE		0 CFM @ 6.24 PSF		0 CFM @ 6.24 PSF	
NONE		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	MERCHANT & EVANS, INC.		METAL SALES MANUFACTURING CORP.	
2. PRODUCT NAME	DOME ROOF SYSTEM (BD 1520)		MASTER-SPAN MAGNA-LOC	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	BATTEN SEAM		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)			22, 24	KYNAR 500 (PVF2), BARE
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032, 0.040	KYNAR 500, MILL, ANODIZED		
COPPER (oz.)	16,20	MILL		
TERNE METAL (ga.)	24	MILL (TCSS)		
ZINC (ga.)	0.027	MILL		
C. MAXIMUM LENGTH (lf.)	45		45	
D. PANEL WIDTHS (in.)	UP TO 46 1/2		16 & 18	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT OR EQUIVALENT			
6. PANEL PROFILE				
VERTICAL LEG			X	
TRAPEZOIDAL				
BATTEN	X			
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)			2	F
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP	2	N		
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP	X			
MOVEABLE CLIP (designed allowable movement, inches)			2	
9. SPECIALTY APPLICATIONS				
CURVED	X			
TAPERED	X			
OTHER	DOME			
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1990		1998	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)			DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS			12	
FOR SALES INFORMATION, CONTACT: D. BROWN			D. CUNNINGHAM	
FOR TECHNICAL INFORMATION, CONTACT: T. THOMPSON			T. VARBLE	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO PENETRATION AT 15 PSF FOR 15 MINUTES		NO LEAKAGE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		0.060 CFM/SQ. FT.	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		FM, UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

METAL SALES MANUFACTURING CORP.		PETERSEN ALUMINUM CORP		PETERSEN ALUMINUM CORP	
SEAM-LOC 24		INTEGRAL BATTEN		REDI-ROOF STANDING SEAM	
YES		YES		YES	
YES		NO		NO	
STANDING SEAM		BATTEN STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
		24	KYNAR 500	24	KYNAR 500
22, 24	KYNAR 500 (PVF2), BARE				
		0.032	KYNAR 500	0.032	KYNAR 500
45		45		45	
24		11, 18, 19		12, 18	
1/4:12		3:12		3:12	
OPTIONAL		REQUIRED		REQUIRED	
		30-LB FELT		30-LB FELT	
				X	
X					
		X			
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2 11/16	F				
		1 1/2	N		
				1 1/2	N
		X		X	
2					
				X	
1979		1979		1990	
YES		> 100,000		> 100,000	
DIRECT		NO		NO	
12		DIRECT, DISTRIBUTORS		DIRECT, DISTRIBUTORS	
		4		4	
D. CUNNINGHAM T. VARBLE		800/323–1960 800/323–1960		800/323–1960 800/323–1960	
NO LEAKAGE		NO LEAKAGE @12 PSF		NO LEAKAGE @12 PSF	
0.060 CFM/SQ.FT.		0.008 CFM/SQ. FT @1.57 PSF		0.004 CFM/SQ. FT @1.57 PSF	
UL-90		UL-90		UL-90	

Metal Roof Panels

1. COMPANY NAME	PETERSEN ALUMINUM CORP		PETERSEN ALUMINUM CORP	
2. PRODUCT NAME	SNAP-ON STANDING SEAM		HIGH SNAP-ON STANDING SEAM	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	NO		NO	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	STANDING SEAM		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	24	KYNAR 500	24	KYNAR 500
STAINLESS STEEL (ga.)				
GALVALUME (ga.)				
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032	KYNAR 500	0.032	KYNAR 500
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		45	
D. PANEL WIDTHS (in.)	12, 16, 18, 20		11, 18, 19	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	3:12		3:12	
B. SOLID DECKING (required, optional, or not used)	REQUIRED		REQUIRED	
C. UNDERLAYMENT (type or NA)	30-LB FELT		30-LB FELT	
6. PANEL PROFILE				
VERTICAL LEG			X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP	1	N	1 1/2	N
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED	X		X	
TAPERED	X		X	
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1979		1979	
B. NUMBER OF SQUARES INSTALLED	> 100,000		> 100,000	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT, DISTRIBUTORS		DIRECT, DISTRIBUTORS	
E. NUMBER OF REGIONAL SERVICE LOCATIONS	4		4	
FOR SALES INFORMATION, CONTACT:	800/323-1960		800/323-1960	
FOR TECHNICAL INFORMATION, CONTACT:	800/323-1960		800/323-1960	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO LEAKAGE @12 PSF		NO LEAKAGE @12 PSF	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.006 CFM/SQ. FT @1.57 PSF		0.005 CFM/SQ. FT @1.57 PSF	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90		UL-90	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

PETERSEN ALUMINUM CORP		PETERSEN ALUMINUM CORP		PETERSEN ALUMINUM CORP	
INTEGRAL STANDING SEAM		SNAP-ON BATTEN		REDI-ROOF BATTEN	
YES		YES		YES	
NO		NO		NO	
STANDING SEAM		BATTEN STANDING SEAM		BATTEN STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
24	KYNAR 500	24	KYNAR 500	24	KYNAR 500
0.032	KYNAR 500	0.032	KYNAR 500	0.032	KYNAR 500
45		45		45	
11, 18, 19		11, 12, 18		12	
3:12		3:12		3:12	
REQUIRED		REQUIRED		REQUIRED	
30-LB FELT		30-LB FELT		30-LB FELT	
				X	
X		X			
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
1 1/2	N	1 1/2	N	1 1/2	N
X		X		X	
				X	
1979		1979		1989	
> 100,000		> 100,000		> 100,000	
NO		NO		NO	
DIRECT, DISTRIBUTORS		DIRECT, DISTRIBUTORS		DIRECT, DISTRIBUTORS	
4		4			
800/323-1960		800/323-1960		800/323-1960	
800/323-1960		800/323-1960		800/323-1960	
NO LEAKAGE @12 PSF		NO LEAKAGE @12 PSF		NO LEAKAGE @12 PSF	
0.02 CFM/SQ. FT @1.57 PSF		0.02 CFM/SQ. FT @1.57 PSF		0.03 CFM/SQ. FT @1.57 PSF	
UL-90		NONE		UL-90	

Metal Roof Panels

1. COMPANY NAME	PETERSEN ALUMINUM CORP		ROOSEVELT BUILDING PRODUCTS CO., INC.	
2. PRODUCT NAME	SNAP-CLAD		CFSS SERIES	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	STANDING SEAM		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	22, 24	KYNAR 500	20, 22, 24	KYNAR, SILICONIZED POLYESTER
STAINLESS STEEL (ga.)				
GALVALUME (ga.)			20, 22, 24	KYNAR, SILICONIZED POLYESTER, UNPAINTED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032	KYNAR 500	0.032, .0040	KYNAR, SILICONIZED POLYESTER, UNPAINTED
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	45		100	
D. PANEL WIDTHS (in.)	10, 12, 16, 18		12, 16, 18, 24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	2:12		1/4:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB FELT		FELT, MEMBRANE	
6. PANEL PROFILE				
VERTICAL LEG	X		X	
TRAPEZOIDAL				
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)			2 1/2	F
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER	1 3/4	F		
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED				
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)			4 3/4	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1993		1991	
B. NUMBER OF SQUARES INSTALLED	> 100,000		4000+	
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)	DIRECT, DISTRIBUTORS		DIRECT	
E. NUMBER OF REGIONAL SERVICE LOCATIONS			1	
FOR SALES INFORMATION, CONTACT:	800/323-1960		K. MURPHY	
FOR TECHNICAL INFORMATION, CONTACT:	800/323-1960		K. MURPHY	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO LEAKAGE @12 PSF			
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.04 CFM/SQ. FT @1.57 PSF			
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL-90			
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

ROOSEVELT BUILDING PRODUCTS CO., INC.		ROOSEVELT BUILDING PRODUCTS CO., INC.		ROOSEVELT BUILDING PRODUCTS CO., INC.	
CFSR SERIES		CFSL SERIES		CFBP CURVED SYSTEM	
YES		YES		YES	
YES		NO		NO	
STANDING SEAM		STANDING SEAM		STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24	KYNAR, SILICONIZED POLYESTER	22, 24	KYNAR, SILICONIZED POLYESTER	24	KYNAR, SILICONIZED POLYESTER
22, 24	KYNAR, SILICONIZED POLYESTER, UNPAINTED	22, 24	KYNAR, SILICONIZED POLYESTER, UNPAINTED	24	KYNAR, SILICONIZED POLYESTER, UNPAINTED
0.032, 0.040	KYNAR, SILICONIZED POLYESTER, UNPAINTED	0.032	KYNAR, SILICONIZED POLYESTER, UNPAINTED	0.032	KYNAR, SILICONIZED POLYESTER UNPAINTED
100		100		40	
12, 14, 16, 18		12, 16, 18		12	
1/4:12		3:12		3:12	
OPTIONAL		REQUIRED		REQUIRED	
FELT, MEMBRANE		FELT, MEMBRANE		FELT, MEMBRANE	
X		X			
				X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2	F				
2	F				
2	F				
		1 1/2	F	1	F
X		X		X	
2					
				X	
X				X	
1995		1988		1995	
7000+		7000+		400+	
NO		NO		NO	
DIRECT		DIRECT		DIRECT	
1		1		1	
K. MURPHY		K. MURPHY		K. MURPHY	
K. MURPHY		K. MURPHY		K. MURPHY	
				NONE	
				NONE	

Metal Roof Panels

1. COMPANY NAME	STEELOX ROOF SYSTEMS		STEELOX ROOF SYSTEMS	
2. PRODUCT NAME	LRX (STEELOX LOCK RIB)		SENTRY XTR	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		NO	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	VERTICAL RIB STANDING SEAM		STANDING SEAM	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)				
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24	70% KYNAR, UNPAINTED	22, 24	70% KYNAR, UNPAINTED
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)				
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	65			
D. PANEL WIDTHS (in.)	16		24	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/4:12		1/2:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL			
C. UNDERLAYMENT (type or NA)	30-LB. FELT			
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL			X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED				
CRIMPED (45 degrees)	2	F		F
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED	X			
B. THROUGH-FASTENED, CONCEALED	X			
C. CLIP, CONCEALED				
FIXED CLIP	X		X	
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)	2		2	
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED	X			
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1934		1997	
B. NUMBER OF SQUARES INSTALLED	10 MILLION			
C. LICENSED APPLICATOR AGREEMENT (yes/no)	YES		YES	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	513/573-5200		513/573-5200	
FOR TECHNICAL INFORMATION, CONTACT:	513/573-5200		513/573-5200	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NO INFILTRATON			
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	0.012 CFM/FT ² @ 6.24PSF			
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	UL CLASS 90, FM I-60, FM I-120			
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

UNITED STEEL DECK, INC.		UNITED STEEL DECK, INC.		UNITED STEEL DECK, INC.	
UNI-LOK		UNILINE RP		UNIRIB C36	
YES		YES		YES	
YES		YES		YES	
SNAP-TOGETHER STANDING SEAM		EXTERIOR EXPOSED FASTENER		EXTERIOR EXPOSED FASTENER	
THICKNESSES	FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
22, 24, 26	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL	22, 24, 26	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL	18, 20, 22, 24	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL
22, 24, 26	UNFINISHED	22, 24, 26	UNFINISHED	22, 24	UNFINISHED
22, 24, 26	UNFINISHED	22, 24, 26	UNFINISHED		
		0.032, 0.04, 0.05	UNFINISHED	0.032, 0.04, 0.05	UNFINISHED
60		40		40	
24		36		36	
1/4:12		1:12		1:12	
OPTIONAL		OPTIONAL		OPTIONAL	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
X		X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
		1 1/4	E	1 1/2	E
3	F				
		X		X	
X					
X					
2					
1984		1978		1978	
NO		NO		NO	
908/277-1617 J. MATTINGLY		908/277-1617 J. MATTINGLY		908/277-1617 J. MATTINGLY	
NONE		NONE		NO LEAKAGE AT 6.24 PSF	
NONE		NONE		0.012 CFM PER SQ. FT. AT 1.57 PSF	
UL-90		UL-90		NONE	

Metal Roof Panels

1. COMPANY NAME	UNITED STEEL DECK, INC.		UNITED STEEL DECK, INC.	
2. PRODUCT NAME	SS18 STANDING SEAM		UTILITY RIB	
3. ARCHITECTURAL APPLICATIONS (yes/no)	YES		YES	
STRUCTURAL APPLICATIONS (yes/no)	YES		YES	
4. PANEL CONFIGURATION				
A. PANEL DESCRIPTION	EXTERIOR EXPOSED FASTENER		EXTERIOR EXPOSED FASTENER	
B. PANEL MATERIALS, THICKNESSES, AND FINISHES	THICKNESSES	FINISHES	THICKNESSES	FINISHES
GALVANIZED STEEL (ga.)	18, 20, 22, 24	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL	24, 26	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL
STAINLESS STEEL (ga.)				
GALVALUME (ga.)	22, 24	UNFINISHED		
ALUMINIZED STEEL (ga.)				
ALUMINUM (in.)	0.032, 0.04, 0.05	UNFINISHED		
COPPER (oz.)				
TERNE METAL (ga.)				
ZINC (ga.)				
C. MAXIMUM LENGTH (lf.)	40		40	
D. PANEL WIDTHS (in.)	18		30	
5. SYSTEMS REQUIREMENTS				
A. MINIMUM SLOPE (in. per ft.)	1/2:12		3:12	
B. SOLID DECKING (required, optional, or not used)	OPTIONAL		OPTIONAL	
C. UNDERLAYMENT (type or NA)	30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
6. PANEL PROFILE				
VERTICAL LEG	X			
TRAPEZOIDAL			X	
BATTEN				
OTHER (specify)				
7. SEAM PROCESSING, HEIGHT, AND SEALANT	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
SEAM PROCESSING				
OVERLAPPED	2 5/16	E	9/16	E
CRIMPED (45 degrees)				
ROLL FORMED (180 degrees)				
DOUBLE ROLL FORMED (two 180 degrees)				
ROLL AND LOCK				
SNAP-ON CAP				
SNAP TOGETHER				
8. FASTENING METHOD				
A. THROUGH-FASTENED, EXPOSED	X		X	
B. THROUGH-FASTENED, CONCEALED				
C. CLIP, CONCEALED				
FIXED CLIP				
SLIP CLIP				
MOVEABLE CLIP (designed allowable movement, inches)				
9. SPECIALTY APPLICATIONS				
CURVED				
TAPERED				
OTHER				
10. MANUFACTURER/PRODUCT DATA				
A. YEAR OF FIRST COMMERCIAL USE	1987		1978	
B. NUMBER OF SQUARES INSTALLED				
C. LICENSED APPLICATOR AGREEMENT (yes/no)	NO		NO	
D. METHOD OF DISTRIBUTION (distributors, direct)				
E. NUMBER OF REGIONAL SERVICE LOCATIONS				
FOR SALES INFORMATION, CONTACT:	908/277-1617		908/277-1617	
FOR TECHNICAL INFORMATION, CONTACT:	J. MATTINGLY		J. MATTINGLY	
11. ASTM E331 WATER INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
12. ASTM E283 AIR INFILTRATION TEST RESULTS (results or none)	NONE		NONE	
13. FM/UL WIND UPLIFT RATINGS FOR ANY SPECIFICATION	NONE		NONE	
14. SEE APPENDIX IF CHECKED				

NA=not applicable

Metal Roof Panels

UNITED STEEL DECK, INC.		VINCENT METAL GOODS	
U230		COLORKLAD SYSTEM 1	
YES		YES	
YES		NO	
EXTERIOR EXPOSED FASTENER		SNAP SEAM STANDING SEAM	
THICKNESSES	FINISHES	THICKNESSES	FINISHES
18, 20, 22, 24	SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL	24	KYNAR 500, UNFINISHED
		24	UNFINISHED
22, 24	UNFINISHED		
0.032, 0.04, 0.05	UNFINISHED	0.032	KYNAR 500
		16	
40		40	
30		12, 16, 18, 22	
1:12		3:12	
OPTIONAL		REQUIRED	
30-LB. FELT OR EQUIVALENT		30-LB. FELT OR EQUIVALENT	
X		X	
HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE	HEIGHT(S) (inches)	SEAM SEALANT F=FACTORY APPLIED; E = FIELD APPLIED; N = NONE
2	E		
		1, 1 1/2	E
X			
		X	
		X	
1989		1970	
NO		NO	
908/277-1617 J. MATTINGLY		R. OEHME R. OEHME	
NONE		NONE	
NONE		NONE	
NONE		NONE	

Appendix, Roof Membranes

ALLIEDSIGNAL

Selected AlliedSignal roof membrane specifications are available with a protected roof membrane assembly thermal overlay incorporating extruded polystyrene insulation board with aggregate surfacing.

AMERICAN BUILDINGS ROOFING AND ARCHITECTURAL PRODUCTS

All American Buildings Company's roof systems are available in a proprietary Premium 70 Plus paint finish, which has a Kynar 500 resin. It has a proprietary high-build primer and special long-life ceramic pigments. It has a chalk rating no lower than 9 and a fade no higher than 4 NBS over 20 years. It is warranted for 25 years based on actual field testing. It is maintenance-free and graffiti-proof.

ATAS INTERNATIONAL, INC.

Atas International, Inc. offers metal roofing systems in a wide variety of panel profiles, from standing seam and batten seam to tile configuration. Presently it has over twenty standard colors available in a fluoropolymer Kynar 500 coating, in 24-gauge galvanized steel, and 0.032, 0.040, and 0.050 aluminum. Contact Atas International, Inc. at 610-395-8445 for further information on its products and applicable warranties.

BARRETT COMPANY

The Barrett Ram-Tough Elastomeric Built-up Roofing System uniquely combines the elastomeric properties of single-ply with the application techniques of built-up roofing. The modified asphalt bitumens are engineered from a select blend of highly refined unoxidized asphalt and Shell Kraton block copolymer rubber. Conventional asphalt bitumens and cold process mastics are available options. The "felts," or fabric reinforcement, are either polyester, fiberglass, modified bitumen, or a combination thereof depending upon specification used. Unlike other rubberized asphalts, the Ram-Tough KLB-100 and K-312 bitumens can be melted in conventional direct-fired roofing kettles without degradation, they are pumpable, and can be applied with conventional hot dispensers and mops. Flashing details are standard built-up roofing details generally in conformance with NRCA standard detail specification plates. A base sheet is required on uninsulated nailable decks.

Utilizing the Ram-Tough Elastomeric Built-up Roofing Systems, the approved roofing contractor, in effect, "manufacturers" in the field his own monolithic, modified-bitumen sheet without the laps and seams traditionally associated with preformed modified bitumen sheets. The completed polyester-reinforced systems afford high elongation, exceptional usable stress/strain properties, high puncture resistance, "self-curing" cold flow, crack bridging capabilities, exceptional low-temperature flexibility, and other performance features normally associated with elastoplastic single plies.

Because of the uniqueness of each individual reroofing project, Barrett should be consulted before writing specifications for actual use in a reroofing application. Unusual roof situations are also encountered from time to time and design and specification assistance is available to the contractor, architect, engineer, or owner upon request for freezer and cold-storage warehouses, high interior humidity conditions, temporary roofing, and most other unusual roofing problems.

Barrett does not endorse BSS #55 and encourages adoption of "strain energy" load-elongation test criteria (in conformance with NBS-IR 86-3418, Rossiter & Bentz; NBS-IR 86-3347, Busching, Rossiter & Mathey) as being more relevant to actual in-situ field conditions.

Elastomeric interply adhesive meets ASTM 6152-97.

BERRIDGE MANUFACTURING CO.

Berridge Tee-Panel, High Seam Tee-Lock, Batten Seam, Zee-Lock, Double-Lock, Cee-Lock, and Bermuda Roof may be roll-formed on site in continuous lengths with a Berridge portable roll former.

BITEC, INC.

BITEC Mineral Design MDA and MDS are APP and SBS pattern design products available in eight different designs with a variety of color combinations. MDA, an APP product, can be used when APM-4T is used for torch application. MDS, an SBS product, can be used when SPM-4H is used and may be applied with hot asphalt or SBS modified cold adhesive.

BONDCOTE ROOFING SYSTEMS

The newest additions to BondCote's product line are the 500, 600, and 800 Series membranes, which combine the time-proven thermoplastic NBP formulation with the same weft-inserted high-tenacity polyester base fabric. They are designed for the most demanding roofing environment.

BondCote FleeceBond 1000 membrane combines the proven 350 Series membrane with a high-strength polyester fleece fabric in the factory. FleeceBond 1000 is designed to be installed directly over roof insulation or smooth rigid substrates, such as BUR or plywood when mechanically fastened. FleeceBond may also be fully adhered with contact adhesive or hot asphalt to a variety of BondCote-approved substrates.

All BondCote membranes are available in a variety of custom colors under the BondCote Spectrum product category. Underwriters Laboratories Class A and B fire ratings are available with a number of standard colors.

BUTLER MANUFACTURING COMPANY

MR-24 is factory prepunched and is applied only to prepunched or field-drilled structurals. A layer of faced blanket insulation is placed between the purlins and MR-24 for energy conservation and to eliminate condensation.

CMR-24 utilizes a continuous corrugated metal liner panel (decking) with rigid insulation board and the double lock standing seam roof system (MR-24). CMR-24 is factory prepunched and is applied only to prepunched or field-drilled structures. A vapor retarder is placed between the corrugated liner and the rigid board insulation.

VSR can be used structurally (over bar joists or purlins 5 feet on center) or directly over decking (steel or wood) with clip spacing at 30 inches on center. Blanket insulation should be used when VSR is used without decking over structural members. Rigid board insulation (Thermax by Celotex) is preferred over decking.

Genesis[®] 360 is an architectural panel to be used primarily over wood or metal deck. It is a weathertight standing seam panel system utilizing a "Pittsburgh" double-lock seam. Genesis 360 can be installed on slopes as low as 1/2:12" with a weathertightness warranty offered. Clip spacing to 32". SMACNA details available.

THE CELOTEX CORP.

Built-up roofing specs: All Celotex built-up roofing specs are published with prefix letters AGS (e.g., AGS-4-C-G) indicating use of Celo-Glass AGS Ply Sheet, a premium glass ply sheet with properties exceeding ASTM D-2178 Type VI and NBS-BSS #55 recommendations. Use of Celotex Celo-Glass AGS Ply Sheet is required to qualify for Celotex "Specification" Warranty. Celotex APP and Celotex SBS modified bitumen products exceed the tensile strength recommendations of NBS-BSS #55. Other built-up roofing specs are prefixed with the letters G/A and qualify for warranties other than the specification warranty.

Celotex base sheets are interchangeable when used in modified bitumen mopped systems, depending upon the substrate.

Celotex also has available cold process modified bitumen systems using Celotex SBS mineral surface cap sheet with SBS modified bitumen adhesive.

Celotex Hydro Stop Vapor Barrier/Venting Base Sheet is designed for use over lightweight insulating concrete decks (see specs indicated by "H+..."). Refer to Celotex literature for details.

CONKLIN COMPANY INC.

Benchmark, Rapid Roof III and Polytuff II coating systems are recommended over spray foam systems. Only Benchmark is approved when applications require compliance with ICBO, Factory Mutual and Metro Dade County Florida. For specific details contact Conklin Building Products Division.

COOLEY ROOFING SYSTEMS, INC.

Fiberboard may be used for certain applications. Contact CRSI for further information.

DERMABIT, WATERPROOFING INDUSTRIES, INC.

Dermabit roofing and waterproofing modified bitumen membranes are manufactured using state-of-the-art

technology. Dermabit membranes consist of two plies of APP or SBS modified asphalt reinforced with a one-ply polyester mat. All APP products are sold under the Dermabit name. SBS products are sold under the Elaspalt name. The product number designates the thickness of the membrane and weight of the reinforcing mat. Thus 4170 indicates a 4mm membrane with a 170 gram polyester mat.

Dermabit also manufactures and sells on a special-order basis self-adhering modified bitumen peel and stick as well as membranes with different thicknesses, ranging from 1mm to 5mm, different types of reinforcements, such as fiberglass, fleece, or polyester film or any combination of the above, depending upon the application requirement.

Dermabit membranes can be torched, hot mopped, cold applied, or self-adhered to all roof decks, including metal, wood, or concrete. All Dermabit membranes need to be applied over an asphalt-saturated base sheet or asphalt base primer. Specification manuals can be ordered free of charge by calling George Jermstad at 703/739-2801, FAX 703/739-2802.

All Dermabit and Elaspalt 4170 series modified bitumen membranes have successfully passed material tests conducted by Underwriters Laboratories (UL) and Factory Mutual (FM). Please refer to the appropriate UL and FM guide manuals for specific designs and ratings.

DIBITEN

Dibiten modified bitumen roofing membranes are APP modified bitumen bonded to a tough, resilient nonwoven polyester core material. They are available in both smooth-surfaced (Dibiten Poly/4 and Dibiten Poly/5) and slate flake-finished (Dibiten Poly/4.5 Granular) varieties. Surface color for Dibiten Poly/4 and Dibiten Poly/5 is black. Dibiten Poly/4.5 Granular is available in a wide range of colors. Also available is Dibiten Black Granite, surfaced with fine black slag particles, and Dibiten Mineral, just like Poly/4.5 Granular except surfaced with mineral granules instead of slate flakes. All the Dibiten APP products are torch applied. Dibiten modified bitumen membranes are well suited for most types of roofing applications, and the smooth surfaced membrane is used in a variety of waterproofing applications as well. Dibiten recommends their specifications manual be consulted for application requirements and details prior to application of product. Specifications are available for single- or double-layer applications. Some specifications require application of roof coatings. UL-listed specifications may be obtained by consulting the most current edition of the Dibiten specifications manual, and, because these specifications are subject to continuous change, the technical department should be consulted for verification of current status. Dibiten membranes have been used successfully in Europe since the late '60s, and in the U.S. since 1978. Dibiten encourages technical inquiries at their toll free number 800/DIBITEN or by calling 303-978-2867 from outside these areas.

ERSYSTEMS

ERSystems manufactures and distributes a complete line of elastomeric roof systems.

Single Ply: The single-ply systems include Permaweld CPA heat-welded and EPDM membrane roof systems, accessories, and sealants. PolyBond EPDM and Permaweld CPA Fleece Back Membranes have a non-woven polyester fleece backing making each ideal for cushioning irregular surfaces. PermaVac EPDM and CPA are vacuum adhesion methods of fastening single-ply membranes to an airtight substrate utilizing vacuum air vents and air distribution strips.

Coatings: The elastomeric coatings include acrylic, urethane, silicone and Hypalon® coatings for metal, concrete and foam roof and metal and concrete wall systems.

The Metal Roof Restoration System is designed to renew a metal roof - protect it from rusting, waterproof all seams, fasteners and roof penetrations without fabric or tapes, and restore the metallic finish for long term preservation. Available as a water-based acrylic system or polyurethane system.

The Single Ply Restoration System addresses the limitations of the original single-ply system (i.e., weak EPDM seams and flashings) and then provides for coating the membrane to reduce the temperature of the roof and deterioration against the elements.

Spray-Applied Polyurethane Foam: The ER Foam System consists of sprayed-in-place polyurethane foam used in conjunction with ERSystems elastomeric coatings. 2.7# and 3.0# roofing foam and 2.0# residential foam is available. ER Foam is typified with high density high compressive foam with good yield and smooth texture. Foam is protected for the UV and weather with acrylic elastomers (Eraguard 1000), polyurethane elastomers (Erathane 300), or silicone elastomers (Eraguard 4000).

Slo-Low Rise Adhesive: Used for rapid means of fully adhering the board stock to the deck and can be easily applied with the ERSprayer. Perfect for adhering insulation board to hard-to-fasten decks.

FABRAL

FABRAL's metal roofing panels are offered in a wide array of standard Kynar 500 colors, siliconized polyester, and vinyl plastisol. A limited 20-year nonprorated finish warranty is available, covering material and labor on replacement. Contact FABRAL at Lancaster, Pa. (717) 397-2741, Jackson, Ga. (770) 775-4484, Gridley, Ill. (309) 747-2937, Idabel, Okla. (405) 286-7521, or Cedar City, Utah (801) 586-1215.

FIRESTONE BUILDING PRODUCTS CO.

For information concerning acceptable substrates for Rubbergard .090 EPDM, contact Firestone for specifications.

FOAM ENTERPRISES, INC.

FE 303-2.5, 2.7, 3.0; FE 302-2.5, 2.7, 3.0; and FE 304-3.0. Spray application techniques and conditions can reflect upon the physical properties of sprayed-in-place foams. These listings show ranges that are obtained from spraying the compounds per our application instructions. Please consult

our instructions for further application details.

FE 314.3.0 This system uses new "blowing agents" and long-term insulation figures are not available at this time. Initial R-values show 6.25.

GACO WESTERN, INC.

For products A-5511, Urecap, Ureshield, UB-64, U-66, UA-6500, and UB-7050, the number of coating applications, along with required dry film thickness, can be increased or decreased to achieve desired mil thickness and guarantee requirements.

Products UB-64, U-66, UA-6500, and UB-7050 can be applied by single (batch mix) or multiple-component airless spray; water absorption per ASTM D-471 24 hours R.T.

G. E. SILICONES division of GENERAL ELECTRIC

Answers to questions 9 and 10 are not applicable to the coating requirement because our coating is applied to the urethane foam. Our specifications do require that concrete and plywood be primed prior to the application of the urethane foam. Thermal barriers are required to satisfy UL and FM ratings. Priming is optional when spraying urethane to metal or to an existing BUR. The base coat and top coat are identical except for color, and they may be used in reverse if a darker top coat is requested.

GS ROOFING PRODUCTS COMPANY, INC.

Privately owned by its management, GS Roofing is a full-line roofing manufacturer. It has nine roofing plants, four granule plants, and its own state-of-the-art fiberglass mat plant. For additional information contact GS at: Western Region 925/606-7434; Eastern Region 972/580-5604; Corporate HQ 972/580-5660; website: www.gsroof.com.

HENRY COMPANY

Henry Company has been a manufacturer of roofing products for the western states since 1933 specializing in cold-applied and smooth-surface BUR.

The three-ply membrane, with cold-applied cement or hot asphalt, under Type G2 fiberglass sheets or asphalt emulsions under polyester ply sheets, is generally surfaced with nine gallons of emulsion and three pounds of chopped glass fiber per square, and reflective coating. Called the Henry Monolithic System, this basic membrane concept has been time-tested for over 30 years in the U.V.-intense western states. It is a UL Class A system. Customized specifications are available; call Jim Hay or Ken Jacobs at (213) 583-5000 ext 263 for further information.

ICA, INC.

ICA, Inc. provides roofing materials and systems to roofing contractors who have met specified criteria for financial and professional stability and integrity, and therefore, qualify to participate in ICA's building owner referral program. ICA roofing materials are manufactured to ICA's stringent quality specifications and are available exclusively to ICA approved

contractors. It is the goal of ICA to control both the level of material quality and installation workmanship in order to offer the highest possible quality roofing system to the building owner community.

IMPER ITALIA S.P.A.

New roofing and reroofing: Imper Italia membranes are well suited to all new roofing and most reroofing applications. In every circumstance the specifier or the roofing contractor must take into consideration the following requirements: type and condition of the surfacing, insulation and, most important, ensuring proper drainage. To ensure a good bonding, use a proper primer, such as Impertene Primer or one approved by Imper Italia S.P.A.

Protection: When the black membranes Paralon NT4 or Triplene are applied over an insulation, a lightweight protection with Elastomul G or Parwenol 4822 Alluminio is recommended. Elastomul G is an acrylic modified paint with a water base available in different colors, white Parwenol 4822 Alluminio is a solvent-based aluminum paint. Other membranes are already self-protected.

Special instructions: The rolls should be stored in covered warehouses and in a vertical position, and, if possible, not stacked. It is recommended that they be stored at a temperature of not less than 41 F. They should be unloaded at the worksite or in the warehouse with care.

Note: All membranes are treated with Termotene. Termotene is a patented treatment in which a thin film of thermoplastic resins is applied to the undersurface during the manufacturing process. Under normal circumstances, the Termotene treatment performs as a separating layer between the different turns of the roll, but when heated by flame, it becomes a high-power adhesive. The advantages one obtains with Termotene include a reduced gas consumption and a greater speed of application. It is preferable that the flame of the torch be directed to the substrate as well as to the membrane being applied.

KOPPERS

BUR: Other: Felts for Spec #410 and #420 incorporate coal-tar-impregnated glass fiber felts (Tar-Glas), ASTM D4490, which is similar to ASTM D2178 Type IV, except that the felts are coal-tar impregnated. Felts for spec #490 and #495 incorporate coal-tar-impregnated glass fiber felts (Premium Tar-Glas), ASTM D4490, which is similar to ASTM D2178 Type VI, except that the felts are coal-tar-impregnated.

Koppers IR Series represents a joint agreement between Koppers and Dow Chemical Co. for an insulated roof membrane assembly incorporating Koppers coal-tar built-up roofing membrane and Dow Chemical Co. Styrofoam.

Modified Bitumen: Koppers modified bitumen specifications require a base ply. Multiple plies of Type IV or Type VI asphalt glass reinforced in asphalt is also acceptable under SBS membranes in lieu of a base sheet. Contact Koppers Sales and Service Center at 1-800-558-2706 for additional information.

MERCHANT & EVANS INC.

Zip Rib structural standing seam roofing has been in use for over 30 years, with installations from Adak, Alaska to the coast of the Caribbean. It is available in steel and aluminum in both 12-and 16-inch widths. The system utilizes allowable load spans in accordance with ASTM E-1592 test procedures, which conservatively depict field service capabilities, not calculated values that may yield nonconservative allowable load ranges. We offer design and engineering assistance for all of our products. In addition to our standard offerings listed, we can offer custom profiles and custom cornices to meet specific aesthetic requirements. All of our products are offered in multiple gauges and in various materials, including aluminum, copper, stainless steel, and zinc, as well as steel. For further information, call 1-800-257-6215.

MODBIT CORPORATION

Complete information on the Modbit Corp. Line of Bitutak MB and Bitutak MB Mineral APP polymer modified bitumen roofing products and their application is provided in the Bitutak MB APP bitumen membranes product and application brochure. For additional information contact MODBIT Corp. business development manager at 888/MOD-BITT (663-2488).

MONSEY BAKOR

Application: Modified Plus modified bitumen systems consist of two plies of SBS modified bitumen or one ply of coated base sheet and one ply of modified bitumen. Modified Plus is flexible at temperatures of -30F and lower. Membranes may be applied on any slope from dead level to vertical. Good roofing practice calls for a minimum of 1/4 inch in slope. The substrate includes most common decks, concrete, steel and wood as well as all commercial insulation. Assemblies include both conventional and protected membrane applications. Modified Plus systems offer many choices in method of application including hot-roofing asphalt, torch-welding, cold adhesives and self-adhesion. Membranes are lapped 3 inches on the side and 6 inches on the end. The cap sheet is surfaced with granules to provide a finished surface on application.

Contact Walt Mullen at 610/933-8888 or 800/523-0268, or Don Taylor at 905/890-4800, Fax 905/890-4866 or 800/387-9598. Distribution/rep network in most states.

NORTH CAROLINA FOAM INDUSTRIES

Figures for nominal density per ASTM D 1622 are in-place values; core values are: System 591-2.5, 2.5; System 591-2.8, 2.8; and System 692-2.5, 2.5. Systems 591 and 692 are formulated with HCFC 141B as the blowing agent.

North Carolina Foam Industries offers ten-year warranties for the NCFI Graveledfoam Roofing System (aggregate-covered polyurethane foam) when installed according to specifications by NCFI qualified applicators. The maximum

ambient relative humidity varies with the ambient temperature. NCFI offers a chart indicating maximum wet bulb temperatures and maximum relative humidity for ambient temperatures between 50 and 100 F. The maximum allowable wind velocity with screen depends on the type of wind screen and degree of enclosure. Thermal resistance (R) value varies with the age and condition of all insulating materials.

PERFORMANCE ROOF SYSTEMS, INC.

Complete information on the Performance Roof Systems line of Derbigum APP and Permax SBS polymer modified bitumen roofing products and their application is provided in the Derbigum specifications and detail book. A video is available to roofing professionals describing the application of Derbigum and Permax membranes with Permastic cold adhesive, a system with a 20-year track record.

PLASTIC COATINGS CORPORATION

Jaxsan products include Jaxsan 600, an acrylic elastomer fibered for extra toughness and to enhance film build potential without mudcracking. Jaxsan 607 is not fibered and may be applied by smaller spray pumps. Jaxsan 607 may also be applied by roller and the Jaxsan 600 is not recommended for that application technique.

SARNAFIL INC.

G 410: Only Sarnafil G 410 membrane should be used in fully adhered applications. Reinforced with nonwoven fiberglass mat, the 410 membrane has excellent dimensional stability, and a very low coefficient of thermal expansion, making total adhesion possible without shear stresses causing loss of adhesion. The 410 membrane is available in a variety of stable colors in addition to the standard white and gray. Adhesives are: Sarnacol 2170, a solvent-based adhesive and Sarnacol 2121, a water-based adhesive that is restricted for use during temperatures above 40 F and over horizontal water-absorbent substrate only. Compatibility of the membrane with the substrate must be assured; only approved insulations and substrates provide the code approvals required. All seams shall be hot-air welded. Sarnafil membranes require no fire coatings.

G 476: Sarnafil G 476 membrane should be used in inverted roof membrane assemblies and plaza deck waterproofing applications. It is reinforced with a nonwoven fiberglass mat that provides excellent dimensional stability. The membrane is formulated with excellent alkaline resistance. Its integral reinforcement and hot-air-welded seam provide the protection against wicking and seam degradation needed in inverted applications, where moisture is constantly present on the membrane surface.

S 327: Sarnafil S 327 membranes should be used for mechanically fastened applications. Reinforced with polyester fabric, the S 327 membrane is specifically designed to provide the necessary characteristics of elongation and tensile strength to control the stressing of the membrane that occurs as a result of dynamic wind loading. The fastening technique is determined for each individual job,

and is calculated based on building height, ground roughness, and wind zone. The fastening method is special 20-gauge corrosive-resistant plates or 14-gauge perforated U-shaped galvanized steel bar secured to deck with corrosion-resistant screws or concrete anchors. Depending on wind uplift conditions, plates are installed in membrane overlaps and overlaps are hot-air welded, or the U-shaped bar is placed on top of membrane at calculated spacings and sealed with membrane cover strip hot-air welded. Sarnafil membranes require no fire coating.

SEAMAN CORPORATION

FiberTite roofing systems are made with a proprietary formulation based on DuPont Elvaloy KEE chemically bonded to a dense weft inserted fabric, made of DuPont Dacron polyester fibers. The membrane is manufactured in standard 28-in. and 56-in. conventional rolls, along with a variety of prefabricated, standard, and custom rolls up to 20-ft. X 102-ft. (2,040 square feet). FiberTite roofing systems are installed by authorized applicators, either mechanically fastening the membrane through an unexposed tab in the prefabricated system, attaching the membrane in a conventional roll goods type application or by fully adhering to approved substrates, or by applying ballast. All membrane seams are hot-air welded.

The FiberTite technical customer service department provides specification and design assistance to contractors, architects, consultants, and owners. Training, project start-ups, and inspections are provided free of charge to authorized applicators by regional technical service representatives. For additional information, contact Seaman Corporation at 800/927-8578.

SIPLAST

For over thirty years, Siplast has developed and manufactured advanced roofing and waterproofing materials and has pioneered major developments in modified asphalt and foil-faced roofing systems through a continuing research and development program. Siplast developed SBS (Styrene-Butadiene-Styrene) modified bitumens in 1968, which has exceptional elongation/recovery properties over a wide range of temperatures. Many Siplast roofs applied in the early years of the SBS blend are still in service today.

Siplast is part of the Icopal Group, a multi-national industrial corporation. The Siplast product line includes systems developed specifically for the varied design and field requirements of modern construction. These systems have been applied over all types of deck constructions in the widely varying climates of over forty countries, from Canada to Saudi Arabia. Domestically, all Siplast roofing products are manufactured at its plant in Arkadelphia, Arkansas and are stocked at nine warehouse locations across the country.

Siplast assists owners, architects, and engineers in the selection and proper use of Siplast materials, which are applied by qualified, approved roofing contractors. Siplast's field staff monitors the projects.

TAMKO ROOFING PRODUCTS INC.

Awaplan Premium was the first SBS modified asphalt polyester base roll roofing produced in America. Since 1977 Awaplan Premium has been applied on different types of roofs all over the country. Awaplan Premium is manufactured in Joplin, MO using the latest in statistical quality-control methods to insure the roofing contractor a consistent product. Introduced in June of 1986, Awaplan 170 is a variation of Awaplan Premium produced on a 180 gram-per-square-meter polyester mat. And now introducing Awaplan VersaFlex, Awaflex, and AwaFlex FR. These products are Tamko's newest addition to the Awaplan family. Tamko produces a complete specification manual and technical literature for your use. If you need further details, contact the Technical Services Division in Joplin, MO at (417) 624-6644.

TRI-PLY

TP-4, Karifalt 308, 307, 306: Coal-tar pitch roofs: When reroofing over an existing coal-tar pitch roof, the old roof must be isolated from the new roof. This can be accomplished by mechanically fastening an approved base sheet over a minimum 1-in. rigid insulation board. Be sure to install one-way moisture vents.

Cold weather application: Modified bitumen may be installed in practically any temperature, although there are several precautions that should be observed. Tri-Ply's recommendations for cold weather applications are as follows: (1) Rolls may be installed without any precautions to approximately 40 degrees F; (2) Below 40 degrees F; (a) rolls should be kept in heated area; (b) rolls should be lifted onto the roof and installed quickly without allowing them to become brittle from freezing temperatures; (c) rolls should never be handled when frozen—always thaw membrane before handling; (3) If cracking does occur: (a) stop installing the membrane immediately (please notify manufacturer); (b) the rolls should continue to be heated and installed again when warmer weather permits.

Cold weather precautions notice: The following guidelines and precautions should be taken for installing an APP modified bitumen membrane in cold weather: Rolls must be stored in an enclosed warehouse. Warm rolls should be lifted onto the roof and installed quickly without allowing membrane to freeze and become brittle. Rolls should never be handled when frozen, or allowed to be dropped. Always thaw membrane before handling. Cold weather application may lead to surface cracking if not installed and/or prepared properly. If this cracking occurs, stop installation immediately.

Tri-Ply membrane protection: Note: Prior to applying any type of surfacing to the Tri-Ply membrane, the membrane must weather a minimum of 30 days. After a minimum of 30 days, apply roof surfacing when weather permits, as per manufacturer's recommendations.

Information on Roofing Cements and Coatings

General Information

This section provides a comprehensive listing of cements and coatings used in low-slope commercial roofing. At the same time, it provides information on cold-applied roof systems that employ coatings or cements as the primary waterproofing medium, and, in many instances, that have stabilizing components as well. Some of the systems components will be listed elsewhere in the *Guide*, for example in the Built-up Roofing or Modified Bitumen sections. Coating and/or cements used primarily for spray polyurethane foam-based roof systems are not included; these may be found in Part 1: Protective Coatings of the Spray Polyurethane Foam-Based Systems section.

All listed cements and coatings are categorized, as follows: (1) asphalt primer, (2) asphalt/coal tar coating, (3) asphalt/coal tar cement, (4) asphalt emulsion, (5) modified bitumen coating or cement, or (6) elastomeric coating or cement, with type specified. No other categories were permitted, and duplication of categories was also not allowed. In some instances, manufacturers were not satisfied that these categories were sufficiently comprehensive to encompass their particular cements or coatings. Their observations will be taken into account for the next issue of the *Guide*.

Many cements and coatings are made in both asbestos-containing and asbestos-free forms. Data concerning asbestos was not specifically requested in Part 1 of the section; where it is not evident from the product name, the information can generally be ascertained in Part 2 by noting the nature of the ASTM standard with which the cement or coating complies.

Notes on the Roofing Cements and Coatings Section

Part 1: General Information

Item 3.1 *Product Description, General Category*

Item 3.1 is where the general category of the product is indicated. Only one category is permitted for a product. Where manufacturers selected more than one category (e.g., asphalt emulsion and asphalt coating), the category that appeared more informative was used. For item 3.1G, an X can be placed in the space provided or additional information, such as *urethane* or *acrylic*.

Item 3.2 *Product Description, General Features*

Item 3.2A provides information concerning whether the

product is fibrated or unfibrated. Item 3.2B requests the specific colors in which the product is available. Items 3.2C and D provide for information concerning the solid content of the coating or cement and also its weight per gallon. In 3.2E should be indicated the drying time in hours, or fractions thereof, at 70 F and 50 percent relative humidity. Item 3.2F provides data concerning coverage normally obtained per square from a gallon of the product.

Item 4 *Uses* This item provides information concerning the intended uses that a product has in the roofing operation and the kind of systems that it is generally used with. Only X's may be placed next to the selections.

Item 6 *Roof System Description* Item 6 provides information concerning the roof system or systems offered by a manufacturer in which a particular coating or cement is used and, if appropriate, what the components of the system are. After 6A and 6B is space for the manufacturer to indicate whether the system or any of its components are listed in the *Guide* in either the Built-up Roofing or Modified Bitumen sections. Item 6C is for indicating the components of systems that are exclusively liquid applied—that is, where no reinforcement is employed, such as polyester felts.

Part 2: Technical Data

Item 4 *Complies with:* In this portion of Part 2 are listed the ASTM standards that are applicable to cement and coating products. The full name of each of the standards follows, as well as the complete description of each type, class, or grade referenced in the standard.

- A. ASTM D 41-94 *Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing*
- B. ASTM D 43-94 *Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing*
- C. C. ASTM D 1227-95 *Specification for Emulsified Asphalt Used as a Protective Coating For Roofing*
 - Type I Emulsified Asphalt Prepared with Mineral Colloid Emulsifying Agents and Containing Asbestos Fibers
 - Type II Emulsified Asphalt Prepared with Chemical Emulsifying Agents and Containing Mineral Fillers
 - Type III Emulsified Asphalt Prepared with Mineral Colloid Emulsifying Agents, Without Fibrous Reinforcement
 - Type IV Emulsified Asphalt Prepared with Mineral

- D. ASTM D 2823-90 *Specification for Asphalt Roof Coatings*
Type I Made from Asphalts Characterized as Self-Healing, Adhesive, and Ductile, and Conforming to the Requirements of Specification D 312, Type I; Specification D 449, Types I or II; or Specification D 946
Type II Made from Asphalts Characterized by High Softening Point and Relatively Low Ductility, and Conforming to the Requirements of Specification D 312, Type II or III; or Specification D 449, Type III.
- E. ASTM D 4479-93 *Specification for Asphalt Roof Coatings--Asbestos-Free*
Type I Made from Asphalts Characterized as Self-Healing, Adhesive, and Ductile, and Conforming to the Requirements of Specification D 312, Type I; Specification D 449, Types I or II; or Specification D 946
Type II Made from Asphalts Characterized by High Softening Points and Relatively Low Ductility, and Conforming to the Requirements of Specification D 312, Type II or III; or Specification D 449, Type III
- F. ASTM D 2824-85 *Specification for Aluminum-pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos*
Type I Nonfibrated, Containing No Asbestos Fiber
Type II Fibrated, Containing Asbestos Fiber
Type III Fibrated, Containing No Asbestos Fiber
- G. ASTM D 2822-91 *Specification for Asphalt Roof Cement*
Type I Made from Asphalts Characterized as Self-Healing, Adhesive, and Ductile, and Conforming to the Requirements of Specification D 312, Type I; Specification D 449, Types I or II; or Specification D 946
Class I Used for Application to Essentially Dry Surfaces
Class II Used for Application to Damp, Wet, or Underwater Surfaces
Type II Made from Asphalts Characterized by High Softening Points and Relatively Low Ductility, and Conforming to the Requirements of Specification D 312, Type II or III; or Specification D 449, Type III
Class I Used for Application to Essentially Dry Surfaces
Class II Used for Application to Damp, Wet, or Underwater Surfaces
- H. ASTM D 4586-93 *Specification for Asphalt Roof Cement, Asbestos Free*
Type I Made from Asphalts Characterized as Self-healing, Adhesive, and Ductile, and Conforming to the Requirements of Specification D 312, Type I; Specification D 449, Types I or II; or Specification D
- Type II Made from Asphalts Characterized by High Softening Points and Relatively Low Ductility, and Conforming to the Requirements of Specification D 312, Type II or III; or Specification D 449, Type III
- I. ASTM D 3019-94 *Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered*
Type I Brushing Consistency Lap Cement Intended for Use in the Exposed-Method of Roll Roofing Application; Contains No Mineral or Other Stabilizers
Grade 1 Made with Air-Blown Asphalt
Grade 2 Made with a Vacuum-Reduced or Steam-Refined Asphalt
Type II Heavy Brushing or Light Troweling Consistency Lap Cement Intended for Use in the Concealed-Nailing Method of Roll Roofing Application
Type III Heavy Brushing or Light Troweling Consistency Lap Cement Intended for Use in the Concealed-Nailing Method of Roll Roofing Application; Contains a Quantity of Mineral or other Stabilizers, or Both, but Contains No Asbestos
- J. ASTM D 3409-93 *Test Method for Adhesion of Asphalt Roof Cement to Damp, Wet, or Underwater Surfaces*
- K. ASTM D 4022-94 *Specification for Coal Tar Roof Cement, Asbestos Containing*
- L. ASTM D 3747-79 1995) *Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation*
Type I Suitable for Use at Temperatures above 40°F
Type II Suitable for Use at Temperatures above 20°F
- M. ASTM D 1187-95 *Specification for Asphalt-Base Emulsion Used as Protective Coatings for Metal*
Type I Quick-Setting Emulsified Asphalt Suitable for Continuous Exposure to Water Within a Few Days after Application and Drying
Type II Emulsified Asphalt Suitable for Continuous Exposure to the Weather Only after Application and Drying
- N. ASTM D 3468-90 *Specification for Liquid-applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing*
Type I Neoprene Synthetic Rubber Solutions for Use Alone or in Combination with Chlorosulfonated Polyethylene Used in Roofing and Waterproofing
Grade 1 Neoprene Rubber Solution
Grade 2 Fiber-Modified Neoprene Rubber Solution
Type II Chlorosulfonated Polyethylene Synthetic Rubber Solutions

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ALCO-NVC, INC	ALCO-NVC, INC
2. PRODUCT NAME	ACRYMAX AF-130	ACRYMAX AF-130 FR	ACRYMAX ACM 9000	ACRYMAX AF-130 XT	ACRYMAX AF-130 BC	#216 AF FLASHING CEMENT	#269T AF SBS TROWEL GR
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT						X	
D. ASPHALT EMULSION			X				
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)	ACRYLIC	ACRYLIC		ACRYLIC	ACRYLIC		
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	UNLIMITED	WHT, GRAY, TAN	BLACK	UNLIMITED	GRAY	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	51.0	51.0	50.0	51	51	68 ±2	68
D. WEIGHT PER GALLON (lbs.)	12.1	12.1	8.5	11.4	12.1	9.5	9
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	1-2	1-2	1-2	1-2	1-2	48-72	
F. COVERAGE (gals./square)	2-5	2-5	2-6	2-5	2-3	8	8
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. MODIFIED BITUMEN ROOFING	X	X	X	X	X		X
4. SINGLE-PLY ROOFING				X	X		
5. OTHER ROOFING				X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. METAL ROOFING	X	X	X	X	X	X	X
4. OTHER ROOFING	X	X	X	X	X	X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. METAL ROOFING	X	X	X	X	X	X	X
4. OTHER ROOFING				X	X	X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X	X		
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X	X	X		
4. OTHER ROOFING				X	X		
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS						X	
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING	X	X		X	X	X	X
2. REROOFING/MAINTENANCE	X	X	X	X	X	X	X
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	TROWEL	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA			NA	NA		
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA			NA	NA		
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	ACRYMAX + POLY-1 REIN-FORCEMENT	ACRYMAX + POLY-1 REIN-FORCEMENT	ACRYMAX + POLY-1 REIN-FORCEMENT	ACRYMAX + POLY-1 REIN-FORCEMENT	ACRYMAX + POLY-1 REIN-FORCEMENT		
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1979	1985	1989	1991	1979	1984	1986
8.1 FOR SALES INFORMATION, CONTACT:	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	SALES 800/323-0029	SALES 800/323-0029
8.2 FOR TECHNICAL INFORMATION, CONTACT:	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	S. BENNING 800/553-0523	TECH. DEPT.	TECH. DEPT.
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

ALCO-NVC, INC	ALCO-NVC, INC	ALCO-NVC, INC	ALCO-NVC, INC	ALCO-NVC, INC	ALCO-NVC, INC	ALCO-NVC, INC	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS
#269 AF SBS PLUS ADHESIVE	#214 AF ALUMAGARD NONFIBRATED COATING	#215 AF ALUMAGARD FIBRATED COATING	#207 ASPHALT ROOF PRIMER	#270 AF ROOF CAP MASTIC	#218 WHITE LATEX COATING	#218E AF WHITE ELASTOMERIC	FIBRATED LIQUID ROOF COATING	RUBBERIZED DAMP SUR- FACE ROOF COATING	ASPHALT ROOF AND METAL COATING, NO FIBER
			X				X	X	X
X				X	ACRYLIC	COATING			
NONFIBRATED BLACK	NONFIBRATED ALUMINUM	FIBRATED ALUMINUM	NONFIBRATED BLACK	FIBRATED BLACK	NONFIBRATED WHITE	WHITE	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK
8	8.5	8.8	40 +	58 +	50 +	52 ±2	70	65	63
30-40	8-24	8-24	7.2	8	10	11.7	7.9	8	7.7
1.5	1	1-1.5	4	6	1-3	1	24	24	24
			1-1.5	2-2.5	2	1.5-2.5	2-3	2-3	1-2
	X	X			X		X	X	X
	X	X			X				
X	X	X							
	X	X			X	X			
X									
			X						
			X						
			X						
			X	X			X	X	X
	X	X		X		X	X	X	X
				X					
X				X					
				X					
						X			
BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE
							NA	NA	NA
							NA	NA	NA
							NA	NA	NA
USA 1986	USA 1965	USA 1965	USA 1912	USA 1990	USA 1985	USA 1987	USA 1967	USA 1967	USA 1967
SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	SALES 800/323-0029 TECH. DEPT.	R. KAPLAN 800/556-8030 C. FRATIANNE 800/556-8030	R. KAPLAN 800/556-8030 C. FRATIANNE 800/556-8030	R. KAPLAN 800/556-8030 C. FRATIANNE 800/556-8030

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS
2. PRODUCT NAME	BUTYL LASTIC	ROOF EMULSION FIBERED	NO FIBER ROOF ROOF EMULSION	ASPHALT RESATURANT	ASPHALT PRIMER	COLD- PROCESS ADHESIVE	PLASTIC CEMENT
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER					X		
B. ASPHALT/COAL TAR COATING				X		X	
C. ASPHALT/COAL TAR CEMENT							X
D. ASPHALT EMULSION		X	X				
F. MODIFIED BITUMEN COATING OR CEMENT	X						
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	70	46	45	70	48	64	70
D. WEIGHT PER GALLON (lbs.)	8.2	8.2	8.6	7.8	7.4	8.0	9.5
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24	12	12	24	4	24	24
F. COVERAGE (gals./square)	3-7	2-3	2-3	5-7	0.5-1	1.5-3	4-8
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X		X	
2. COMPOSITE ROOFING	X						
3. MODIFIED BITUMEN ROOFING							
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							X
2. COMPOSITE ROOFING							X
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING					X		
2. CONCRETE/WOOD DECKS					X		
3. METAL					X		
D. FLASHING							
1. BUILT-UP ROOFING							X
2. COMPOSITE ROOFING							X
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X			
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X				
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING						X	
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)						X	
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY	BRUSH, SPRAY, SQUEEGEE	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	BUTYL LASTIC + POLYESTER MAT	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1972	1967	1967	1967	1967	1967	1967
8.1 FOR SALES INFORMATION, CONTACT:	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030
8.2 FOR TECHNICAL INFORMATION, CONTACT:	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS
2. PRODUCT NAME	2.0# ALUMINUM FIBERED	3.0# ALUMINUM FIBERED	1.2# ALUMINUM NO FIBER	2.0# ALUMINUM NO FIBER	SNOW-BRITE WHITE ELASTOMERIC	CHROME ALUMINUM PAINT	MBA ADHESIVE BRUSH GRADE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING	X	X	X	X			
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)					COATING		
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	WHITE	ALUMINUM	BLACK
C. SOLIDS CONTENT (% by volume)	61	60	42	44	46	23	72
D. WEIGHT PER GALLON (lbs.)	8.8	9.0	7.6	7.9	8.9	7.9	8.6
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24	24	24	24	4	4	24
F. COVERAGE (gals./square)	1.5-3	1.5-3	0.5-1	0.5-1	1.5-2.5	0.5-0.75	2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X		
2. COMPOSITE ROOFING							
3. MODIFIED BITUMEN ROOFING	X	X			X		
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING					X	X	
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING		X	X	X	X		
2. COAL TAR BUILT-UP ROOFING							X
3. METAL ROOFING		X	X	X	X	X	
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	YES
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1967	1967	1967		1984	1967	1988
8.1 FOR SALES INFORMATION, CONTACT:	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030	R. KAPLAN 800/556-8030
8.2 FOR TECHNICAL INFORMATION, CONTACT:	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030	C. FRATIANNE 800/556-8030
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY
MBA ADHESIVE TROWEL GRADE	PURE NEOPRENE RUBBER ROOF CEMENT	# 1818 ATCOCOAT	# 1825 ATCOLAP	# 1826 RAINSTOP	# 1840 ATCOGARD	# 1850 ATCOGARD2	# 1857 ATCOSCREEN	# 1858 LIQUID SUN SHIELD	# 1859 ATCOSHIELD
		X	X	X			X	X	X
					X	X			
X									
	CEMENT								
FIBRATED BLACK 75	FIBRATED BLACK 66	FIBRATED BLACK 7.8	FIBRATED BLACK 8	FIBRATED BLACK 7.2	NONFIBRATED BLACK 8.4	FIBRATED BLACK 8.4	FIBRATED ALUMINUM 7.5	NONFIBRATED ALUMINUM 7.8	FIBRATED ALUMINUM 8.2
8.8	9	24-144	24-144	24-144	6-48	6-48	8-24	8-24	8-24
24	24	2-6	2-6	2-6	3-12	3-12	0.75-1.5	0.75-1.5	0.75-1.5
6	8								
	X	X	X	X	X	X	X	X	X
	X				X	X	X	X	X
	X								
	X	X	X	X	X	X	X	X	X
	X	X	X	X					
	X								
	X	X	X	X					
	X	X	X	X					
	X								
	X								
	X								
	X								
		X		X	X	X	X	X	X
X		X		X	X	X	X	X	X
		X		X					
		X	X		X				
		X	X		X				
BRUSH, SQUEEGEE	TROWEL, CAULK	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY	BRUSH, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY
NA	NA	ADHESIVE FIELDS GLASS AND POLYESTER	ADHESIVE FIELDS GLASS AND POLYESTER	NA	ADHESIVE FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER
YES	NA	ADHESIVE FIELDS GLASS SEBS AND POLYESTER	ADHESIVE FIELDS GLASS SEBS AND POLYESTER	NA	ADHESIVE FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER
NA	NA	NA		NA	NA	NA	NA	NA	NA
USA 1988	USA 1995	USA 1926	USA 1926	USA 1926	USA 1926	USA 1926	USA 1926	USA 1926	USA 1926
R. KAPLAN 800/556-8030 C. FRATIANNE 800/556-8030	R. KAPLAN 800/556-8030 C. FRATIANNE 800/556-8030	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY
2. PRODUCT NAME	# 1860 ALUMINUM ASPHALT COATING	# 1864 ATCOSHIELD2	# 1866 PREM. FIBERED ALUMINUM COATING	# 1868 PREMIUM ALUMINUM COATING	# 1870 SILVER SEAL	# 1931 ATCOPRIME	# 4200 ATCOWHITE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER						X	
B. ASPHALT/COAL TAR COATING	X	X	X	X			
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)					ALYKO RESIN		ACRYLIC LATEX
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	
B. COLOR(S) AVAILABLE	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	BLACK	
C. SOLIDS CONTENT (% by volume)							
D. WEIGHT PER GALLON (lbs.)	7.8	8.2	8.8	8.4	8.2	7	11.5
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	8-24	8-24	8-24	8-24	8-24	4-8	8-24
F. COVERAGE (gals./square)	0.75-1.5	0.75-1.5	0.75-1.5	0.75-1.5	1.3-2.0	0.5-1	1.5-2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X		X
2. COMPOSITE ROOFING	X	X	X	X			X
3. MODIFIED BITUMEN ROOFING	X	X	X	X			X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X	X	X		X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING					X		
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING						X	
2. CONCRETE/WOOD DECKS						X	
3. METAL						X	
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X	X	X		X
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	SURFACING FIELDS GLASS AND POLYESTER	NA	NA	SURFACING FIELDS GLASS AND POLYESTER
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	SURFACING FIELDS GLASS SEBS AND POLYESTER	NA	NA	SURFACING FIELDS GLASS SEBS AND POLYESTER
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1926	1926	1926	1926	1926	1926	1926
8.1 FOR SALES INFORMATION, CONTACT:	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	ANDEK CORP.	ANDEK CORP.
# 5000 ATCOBRITE	# 1821 RAINSEAL	# 1822 ROOF PATCH	# 1823 ATCOMASTIC	#1897 FLAMEBLOC	#1898 FLAMEBLOC	#1326 ATCOSTOP	#1340 HYDROGARD	ANDEK RUBBERCOAT BASE	ANDEK RUBBERCOAT TOP
				X	X	X			
							X		
								X	X
ACRYLIC LATEX									
	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED ALUMINUM	NONFIBRATED ALUMINUM	NONFIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED BLACK	FIBRATED BLACK
12	8	8.8	8	8.5	8.2	7.2	8.4	55	58
8-24	6-12	6-12	6-12	8-24	8-24	4-8	6-48	8.2	8.2
1.5-2				0.75-1.5	0.75-1.5	1-3	1-2	12	12
								1.5-2.5	1.5-2.5
X				X	X			X	X
X				X	X			X	X
X				X	X			X	X
X				X	X				
	X	X	X						
	X	X	X						
	X	X	X						
	X	X	X						
						X	X	X	
						X	X		
						X	X		
	X	X	X						
	X	X	X						
	X	X	X						
	X	X	X						
X				X	X	X	X	X	X
								X	X
X				X	X		X		
				X	X				
								X	X
ROLLER, SPRAY	CAULK	TROWEL	TROWEL	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER	BRUSH, ROLLER
SURFACING FIELDS GLASS AND POLYESTER	NA	NA	NA	SURFACING FIELD GLASS AND POLYESTER	SURFACING FIELD GLASS AND POLYESTER	NA	NA	NA	NA
SURFACING FIELDS GLASS SEBS AND POLYESTER	NA	NA	NA	SURFACING FIELD GLASS SEBS AND POLYESTER	SURFACING FIELD GLASS SEBS AND POLYESTER	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
USA 1926	USA 1926	USA 1926	USA 1926	USA 1926	USA 1926	USA 1975	USA 1975	USA 1989	USA 1989
T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	H. LISS 800/800-2844 N. SHEARER 800/800-2844	H. LISS 800/800-2844 N. SHEARER 800/800-2844

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	ANDEK CORP.	ANDEK CORP.	ANDEK CORP.	AVARD PRODUCTS CO.	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
2. PRODUCT NAME	ANDEK RUBBERCOAT 1047	ANDEK BUILDCOTE	ANDEK SILVER FILM	SNO-HIDE ROOF SHIELD	FORTRESS FLASHING CEMENT	FORTRESS WET SURFACE ROOF CEMENT	FORTRESS PLASTIC ROOF CEMENT
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT					X	X	X
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT		X					
G. ELASTOMERIC COATING OR CEMENT (specify type)	RESIN		RESIN				
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	GRAY	BLACK	SILVER	WHITE	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	62	65	75		71	75	75
D. WEIGHT PER GALLON (lbs.)	9.1	8.3	8.7	8.5	8.5	8.2	8.2
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24	24	24	8	4	4	4
F. COVERAGE (gals./square)	1.5-2.5	3-4	0.25-0.33	4.5	8	8	8
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X			
2. COMPOSITE ROOFING	X	X	X				
3. MODIFIED BITUMEN ROOFING	X	X	X	X			
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X	X		X	X	X
2. COMPOSITE ROOFING	X	X	X		X	X	X
3. METAL ROOFING	X	X	X		X	X	X
4. OTHER ROOFING	X	X	X		X	X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING					X	X	X
2. COMPOSITE ROOFING					X	X	X
3. METAL ROOFING					X	X	X
4. OTHER ROOFING					X	X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING	X		X				
2. REROOFING/MAINTENANCE	X	X	X				
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, ROLLER	BRUSH, SPRAY, ROLLER	SPRAY	TROWEL	TROWEL	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1993	1985	1984	1938	1992	1992	1992
8.1 FOR SALES INFORMATION, CONTACT:	H. LISS 800/800-2844	H. LISS 800/800-2844	H. LISS 800/800-2844	R. AVARD 714/839-4494	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086
8.2 FOR TECHNICAL INFORMATION, CONTACT:	N. SHEARER 800/800-2844	N. SHEARER 800/800-2844	N. SHEARER 800/800-2844	R. AVARD 714/839-4494	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086
9. SEE MEMBRANE APPENDIX IF CHECKED				X			

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
2. PRODUCT NAME	FORTRESS HEAVY DUTY FIBERED ASPH. EMULSION	FORTRESS ACRYLIC MOD. ASPHALT EMULSION	FORTRESS TROWEL-GRADE ASPH. EMULSION	FORTRESS WHITE ACRYLIC CEMENT	FORTRESS HEAVY DUTY FIBERED ALUM. ROOF COATING	FORTRESS HEAVY DUTY NONFIB. ALUM. ROOF COATING	FORTRESS FIBERED ALUMINUM ROOF COATING
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING					X	X	X
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION	X	X	X				
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)				ACRYLIC			
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	WHITE	ALUMINUM	ALUMINUM	ALUMINUM
C. SOLIDS CONTENT (% by volume)	50	50	52	49	70	59	70
D. WEIGHT PER GALLON (lbs.)	8.5	8.5	8.5	11.4	9.1	8.4	8.9
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	6	6	6	6	4	4	4
F. COVERAGE (gals./square)	2-4	2-4	8	8	1-2	0.5-1	1-2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X			X	X	X
2. COMPOSITE ROOFING	X	X			X	X	X
3. MODIFIED BITUMEN ROOFING		X			X	X	X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X			X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X				
2. COMPOSITE ROOFING			X	X			
3. METAL ROOFING			X	X			
4. OTHER ROOFING			X	X			
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING			X				
2. COMPOSITE ROOFING			X	X			
3. METAL ROOFING			X	X			
4. OTHER ROOFING			X	X			
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X			X		X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X			X		X
4. OTHER ROOFING	X	X			X		X
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	TROWEL	TROWEL	BRUSH, SPRAY	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1992	1992	1992	1992	1992	1992	1992
8.1 FOR SALES INFORMATION, CONTACT:	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
FORTRESS NONFIBERED ALUM. ROOF COATING	FORTRESS WHITE ELASTOMERIC COATING	ROOFERS PRIDE PLASTIC CEMENT 1000	ROOFERS PRIDE ALL WEATHER ROOF CEMENT 2000	ROOFERS PRIDE NEOPRENE FLASHING CEMENT 1500	ROOFERS PRIDE FIBERED ROOF & FOUNDATION COATING 3000	ROOFERS PRIDE NONFIBR. ROOF & FOUNDATION COATING 6000	ROOFERS PRIDE ALL ASPHALT PRIMER 7000	ROOFERS PRIDE COLD PROCESS ADHESIVE 8000	ROOFERS PRIDE NONFIBERED EMULSION 4000
X					X	X	X		
		X	X	X				X	
									X
	ACRYLIC								
NONFIBRATED ALUMINUM	FIBRATED WHITE	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK
54	50	75	75	65	67	62	52	77	50
8.0	11.9	8.2	8.2	9.1	8.1	7.8	7.4	8.4	8.5
4	6	4	4	4	4	4	2	6	6
0.5-1	1-2	8	8	8	8	0.5-1.5	0.5-1	1-4	2-4
X	X				X	X		X	X
X	X				X	X		X	X
X	X								
X	X				X	X		X	X
		X	X	X					
		X	X	X					
		X	X	X					
		X	X	X					
							X		
							X		
							X		
		X	X	X					
		X	X	X					
		X	X	X					
		X	X	X					
					X	X		X	
					X	X		X	
					X	X		X	
								X	X
								X	
								X	X
									X
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	TROWEL	TROWEL	CAULK	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE
NA	NA	NA	NA		NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
USA 1992	USA 1992	USA 1992	USA 1992	USA 1995	USA 1992	USA 1992	USA 1992	USA 1992	USA 1992
M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086	M. MCCARTY 800/394-0086 J. FOGEL 800/394-0086

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	THE BREWER COMPANY	THE BREWER COMPANY	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.
2. PRODUCT NAME	ROOFERS PRIDE FIBERED ALUMINUM ROOF COATING 5000	FORTRESS TAR PRIMER	ELASTIGUM ROOFER'S CEMENT	NOAH'S PITCH PLASTIC COMPOUND	S.I.S. ADHESIVE	AWP ALL WEATHER PLASTIC CEMENT	SBS MODIFIED BITUMEN ADHESIVE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING	X						
C. ASPHALT/COAL TAR CEMENT			X	X	X	X	
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	ALUMINUM	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	60	70					
D. WEIGHT PER GALLON (lbs.)	8.6	9.0					
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	4	2					
F. COVERAGE (gals./square)	1-2	0.5-1			1.5		1.5
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X						
2. COMPOSITE ROOFING	X						
3. MODIFIED BITUMEN ROOFING	X						
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X						
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X	X		X	
2. COMPOSITE ROOFING			X	X		X	
3. METAL ROOFING							
4. OTHER ROOFING			X	X		X	
C. PRIMING							
1. BUILT-UP ROOFING		X					
2. CONCRETE/WOOD DECKS		X					
3. METAL		X					
D. FLASHING							
1. BUILT-UP ROOFING			X	X		X	
2. COMPOSITE ROOFING			X	X		X	
3. METAL ROOFING							
4. OTHER ROOFING			X	X		X	
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING	X				X	X	
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							X
3. ROLL ROOFING (COATED SHEETS)	X		X		X	X	
4. SHINGLES, TILE, OTHER STEEP PRODUCTS	X		X		X	X	
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY	BRUSH, SPRAY, ROLLER	TROWEL	TROWEL	BRUSH, SQUEEGEE	TROWEL	BRUSH, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS			NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1992	1992					
8.1 FOR SALES INFORMATION, CONTACT:	M. MCCARTY 800/394-0086	M. MCCARTY 800/394-0086	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. FOGEL 800/394-0086	J. FOGEL 800/394-0086					
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CONKLIN CO. INC.	CONKLIN CO. INC.	CONKLIN CO. INC.
SBS MODIFIED BITUMEN FLASHING CEMENT	ALUMINUM ROOF COATING (FIBRATED)	ALUMINUM ROOF COATING (NONFIBRATED)	ELASTIGUM ROOF COATING	ASPHALT PRIMER	FLAT TOP EMULSION	SNO-TOP ELASTOMERIC ROOF COATING	RAPID ROOF HV	RAPID ROOF III	BENCHMARK
				X					
	X	X	X		X				
X						ACRYLIC	ACRYLIC	ACRYLIC	ACRYLIC
FIBRATED BLACK	FIBRATED ALUMINUM	NONFIBRATED ALUMINUM	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED WHITE	NONFIBRATED WHITE	NONFIBRATED WHITE/TAN/GRAY	NONFIBRATED WHITE/GRAY
							50.0-53.1	51.3-54.5	54.0-55.0
							12.0-11.4	11.3	10.4-10.8
							2-8	2-8	2-8
	1.5	1.5	1.5	1.5	3	1.5	3-4	3-4	3-4
	X	X	X		X	X	X	X	X
	X	X	X		X	X			
	X	X	X			X			
	X	X	X		X	X	X	X	X
					X		X	X	X
					X		X	X	X
					X		X	X	X
				X					
				X					
				X					
X		X							
X		X							
X		X							
	X	X	X		X				
	X	X	X		X				
X					X				
					X				
							X	X	X
							X	X	X
TROWEL	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
USA	USA	USA	USA	USA	USA	USA	USA 1990	USA 1994	USA 1991
CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	CELOTEX REGIONAL SALES OFFICE	BLDG PROD DIV 800/888-8838	BLDG PROD DIV 800/888-8838	BLDG PROD DIV 800/888-8838
							BLDG PROD DIV 800/888-8838	BLDG PROD DIV 800/888-8838	BLDG PROD DIV 800/888-8838

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.
2. PRODUCT NAME	GOODYEAR CONSO-LASTIC RUBBERIZED COATING	GOODYEAR ALUMA-TEK	GOODYEAR D.L.A.	GOODYEAR CONSO-LASTIC CEMENT	GOODYEAR PLASTI-GLAS CEMENT	GOODYEAR RUBBER-KOTE GRAY	GOODYEAR RUBBER-KOTE WHITE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING		X	X				
C. ASPHALT/COAL TAR CEMENT					X		
D. ASPHALT EMULSION	X			X			
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)						URETHANE	URETHANE
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED		FIBRATED		NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	ALUMINUM	BLACK	BLACK	BLACK	GRAY	WHITE
C. SOLIDS CONTENT (% by volume)	65	47		30	64	65	51
D. WEIGHT PER GALLON (lbs.)	8.7	8.8	9.5	8.9	8.3	11	8.8
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24	24	4-7 DAYS	4	2 DAYS	24	16
F. COVERAGE (gals./square)	2-4	3-4	6-8		5	3-4	1
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X			X	X
2. COMPOSITE ROOFING			X				
3. MODIFIED BITUMEN ROOFING		X				X	X
4. SINGLE-PLY ROOFING						X	X
5. OTHER ROOFING		X				X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING				X	X		
2. COMPOSITE ROOFING				X	X		
3. METAL ROOFING				X	X		
4. OTHER ROOFING				X	X		
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING					X		
2. COMPOSITE ROOFING					X		
3. METAL ROOFING				X	X		
4. OTHER ROOFING				X	X		
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE	X	X	X			X	X
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	SPRAY	TROWEL	TROWEL	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH, SPRAY, ROLLER, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS							
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1984	1984				1983	1983
8.1 FOR SALES INFORMATION, CONTACT:	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886
8.2 FOR TECHNICAL INFORMATION, CONTACT:	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886	T. COULTON 800/321-7886
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

CONSOLIDATED COATINGS CORP.	CONSOLIDATED COATINGS CORP.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.
GOODYEAR BARRON-KOTE PLUS	GOODYEAR CONSO-FLEX ALUMINUM COATING	PRO FLASH FLASHING CEMENT	PRO WET/ STICK FLASH- ING CEMENT WET/DRY	PRO COAT FIBER ROOF COATING	PRO PRIMER ASPHALT	PRO RESATURANT ASPHALT	PRO ASPHALT EMULSION (FIBRE)	PRO ASPHALT EMULSION (NO FIBRE)	PRO LAP CEMENT
					X	X			
X				X					X
		X	X						
							X	X	
	POLYURETHANE								
FIBRATED BLACK	NONFIBRATED ALUMINUM	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	FIBRATED BLACK
53	80	72.9	74.4	70.9	72.1	76.3	48.5	47.4	71.3
7.9	10	9.0	9.0	8.2	7.7	8.3	9.0	9.0	81.5
24	24	48-72	48-72	8	4	8	5	5	
3-7	2-3	0.7-1	0.7-1	5	10	2-3	2.5	2.5	5
X	X	X	X	X	X	X	X	X	X
		X	X	X	X	X	X	X	X
	X				X		X	X	
X		X	X	X			X	X	X
		X	X	X	X				
		X	X	X	X				
		X	X		X				
		X	X						
					X				
					X				
					X				
		X	X						
		X	X						
		X	X						
		X	X						
				X		X			
				X		X			
									X
									X
		X	X						
X	X			X	X		X	X	
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER, SQUEEGEE	TROWEL	TROWEL	SPRAY, SQUEEGEE, BRUSH	SPRAY, SQUEEGEE, ROLLER	SPRAY, SQUEEGEE, BRUSH	SPRAY, SQUEEGEE, ROLLER	SPRAY, SQUEEGEE, ROLLER	SPRAY, SQUEEGEE
					NA	NA	NA	NA	NA
						NA	NA	NA	NA
						NA	NA	NA	NA
USA 1983	USA	USA 1931	USA 1951	USA 1931	USA 1931	USA 1992	USA 1991	USA 1991	USA 1991
T. COULTON 800/321-7886	T. COULTON 800/321-7886	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599
T. COULTON 800/321-7886	T. COULTON 800/321-7886	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.
2. PRODUCT NAME	PRO SBS ADHESIVE	PRO SBS FLASHING CEMENT	PRO NEO-SEAL NEOPRENE ROOF CEMENT	PRO ROOFLOX 300 ALUMINUM FIBRE COATING	PRO BRITE 200 ALUMINUM FIBRE COATING	PRO SILVER SHIELD 300 AL- UMINUM COAT- ING NO FIBRE	PRO SILVER SHIELD 200 AL- UMINUM COAT- ING NO FIBRE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING				X	X	X	X
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT	X	X					
G. ELASTOMERIC COATING OR CEMENT (specify type)			ELASTO CEMENT				
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
C. SOLIDS CONTENT (% by volume)	69.6	70.9	60.2	54.5	54.8	30.5	30.5
D. WEIGHT PER GALLON (lbs.)	7.9	9.0	9.56	9.5	8.7	8.2	8.2
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)		48-72	8	8	8	8	8
F. COVERAGE (gals./square)	5	07-1	5	5	5	15	15
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. MODIFIED BITUMEN ROOFING	X	X				X	X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X	X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING		X					X
2. COMPOSITE ROOFING		X					X
3. METAL ROOFING		X					X
4. OTHER ROOFING		X					X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING		X					X
2. COMPOSITE ROOFING		X					X
3. METAL ROOFING							
4. OTHER ROOFING		X					X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING					X		
2. COLD-PROCESS MODIFIED BITUMEN ROOFING	X					X	
3. ROLL ROOFING (COATED SHEETS)					X		
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING			X	X			X
2. REROOFING/MAINTENANCE			X	X			X
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	SPRAY, SQUEEGEE	TROWEL	SPRAY, SQUEEGEE, ROLLER	SPRAY, SQUEEGEE, ROLLER	SPRAY, SQUEEGEE	SPRAY, SQUEEGEE	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA						
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1987	1987	1991	1991	1931	1987	1987
8.1 FOR SALES INFORMATION, CONTACT:	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599	D. MCCLELLAN 800/962-8599
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599	J. MCCLELLAN 800/962-8599
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	ERSYSTEMS	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
2. PRODUCT NAME	ERAGUARD 4000	ERAGUARD 6000	ERAGUARD 500	ERATHANE 300 BASECOAT BRUSHABLE	F100 POWRCOAT	C100 ROOFCOAT	M100 RUBRCOAT
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING					X	X	
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)	SILICONE	HYPALON	ACRYLIC	POLYURETHANE			
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBERED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	GRAY, WHITE	WHITE	GRAY, WHITE	GRAY	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	65	29	50	83			
D. WEIGHT PER GALLON (lbs.)	11	10	12	9.4	7.8	7.3	7.6
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	2-4	24	6	15	24-144	24-144	24-144
F. COVERAGE (gals./square)	3.0	1.0-3.0	1.0-4.0	1.0-2.0	2-6	2-6	2-6
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING			X	X	X	X	X
2. COMPOSITE ROOFING			X	X			
3. MODIFIED BITUMEN ROOFING			X	X			X
4. SINGLE-PLY ROOFING		X	X	X			
5. OTHER ROOFING	X	X	X	X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X	X	X	X	X
2. COMPOSITE ROOFING			X	X			
3. METAL ROOFING			X		X	X	X
4. OTHER ROOFING			X	X	X	X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING				X			
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING				X			
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X	X	X	X	X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING		X	X		X	X	X
4. OTHER ROOFING	X	X	X	X	X	X	X
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING					X	X	X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING					X	X	X
3. ROLL ROOFING (COATED SHEETS)					X	X	X
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING	X						
2. REROOFING/MAINTENANCE	X	X	X	X			
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, ROLLER	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	ADHESIVE, FIELDS GLASS & POLYESTER	ADHESIVE, FIELDS GLASS & POLYESTER	ADHESIVE, FIELDS GLASS & POLYESTER
SEE BUILT-UP ROOFING SECTION IF CHECKED					X	X	
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	ADHESIVE, FIELDS GLASS SEBS & POLYESTER	ADHESIVE, FIELDS GLASS SEBS & POLYESTER	ADHESIVE, FIELDS GLASS SEBS & POLYESTER
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS					NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1990	1990	1995	1996	1975	1975	1994
8.1 FOR SALES INFORMATION, CONTACT:	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. LEONARD 800/403-7747	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. LEONARD 800/403-7747	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098
9. SEE MEMBRANE APPENDIX IF CHECKED	X	X	X	X			

NA=not applicable

Roof Cements and Coatings Part 1: General Information

FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
F150 POWRSEAL	F110 POWRLAP	F400 POWRPRIME	F540, F550 ALUMINUM COATING	F630, F640, F650 FIBERED ALUMINUM COATING	F600 FLAMEBLOC	F670 MOBLSHIELD	M860 POLRBRITE	M850 POLRSHIELD	F700 POWRGUARD
		X							
X	X		X	X	X	X			
									X
							ACRYLIC LATEX	ACRYLIC LATEX	
FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED ALUMINUM	FIBRATED ALUMINUM	FIBRATED ALUMINUM	FIBRATED ALUMINUM	NONFIBRATED WHITE	NONFIBRATED WHITE	NONFIBRATED BLACK
7.8	8.0	7.0	7.5-8.0	7.5-8.2	8.0	7.7	12.0	11.5	8
24-144	24-144	4-8	8-24	8-24	8-24	8-24	8-24	8-24	6-48
2-6	2-6	0.5-1	0.75-1.50	0.75-1.50	0.75-1.50	0.75-1.50	1.50-2.0	1.50-2.0	3-12
X	X		X	X	X	X	X	X	X
			X	X	X	X	X	X	X
			X	X	X	X	X	X	X
X	X		X	X	X	X	X	X	X
X	X								
X	X								
X	X								
		X							
		X							
		X							
X			X	X	X	X	X	X	X
X			X	X	X	X	X	X	X
X					X				
X	X								
X	X								
X	X								
BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	ROLLER, SPRAY	BRUSH, SPRAY
ADHESIVE, FIELDS GLASS & POLYESTER	ADHESIVE, FIELDS GLASS & POLYESTER	NA	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER
X	X		X	X	X	X	X	X	X
ADHESIVE, FIELDS GLASS SEBS & POLYESTER	ADHESIVE, FIELDS GLASS (SBS) & POLYESTER	NA	SURFACING, FIELDS GLASS (SBS) & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
USA 1975	USA 1975	USA 1975	USA 1975	USA 1975	USA 1975	USA 1975	USA 1975	USA 1975	USA 1975
T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098	T. VANDERLINDA 800/627-4098 J. SCARLETT 800/627-4098

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
2. PRODUCT NAME	M700 RUBRGARD	F750 RAINGARD	M800 RUBRSTAR	F880 SUNGARD	F200 POWRBOND	C200 ROOFBOND	C250 ROOFFLASH
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT					X	X	X
D. ASPHALT EMULSION	X	X	X	X			
F. MODIFIED BITUMEN COATING OR CEMENT			X				
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	GRAY	ALUMINUM	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)							
D. WEIGHT PER GALLON (lbs.)	8.4	8.3	9.6	8.8	8.8	8.1	8.2
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	6-48	6-48	6-18	6-48	6-12	6-12	6-12
F. COVERAGE (gals./square)	3-4	3-12	2-4	2-3			
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X			
2. COMPOSITE ROOFING			X	X			
3. MODIFIED BITUMEN ROOFING	X	X	X	X			
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X	X			
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING					X	X	X
2. COMPOSITE ROOFING					X	X	X
3. METAL ROOFING					X	X	X
4. OTHER ROOFING					X	X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING					X	X	X
2. COMPOSITE ROOFING					X	X	X
3. METAL ROOFING					X	X	X
4. OTHER ROOFING					X	X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X			
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X	X			
4. OTHER ROOFING			X				
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING	X						
2. COLD-PROCESS MODIFIED BITUMEN ROOFING	X						
3. ROLL ROOFING (COATED SHEETS)	X						
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	TROWEL	TROWEL	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	ADHESIVE, FIELDS GLASS POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	SURFACING, FIELDS GLASS & POLYESTER	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	ADHESIVE, FIELDS SEBS POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	SURFACING, FIELDS GLASS SEBS & POLYESTER	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1975	1975	1975	1975	1975	1975	1975
8.1 FOR SALES INFORMATION, CONTACT:	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098	T. VANDERLINDA 800/627-4098
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098	J. SCARLETT 800/627-4098
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	FIELDS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
2. PRODUCT NAME	M630 SILVRSHIELD3	GAF PREMIUM FIBERED ALUMINUM ROOF COATING	GAF ALUMINUM ROOF PAINT	GAF ASPHALT/ CONCRETE PRIMER	GAF ALUMINUM EMULSION	GAF WEATHERCOAT EMULSION	RUBEROID MODIFIED BITUMEN ADHESIVE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER				X			
B. ASPHALT/COAL TAR COATING	X	X	X				
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION					X	X	
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	ALUMINUM	ALUMINUM	ALUMINUM	BLACK	ALUMINUM	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)		52-56	48-52	61	45	49	58
D. WEIGHT PER GALLON (lbs.)	8.1	8.1-8.5	7.8-8.2	7.4	9.0	9.0	8-8.4
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	8-24	8	4	4	24	5	24
F. COVERAGE (gals./square)	.75-1.5	1.5-2.0	0.5	0.5	1-1.5	3-5	1.5
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X		X	X	
2. COMPOSITE ROOFING	X	X	X		X	X	
3. MODIFIED BITUMEN ROOFING	X	X	X			X	
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X				
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING				X			
2. CONCRETE/WOOD DECKS				X			
3. METAL				X			
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X						
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X						
4. OTHER ROOFING	X						
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							X
3. ROLL ROOFING (COATED SHEETS)							X
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	ROLLER, SPRAY	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, NOTCH, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	SURFACING, FIELDS GLASS & POLYESTER	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	SURFACING, FIELDS GLASS & POLYESTER	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1975						
8.1 FOR SALES INFORMATION, CONTACT:	T. VANDERLINDA 800/627-4098	REGIONAL SALES OFFICE 800/ROOF-411	REGIONAL SALES OFFICE 800/ROOF-411	REGIONAL SALES OFFICE 800/ROOF-411	REGIONAL SALES OFFICE 800/ROOF-411	REGIONAL SALES OFFICE 800/ROOF-411	REGIONAL SALES OFFICE 800/ROOF-411
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. SCARLETT 800/627-4098						
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY
2. PRODUCT NAME	EMERGENCY MASTIC	GARLA FLEX	GARLAPRIME	GARLABRITE	SILVER SHIELD	RUST GO	PYRAMIC
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER			X				
B. ASPHALT/COAL TAR COATING				X	X	X	
C. ASPHALT/COAL TAR CEMENT	X						
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT		X					
G. ELASTOMERIC COATING OR CEMENT (specify type)							X
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBERED	NONFIBERED	NONFIBERED	NONFIBERED	FIBERED	NONFIBERED	NONFIBERED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	ALUMINUM	ALUMINUM	ALUMINUM	WHITE
C. SOLIDS CONTENT (% by volume)	75 +	63 +	50 +	40 +	60 +	55 +	55 +
D. WEIGHT PER GALLON (lbs.)	11	8.0	7.8	8.9	8.2	8.5	8.5
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	36	36	2	12	12	5	4
F. COVERAGE (gals./square)			0.5-1.0	.50	2	0.25	2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING				X	X		X
2. COMPOSITE ROOFING				X	X		X
3. MODIFIED BITUMEN ROOFING				X	X		X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING						X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X					
2. COMPOSITE ROOFING	X	X					
3. METAL ROOFING		X					
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING			X				
2. CONCRETE/WOOD DECKS			X				
3. METAL			X				
D. FLASHING							
1. BUILT-UP ROOFING		X					
2. COMPOSITE ROOFING		X					
3. METAL ROOFING		X					
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	TROWEL	TROWEL, CAULK	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER	BRUSH, SPRAY	BRUSH, ROLLER	BRUSH, ROLLER, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS							
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1974	1976	1974	1974	1976	1968	1984
8.1 FOR SALES INFORMATION, CONTACT:	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL
8.2 FOR TECHNICAL INFORMATION, CONTACT:	R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY	GMX, INC.	GMX, INC.	GMX, INC.	GMX, INC.	GMX, INC.
GRIPMASTIC	GRIP WHITE	ENERGIZER FR	ENERGIZER PLUS FR	WEATHERKING PLUS	ULTRA-SHIELD METAL RUST-PROOFING	ULTRA-SHIELD BUILT-UP MASTIC	ULTRA-SHIELD WHITE ROOF COATING	ULTRA-SHIELD NONFIBERED ALUMINUM	ULTRA-SHIELD FIBERED ALUMINUM
				X	X	X		X	X
X									
	X	X	X				X		
NONFIBERED BLACK	NONFIBERED WHITE	NONFIBERED BLACK	NONFIBERED BLACK	NONFIBERED BLACK					
55 +	55 +	75 +	75 +	70 +	48	48	58	40	52
9.2	8.5	9.4	9.4	7.9	8.2	8.2	9.2	7.8	8.4
4	4	4	4		24-36	24-36	2-3	1-2	
2.5-3.0	2	3	3	2-4	3-6	2-3	2	1	2
X	X	X	X	X		X		X	X
X	X	X	X	X					
	X	X	X			X		X	X
X	X						X		
X				X		X			
X									
X					X		X		
X									
X									
X									
						X		X	X
					X		X	X	X
				X		X			
				X		X			
				X		X			
		X	X		X	X	X	X	X
BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER, SPRAY	BRUSH, ROLLER, SPRAY
						WITH POLYMAT			
						WITH POLYMAT			
USA 1989	USA 1989	USA 1994	USA 1996	USA 1995	USA 1989	USA 1989	USA 1989	USA 1989	USA 1989
D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	D. SOKOL	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336
R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS	R. JUSTUS	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336	T. CARNEY 800/321-9336

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.
2. PRODUCT NAME	GRUNDY PLASTIC CEMENT	GRUNDY PLASTIC CEMENT (AF)	GRUNDY PLASTIC CEMENT WET SURFACE	GRUNDY PLASTIC CEMENT WET SURFACE (AF)	GRUNDY FLASHING CEMENT	GRUNDY NO. 22 FLASHING CEMENT (AF)	GRUNDY NO. 22 ELASTOMERIC CEMENT (AF)
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT	X	X	X	X	X		X
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT						X	
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	70 ± 2	78 ± 2	70 ± 2	78 ± 2	68 ± 2	76 ± 2	78 ± 2
D. WEIGHT PER GALLON (lbs.)	9.5	9.5	9.5	9.5	9.5	8.5	9.0
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	6	6	6	6	6	6	6
F. COVERAGE (gals./square)	8	8	8	8	8	8	8
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. MODIFIED BITUMEN ROOFING							
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. METAL ROOFING	X	X	X	X	X	X	X
4. OTHER ROOFING	X	X	X	X	X	X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. METAL ROOFING	X	X	X	X	X	X	X
4. OTHER ROOFING	X	X	X	X	X	X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS	X	X	X	X	X	X	X
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	TROWEL	TROWEL	TROWEL	TROWEL	TROWEL	TROWEL	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1967	1967	1967	1967	1967	1990	1990
8.1 FOR SALES INFORMATION, CONTACT:	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210
8.2 FOR TECHNICAL INFORMATION, CONTACT:	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.
2. PRODUCT NAME	GRUNDY PLYGRIP M.B. ADHESIVE	GRUNDY a1MB-AF ALUMINUM COATING	GRUNDY #200 FIBRE ALUMINUM ROOF COATING	GRUNDY #220 NONFIBERED ALUMINUM ROOF COATING	GRUNDY NO. 20 F AF EMULSION	GRUNDY NO. 20 NF EMULSION	GRUNDY NO. 120 ALUMINUM ROOF EMULSION
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT	X	X	X	X	X	X	X
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	SILVER	SILVER	SILVER	BLACK	BLACK	SILVER
C. SOLIDS CONTENT (% by volume)	59 ± 2	65 ± 2	65 ± 2	64 ± 2	48 ± 2	48 ± 2	30 ± 2
D. WEIGHT PER GALLON (lbs.)	8.0	9.4	9.2	9.0	9.0	9.0	9.0
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	2	2	2	2	2	2	2
F. COVERAGE (gals./square)	1.5	1.5	1.5	1	3 NOM.	3 NOM.	1.5
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING		X	X	X	X	X	X
2. COMPOSITE ROOFING		X	X	X	X	X	X
3. MODIFIED BITUMEN ROOFING		X	X	X	X	X	X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING		X	X	X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING	X						
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1990	1988	1967	1967	1967	1967	1992
8.1 FOR SALES INFORMATION, CONTACT:	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210	J. VAN PELT 800/435-1210
8.2 FOR TECHNICAL INFORMATION, CONTACT:	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210	C MIDDLEBROOKS 800/435-1210
9. SEE MEMBRANE APPENDIX IF CHECKED	X	X					

NA=not applicable

Roof Cements and Coatings Part 1: General Information

GRUNDY INDUSTRIES, INC.	GRUNDY INDUSTRIES, INC.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.
GRUNDY NO. 2415 WHITE ROOF COATING	BOARDLOCK #222	#204 PLASTIC ROOF CEMENT	#209 ELASTOMASTIC	#289 ELASTOCAULK	#902 PERMANENT BOND ADHESIVE	#203 COLD-AP	#403 SPRAY-GRADE COLD-AP	#100 ELASTO-MULSION	#107 ASPHALT EMULSION
		X	X			X	X		
	X								X
	X			X	X			X	
X	X								
NONFIBRATED WHITE	NONFIBRATED BROWN	FIBRATED BLACK	FIBRATED BLACK	FIBRATED WHITE	NONFIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED BLACK
65 ± 2	60 ± 2	72	70	50	65	65	70	50	50
12.0	9.5	10	8	11	8.5	8	7.5	8.5	8
1	2	8	8	6	8-24	8-24	8-24	8-24	8-24
1.5	3 NOM.				1.5-2.0	1.5-2.0	1.5-2.0	3	3
X								X	X
X								X	X
X								X	X
X								X	X
		X	X	X					
		X	X	X					
		X	X	X					
		X	X	X					
		X	X						
		X	X	X					
		X	X	X					
		X	X	X					
									X
									X
X									X
	X				X	X	X		
					X	X	X		
					X	X	X		
		X	X					X	X
BRUSH, SQUEEGEE, SPRAY	BRUSH, SQUEEGEE, SPRAY	TROWEL	TROWEL	TROWEL, BRUSH	BRUSH, SQUEEGEE, ROLLER	BRUSH	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY	BRUSH, SPRAY
NA	NA	NA	NA	NA	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM
NA	NA	NA	NA	NA	X SBA MOD. BIT. ROOF SYSTEM	X SBA MOD. BIT. ROOF SYSTEM	X SBA MOD. BIT. ROOF SYSTEM		
NA	NA	NA	NA	NA	NA	NA			
USA 1993	USA 1996	USA 1934	USA 1986	USA 1990	USA 1997	USA 1975	USA 1989	USA 1989	USA 1940
J. VAN PELT 800/435-1210 C MIDDLEBROOKS 800/435-1210	J. VAN PELT 800/435-1210 C MIDDLEBROOKS 800/435-1210	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.
2. PRODUCT NAME	#307 FIBRATED ASPHALT EMULSION	#120 PREMIUM ALUMINUM	#201 FIBERED ASPHALT COATING	#220 FIBERED ALUMINUM COATING	#229 ALUMINUM EMULSION	#520 FIBERED ALUMINUM COATING	#280 PREMIUM WHITE ELASTOMERIC
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING		X	X	X			
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION	X				X	X	
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	FIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	SILVER	BLACK	SILVER	SILVER	SILVER	WHT/TAN/GRAY
C. SOLIDS CONTENT (% by volume)	50	45	30	50	50	50	50
D. WEIGHT PER GALLON (lbs.)	9	8.5	8.5	9.5	9.5	11	11
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	8-24	1	12	4	4	4	2
F. COVERAGE (gals./square)	4	5	1.3	1.5	1.5	1.5	1
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X		X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X	X	X	X
3. MODIFIED BITUMEN ROOFING	X	X		X	X	X	X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X		X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X	X	X	X	
4. OTHER ROOFING	X	X	X	X	X	X	
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING			X				
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)			X				
4. SHINGLES, TILE, OTHER STEEP PRODUCTS	X	X					
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY	BRUSH, SPRAY, ROLLER	BRUSH, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM	3-PLY COLD-AP ROOF SYSTEM
SEE BUILT-UP ROOFING SECTION IF CHECKED			X		X		X
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS							
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1945	1950	1944	1965	1987	1989	1983
8.1 FOR SALES INFORMATION, CONTACT:	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663	SALES DEPT 800/598-7663
8.2 FOR TECHNICAL INFORMATION, CONTACT:	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663	J. SMERNOFF 800/598-7663
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

HENRY CO.	HENRY CO.	HENRY CO.	INSULATING COATINGS CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION
#287 SOLARFLEX	#104 ASPHALT PRIMER	#111 INSULBOND	ASTEC	# 19 FLASHING CEMENT	# 19AF FLASHING CEMENT	# 19 ULTRA RUBBERIZED FLASHING CEMENT	#66AF MODIFIED BITUMEN ADHESIVE	# 71AF ROOF COATING	# 78AF COLD ADHESIVE CEMENT
	X								
				X	X			X	X
		X					X		
X			COATING			X			
FIBRATED WHITE/TAN	NONFIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED ALL	FIBERED BLACK	FIBERED BLACK	FIBERED BLACK	NONFIBERED BLACK	FIBERED BLACK	FIBERED BLACK
60	60	60	60						
11	7.5	8.5	10				8.65		
1	0.5	2	8				24-48		
2	0.5	1.5	1.33	8	8	8	1-2	4	2-4
X				X	X	X		X	X
X				X	X	X		X	X
X							X		
X			X					X	X
				X	X	X		X	X
			X	X	X	X		X	X
				X	X	X	X		X
	X								
	X								
	X		X						
				X	X	X			X
			X	X	X	X			X
				X	X	X			X
X								X	X
X								X	X
									X
								X	X
				X	X				
				X	X				
			X	X	X			X	X
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, RAG	BRUSH, SPRAY, ROLLER, TROWEL	BRUSH, ROLLER, SPRAY	TROWEL	TROWEL	TROWEL	TROWEL, BRUSH	BRUSH, SPRAY	BRUSH, SPRAY
			NA						COLD-PROCESS SYSTEM + POLY-MAT + ALUMINUM
			NA						
USA 1988	USA 1970	USA 1989	USA 1980	USA 1945	USA 1982	USA 1,998	USA 1989	USA 1948	USA 1977
SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	SALES DEPT 800/598-7663 J. SMERNOFF 800/598-7663	D. ZIEBARTH 800/223-8494 D. ZIEBARTH 800/223-8494	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236	SALES DEPT 800/526-4236 TECH DEPT 800/526-4236

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION
2. PRODUCT NAME	# 81AF MODIFIED BITUMEN ADHESIVE	# 96 AF ELASTOMERIC PRIMER	# 97 FIBERED ALUMINUM	# 97AF NONFIBERED ALUMINUM	# 100AF NONFIBERED EMULSION	#107AF VELVET ROOF COATING	# 155 AMPHIBIKOTE WET/DRY
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER		X				X	
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT							X
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT	X		X	X	X		
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBERED	NONFIBERED	FIBERED	FIBERED	NONFIBERED	NONFIBERED	FIBERED
B. COLOR(S) AVAILABLE	BLACK	CLEAR	ALUMINUM	ALUMINUM	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)					58		
D. WEIGHT PER GALLON (lbs.)	8.65				8.5		
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24-48	3-4			4-6		
F. COVERAGE (gals./square)	1-2	0.5-1	1-1.5	1-1.5	4-6	1-2	
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING			X	X	X		X
2. COMPOSITE ROOFING			X	X	X		X
3. MODIFIED BITUMEN ROOFING			X	X	X		
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING			X	X	X		
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X						X
2. COMPOSITE ROOFING							X
3. METAL ROOFING							
4. OTHER ROOFING	X						
C. PRIMING							
1. BUILT-UP ROOFING					X	X	
2. CONCRETE/WOOD DECKS					X	X	
3. METAL		X					
D. FLASHING							
1. BUILT-UP ROOFING							X
2. COMPOSITE ROOFING							X
3. METAL ROOFING							
4. OTHER ROOFING	X						
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X	X		X	
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING			X	X	X		
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING	X						
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING			X	X			
2. REROOFING/MAINTENANCE			X	X			
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, TROWEL, SQUEEGEE	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY	BRUSH, TROWEL, SPRAY	TROWEL
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS		NA					NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS		NA					NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS		METAL ROOFING MAINTENANCE SYSTEM					NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1981	1978	1948	1984	1954	1947	1952
8.1 FOR SALES INFORMATION, CONTACT:	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236	SALES DEPT 800/526-4236
8.2 FOR TECHNICAL INFORMATION, CONTACT:	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236	TECH DEPT 800/526-4236
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	KOKEM PRODUCTS, INC.	KOKEM PRODUCTS, INC.	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS
2. PRODUCT NAME	SUNGUARD	SUNGUARD-R	PRIMER	GEL	BASE	ACRYLIC WHITE	ACRYLIC GRAY
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)	ELAS. ACRY. LTX.	COATING	ADHESIVE	ACRYLIC MASTIC		COATING	COATING
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED		X	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE			BLACK, CLEAR	WHITE	GRAY	WHITE	GRAY
C. SOLIDS CONTENT (% by volume)	60 ± 2		26	67	65	67	67
D. WEIGHT PER GALLON (lbs.)	11.8		8.5	12	12	12	12
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	6–10		1–24	24	24–48	24–48	24–48
F. COVERAGE (gals./square)	0.75–1		0.33–1.5	9	5–7	1–4	1–4
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	X
2. COMPOSITE ROOFING	X	X	X	X		X	X
3. MODIFIED BITUMEN ROOFING	X	X	X	X		X	X
4. SINGLE-PLY ROOFING	X	X	X	X	X	X	X
5. OTHER ROOFING	X	X	X	X	X	X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X	X		X	X
2. COMPOSITE ROOFING			X	X		X	X
3. METAL ROOFING			X	X		X	X
4. OTHER ROOFING			X	X		X	X
C. PRIMING							
1. BUILT-UP ROOFING			X				
2. CONCRETE/WOOD DECKS			X				
3. METAL			X				
D. FLASHING							
1. BUILT-UP ROOFING			X	X		X	X
2. COMPOSITE ROOFING			X	X		X	X
3. METAL ROOFING			X	X		X	X
4. OTHER ROOFING			X	X		X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X	X	X	X	X
2. COAL TAR BUILT-UP ROOFING			X	X	X	X	X
3. METAL ROOFING			X	X		X	X
4. OTHER ROOFING			X	X	X	X	X
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING			X	X	X	X	X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING			X				
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING			X	X	X	X	X
2. REROOFING/MAINTENANCE			X	X	X	X	X
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, TROWEL, RUBBER GLOVE	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS			PRIMER + BASE + WHITE+ FABRIC		PRIMER + BASE + WHITE+ FABRIC	PRIMER + BASE + WHITE+ FABRIC	PRIMER + BASE + GRAY+ FABRIC
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1979	1979	1972	1981	1981	1981	1981
8.1 FOR SALES INFORMATION, CONTACT:	R. KO 503/235-9206	R. KO 503/235-9206	M. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733
8.2 FOR TECHNICAL INFORMATION, CONTACT:	R. KO 503/235-9206	R. KO 503/235-9206	L. ANTHENIEN 408/280-7733	L. ANTHENIEN 408/280-7733	L. ANTHENIEN 408/280-7733	L. ANTHENIEN 408/280-7733	L. ANTHENIEN 408/280-7733
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC	METACRYLIC
ACRYLIC STORM CLOUD	ACRYLIC BEIGE	ACRYLIC DESERT SAND	ACRYLIC BRICK RED	ACRYLIC CUSTOM	ACRYLIC PRIMER	ACRYLIC BASE	ACRYLIC WHITE	ACRYLIC COLORS	ACRYLIC GEL
					X				
COATING	COATING	COATING	COATING	COATING		COATING	COATING	COATING	MASTIC
NONFIBRATED STORM CLOUD	NONFIBRATED BEIGE	NONFIBRATED DESERT SAND	NONFIBRATED BRICK RED	NONFIBRATED CUSTOM	NONFIBRATED BLK, WHT, CLR	NONFIBRATED GRAY	NONFIBRATED WHITE	NONFIBRATED ANY COLOR	NONFIBRATED WHITE, GRAY
67	67	67	67	67	25	65	67	67	66
12	12	12	12	12	8.5	12.1	12.1	12.1	12.1
24-48	24-48	24-48	24-48	24-48	4	24	12	12	24
1-4	1-4	1-4	1-4	1-4	1	5	4	4	9
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
	X			X	X	X	X	X	X
	X			X	X	X	X	X	X
	X			X	X	X	X	X	X
	X			X	X	X	X	X	X
	X								X
	X								X
	X								X
	X								X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X					X
				X					X
									X
									X
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, TROWEL, RUBBER GLOVE
					NA	NA	NA	NA	NA
					NA	NA	NA	NA	NA
PRIMER+BASE + STORM CLOUD + FABRIC	PRIMER+BASE + BEIGE + FABRIC	PRIMER+BASE + DESERT SAND + FABRIC	PRIMER+BASE + BRICK RED + FABRIC	PRIMER+BASE + CUSTOM + FABRIC					
USA 1981	USA 1981	USA 1981	USA 1981	USA 1981	USA 1974	USA 1974	USA 1974	USA 1974	USA 1974
M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 L. ANTHENIEN 408/280-7733	M. ANTHENIEN 408/280-7733 M. ANTHENIEN 408/280-7733

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
2. PRODUCT NAME	METALSHIELD PRIMER	METALSHIELD ELASTOMERIC ROOF COATING GRAY	METALSHIELD ELASTOMERIC ROOF COATING WHITE	METALSHIELD FLASHING COMPOUND	PREMIUM UNFIBERED ROOF COATING	PREMIUM FIBERED ROOF COATING	BLIND NAILING/ COLD METHOD CEMENT/ROOF ADHESIVE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING					X	X	X
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)	COATING	COATING	COATING	COATING			
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	WHITE	GRAY	WHITE	WHITE	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	43.7	44.7	44.7	78.2	56	62	66
D. WEIGHT PER GALLON (lbs.)	10.8	11.6	11.6	11.3	7.6-7.9	8.3	8.0
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	2	2.5	2.5	2.5	4	6	
F. COVERAGE (gals./square)	0.5	1.5	1.5	7-8	1.4-2.0	2.0	2.0
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING		X	X		X	X	
2. COMPOSITE ROOFING					X	X	
3. MODIFIED BITUMEN ROOFING		X	X				
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X	X	X		
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING					X		
2. CONCRETE/WOOD DECKS					X		
3. METAL					X		
D. FLASHING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING					X	X	
2. COAL TAR BUILT-UP ROOFING						X	
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							X
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, TROWEL	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE							
8.1 FOR SALES INFORMATION, CONTACT:	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268
8.2 FOR TECHNICAL INFORMATION, CONTACT:	D. TAYLOR 800/523-0268	D. TAYLOR 800/523-0268	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
2. PRODUCT NAME	#164 PRO GRADE RUBBERIZED ASP. CLAY EMUL. (R.A.C.E.)	ASPHALT FIBERED EMULSION ROOF COATING	MBA GOLD MOD. BITUMEN MEMBRANE ASHESIVE	SPRAY MASTIC COATING ASBESTOS- FREE	LONG-LIFE PREMIUM FIBERED ROOF COATING	#27 PRO GRADE FLASHING CEMENT	LONG-LIFE ASBESTOS- FREE ALL WEA- THER CEMENT
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING				X	X		
C. ASPHALT/COAL TAR CEMENT						X	X
D. ASPHALT EMULSION	X	X					
F. MODIFIED BITUMEN COATING OR CEMENT			X				
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	44	50	62	66	66	68	71
D. WEIGHT PER GALLON (lbs.)	8.5	9.0	8.2 ±2	7.8	8.2	8.6	10.0
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	2	2		6		6	6
F. COVERAGE (gals./square)	1.5	2	1.5	1.5-2.0	2.0	8.0	8.0
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X		X	X		
2. COMPOSITE ROOFING	X	X		X	X		
3. MODIFIED BITUMEN ROOFING	X						
4. SINGLE-PLY ROOFING		X					
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING						X	X
2. COMPOSITE ROOFING						X	X
3. METAL ROOFING						X	X
4. OTHER ROOFING						X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING						X	X
2. COMPOSITE ROOFING						X	X
3. METAL ROOFING						X	X
4. OTHER ROOFING						X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X		X	X	X	X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING			X				
2. COLD-PROCESS MODIFIED BITUMEN ROOFING			X				
3. ROLL ROOFING (COATED SHEETS)			X				
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY	BRUSH, SPRAY, NOTCH SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY	TROWEL, CAULK	TROWEL, CAULK
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE							
8.1 FOR SALES INFORMATION, CONTACT:	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268	W. MULLEN 800/523-0268
8.2 FOR TECHNICAL INFORMATION, CONTACT:	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598	D. TAYLOR 800/387-9598
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	NATIONAL COATINGS CORPORATION	NATIONAL COATINGS CORPORATION	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.
MB GOLD ELASTOMERIC FLASHING CEMENT	#911 PRO GRADE WET SEAL ROOF REPAIR	#225 PRO GRADE ASBESTOS-FREE ALL WEATHER CEMENT	ACRYSHIELD	ACRYFLEX	SOLARGARD	SOLARGARD HY-BUILD	PERMAROOF	PERMAFLEX	ALUMAMATION 301
							X		X
	X	X						X	
X									
			COATING	CEMENT	ACRYLIC	ACRYLIC			
FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED WHT, SPECIAL	NONFIBRATED WHITE, GRAY	NONFIBRATED VARIOUS	FIBRATED VARIOUS	FIBRATED BLACK	FIBRATED BLACK	FIBRATED ALUMINUM
72	65	70.2	60	80	51	51	53	60	47
9.5	9.6	8.8	12.1	12	11.5	11.1	7.9	8.7	8.8
6	6	6-8	2-8	4-12	4-6	1	24	24	24
8.0	8.0	8.0	2-3		2-3	2-3	3-7	2-6	2-4
		X	X		X	X	X	X	X
		X	X						
			X		X	X			X
			X						
		X	X		X	X	X	X	X
X	X	X		X			X	X	
X	X	X		X					
X	X	X		X					
X	X	X		X					
			X						
			X						
			X						
X	X	X					X		
X	X	X							
X	X	X							
X	X	X							
X	X		X						X
			X						X
			X						
			X		X	X			X
			X		X	X	X	X	X
TROWEL, CAULK	TROWEL, CAULK	TROWEL, CAULK	SPRAY, ROLLER	TROWEL, BRUSH, CAULK	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
NA	NA		NA		NA	NA	NA	NA	NA
NA	NA	NA	NA		NA	NA	NA	NA	NA
NA	NA	NA	CLEARSEAL POLYESTER FA- BRIC ACRYSHIELD ACRYFLEX	CLEARSEAL POLYESTER FA- BRIC ACRYSHIELD ACRYFLEX	NA	NA	NA	NA	NA
USA	USA	USA	USA 1981	USA 1989	USA 1975	USA 1967	USA 1953	USA 1984	USA 1947
W. MULLEN 800/523-0268 D. TAYLOR 800/387-9598	W. MULLEN 800/523-0268 D. TAYLOR 800/387-9598	W. MULLEN 800/523-0268 D. TAYLOR 800/387-9598	M. CORDELL 805/388-7112 M. CORDELL 805/388-7112	M. CORDELL 805/388-7112 M. CORDELL 805/388-7112	J. MILLIKEN 800/255-1136 D. BATKE 800/255-1136	J. MILLIKEN 800/255-1136 D. BATKE 800/255-1136	J. MILLIKEN 800/255-1136 D. BATKE 800/255-1136	J. MILLIKEN 800/255-1136 D. BATKE 800/255-1136	J. MILLIKEN 800/255-1136 D. BATKE 800/255-1136

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO
2. PRODUCT NAME	GEOGARD	GEOGARD ALUMINUM	NO. 748 2 LB. ALUMINUM ROOF COATING- AF FIBERATED	NO. 779 ASPHALT PLASTIC ROOF CEMENT WET SURFACE-AF	NO. 301 FIBRATED LIQUID ROOF COATING	NO. 714 FIBRATED LIQUID ROOF COATING AF	NO. 302 ASPHALT LIQUID ROOF COATING
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING			X		X	X	X
C. ASPHALT/COAL TAR CEMENT				X			
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)	URETHANE	URETHANE					
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED		FIBRATED	FIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	GRAY	ALUMINUM	ALUMINUM	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	65	80	62		57	67	56
D. WEIGHT PER GALLON (lbs.)	11.0	10	8.6	8.4	7.7	8.0	7.7
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	24	24					
F. COVERAGE (gals./square)	3-5	2-3	1.5	8	3	3	2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X	X	X	
2. COMPOSITE ROOFING			X	X			
3. MODIFIED BITUMEN ROOFING	X	X	X	X			
4. SINGLE-PLY ROOFING	X						
5. OTHER ROOFING	X		X	X			
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X		X	X	X	X
2. COMPOSITE ROOFING				X			
3. METAL ROOFING				X	X	X	X
4. OTHER ROOFING				X			
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X		X			
2. COMPOSITE ROOFING				X			
3. METAL ROOFING				X			
4. OTHER ROOFING				X			
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X		X	X	X
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING			X				
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS				X			
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING	X	X					
2. REROOFING/MAINTENANCE	X	X					
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH, SPRAY	TROWEL, CAULK	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA			NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA			NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA			NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1983	1983	1990	1990	1912	1989	1912
8.1 FOR SALES INFORMATION, CONTACT:	J. MILLIKEN 800/255-1136	J. MILLIKEN 800/255-1136	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300
8.2 FOR TECHNICAL INFORMATION, CONTACT:	D. BATKE 800/255-1136	D. BATKE 800/255-1136	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO
NO. 713 ASPHALT BITUMEN RESATURANT AF	NO. 315 ASPHALT ROOF PRIMER	NO. 721 ASPHALT EMUL- SION ROOF COATING AF	NO. 351 KWI-K-SET CEMENT	NO. 753 POLYESTER MASTIC AF	NO. 751 KWI-K-SET CEMENT AF	NO. 758 ALUMINUM ROOF COATING AF (FIBRATED)	NO. 608 ALUMINUM ROOF COATING (NONFIBRATED)	NO. 718 3-LB ALUMINUM ROOF COATING AF (FIBRATED)	NO. 618 3-LB ALUMINUM ROOF COATING (NONFIBRATED)
X	X	X	X	X	X	X	X	X	X
FIBRATED BLACK	NONFIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED BLACK	FIBRATED ALUMINUM	NONFIBRATED ALUMINUM	FIBRATED ALUMINUM	NONFIBRATED ALUMINUM
67	36	45	63	58	67	60	44	65	48
8.0	7.3	8.6	8.2	7.7	8.1	8.4	7.9	8.8	8.4
8	0.75	4	3	7	2-3	1.5	0.75	1.5	1
X		X		X	X	X	X	X	X
					X	X	X	X	X
						X	X	X	X
X		X	X	X	X				
		X	X		X				
	X								
	X								
		X	X	X	X				
		X	X	X	X				
X		X		X		X	X	X	X
		X		X		X	X	X	X
			X	X	X				
			X		X				
X				X					
BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH	BRUSH, SPRAY	BRUSH	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY	BRUSH, SPRAY
NA	NA	NA	NA	POLYESTER FABRIC	NA	NA	NA	NA	NA
NA	NA	NA	NA		NA	NA	NA	NA	NA
NA	NA	NA	NA		NA	NA	NA	NA	NA
USA 1977	USA 1959	USA 1959	USA 1954	USA 1982	USA 1990	USA 1990	USA 1954	USA 1990	USA 1975
J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO	R.M. LUCAS CO
2. PRODUCT NAME	NO. 371 ASPHALT PLASTIC ROOF CEMENT	NO. 771 ASPHALT PLASTIC ROOF CEMENT AF	NO. 379 ASPHALT PLASTIC WET SURFACE	NO. 010 TAR-BASE RESATURANT	NO. 071 TAR-BASE PLASTIC ROOF CEMENT	NO. 079 TAR-BASE PLASTIC WET SURFACE	NO. 736 ELASTOMERIC MOD. BIT. ADHES BRUSH
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING				X			
C. ASPHALT/COAL TAR CEMENT	X	X	X		X	X	
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							X
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
C. SOLIDS CONTENT (% by volume)	65						
D. WEIGHT PER GALLON (lbs.)	7.7	8.4	8.0	9.0	9.6	9.6	8.0
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)							24-48
F. COVERAGE (gals./square)	8	8	8	7	8	8	1-2
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING							
2. COMPOSITE ROOFING							
3. MODIFIED BITUMEN ROOFING							
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X	X		X	X	
2. COMPOSITE ROOFING	X	X	X				
3. METAL ROOFING	X	X	X				
4. OTHER ROOFING	X	X	X				
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X	X		X		
2. COMPOSITE ROOFING	X	X	X				
3. METAL ROOFING	X	X	X				
4. OTHER ROOFING	X	X	X				
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING				X			
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							X
3. ROLL ROOFING (COATED SHEETS)							X
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE				X			X
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	TROWEL	TROWEL	TROWEL	BRUSH, SPRAY	TROWEL	TROWEL	BRUSH, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1912	1989	1959	1937	1956	1956	1995
8.1 FOR SALES INFORMATION, CONTACT:	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300	J. BARRY 773/523-4300
8.2 FOR TECHNICAL INFORMATION, CONTACT:	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545	R. BARRY 773/523-0545
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

R.M. LUCAS CO	R M LUCAS CO	SOMAY PRODUCTS, INC.	SOMAY PRODUCTS, INC.	SOMAY PRODUCTS, INC.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.
NO. 766 ELASTOMERIC MOD. BIT. CEMENT TROWEL	LIQUID MODIFIED COATING	#842-01 ROOF MASTIC	#7751 PRIME & SEAL	#992 PATCH & SEAL	HEAVY DUTY ROOF COATING	HEAVY DUTY PRIMER	HEAVY DUTY PATCHING COMPOUND	HEAVY DUTY GRAVEL ROOF PRESERVATIVE (ASPHALT)	HEAVY DUTY GRAVEL ROOF PRESERVATIVE (COAL TAR)
					X	X		X	X
							X		
X	X								
		COATING	ACRYLIC	SEALANT					
FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED WHITE, RED	NONFIBRATED CLEAR	NONFIBRATED WHITE	FIBRATED BLACK	NON-FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED BLACK
		53.1	11.02	69.95					
7.9		11.21	6.9	9.1	8.3	7.2	9.24	8.09	9.75
24-48		1	1	1	1-2	1-2	1-2		
2-4		2	3		2.0-5.0	0.5-2.0	10	7	7
	X				X				
	X				X				
		X	X	X	X				
	X						X		
	X						X		
	X	X	X	X			X		
		X	X	X		X			
						X			
						X			
						X			
		X	X	X			X		
	X				X			X	
	X				X				X
	X	X	X	X	X				
X									
X	X								
X		X	X	X					
X		X	X	X					
		X	X	X					
	X	X	X	X					
TROWEL, CAULK	BRUSH, SPRAY	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	TROWEL, CAULK	BRUSH, SPRAY	BRUSH, SPRAY
NA		NA	NA	NA					
					X	X	X		
NA		NA	NA	NA					
					X	X	X		
NA									
USA 1995	USA 1997	USA 1966	USA 1986	USA 1985	USA 1933	USA 1933	USA 1933	USA 1980	USA 1980
J. BARRY 773/523-4300 R. BARRY 773/523-0545	J. BARRY 773/523-4300 R. BARRY 773/523-0545	G. PARKER 305/633-6333 W. HARPER 305/633-6333	G. PARKER 305/633-6333 W. HARPER 305/633-6333	G. PARKER 305/633-6333 W. HARPER 305/633-6333	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.
2. PRODUCT NAME	FLEX-SHIELD ROOF COATING	FLEX-SHIELD PRIMER	FLEX-SHIELD PATCHING COMPOUND	FLEX-SHIELD "EM" ROOF COATING	FLEX-SHIELD "EM" PATCHING COMPOUND	ALUMINUM ROOF COATING	ADHESIVE #9
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING						X	
C. ASPHALT/COAL TAR CEMENT							X
D. ASPHALT EMULSION	X	X	X				
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)				X	X		
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	SILVER-GREEN	BLACK
C. SOLIDS CONTENT (% by volume)							
D. WEIGHT PER GALLON (lbs.)	8.5	8.41	9.57	8.7	8.8	9.69	8.4
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	2-4	2-4	2-4	2-4	2-4	1-2	1-2
F. COVERAGE (gals./square)	1.75-9.0	0.25-1.5	10	2.5-6.0	10	1.0-1.5	1.5-4.0
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X			X		X	
2. COMPOSITE ROOFING	X			X		X	
3. MODIFIED BITUMEN ROOFING	X			X		X	
4. SINGLE-PLY ROOFING	X			X		X	
5. OTHER ROOFING	X			X		X	
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X		X		X
2. COMPOSITE ROOFING			X		X		
3. METAL ROOFING			X		X		
4. OTHER ROOFING			X		X		
C. PRIMING							
1. BUILT-UP ROOFING		X					
2. CONCRETE/WOOD DECKS		X					
3. METAL		X					
D. FLASHING							
1. BUILT-UP ROOFING			X		X		
2. COMPOSITE ROOFING			X		X		
3. METAL ROOFING			X		X		
4. OTHER ROOFING			X		X		
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X			X		X	
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X			X		X	
4. OTHER ROOFING	X			X		X	
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							X
3. ROLL ROOFING (COATED SHEETS)							X
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER, SQUEEGEE	TROWEL	BRUSH, SPRAY, ROLLER	TROWEL	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER, SQUEEGEE
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED	X	X	X	X	X	X	X
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED	X	X	X	X	X	X	X
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS							
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1970	1970	1970	1994	1994	1933	1933
8.1 FOR SALES INFORMATION, CONTACT:	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372	SALES DEPT. 800/877-9372
8.2 FOR TECHNICAL INFORMATION, CONTACT:	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.	TECH. DEPT.
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SOUTHWESTERN PETROLEUM CORP.	SPM THERMO- SHIELD INC.	SPM THERMO- SHIELD INC.	SUNGUARD MARKETING CORP.	TAMKO ROOFING PRODUCTS INC
ALUMINUM ROOF SHIELD	WHITE ACRYLIC COATING	ANTI-RUST COATING	GUARDIAN SEAMLESS ROOF COATING	GUARDIAN GENERAL PURPOSE PRIMER	GUARDIAN EPDM CLEANER/ PRIMER	THERMO SHIELD ROOF COATING	THERMO SHIELD ROOF COATING	CORP. SEAL	TAM-PRO FIBERED EMULSION COATING
		X							
X									
									X
	X		HYBRID	ACRYLIC	ACRYLIC	X	ACRYLIC	X	
NONFIBRATED SILVER	NONFIBRATED WHITE	NONFIBRATED RED, GRAY, GRN				SEVERAL			FIBRATED BLACK
8.6	10.6	11.6	85	25	25	10			50 ±5
1-2	2	2	0.5	1-2	0.5-1				8.5
0.3-0.67	1.0-2.0	0.25-0.4	2.5-3.5	0.5-1.5	0.25			0.25	8-24
									3
X	X		X			X	X	X	X
X	X		X			X	X	X	X
X	X		X			X	X	X	X
X	X		X			X	X	X	X
			X			X	X		
			X			X	X		
			X			X	X		
			X			X	X		
				X					
				X		X			
		X		X		X			
			X			X			
X	X					X	X		X
X	X	X				X	X		X
X	X					X	X		X
						X			
						X			
						X			
						X			
			X			X	X		
			X			X	X		
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	SQUEEGEE, ROLLER			BRUSH, SPRAY, ROLLER	ROLLER, SPRAY	BRUSH,SPRAY, ROLLER	BRUSH, SPRAY, SQUEEGEE
								NA	
X	X							NA	
								NA	
X	X							NA	
						ACRYLIC UNDER- COAT, POLY- FORCE CLOTH, TOPCOAT	CAN BE USED WITH WITHOUT POLY- ESTER REINFORC- ING FABRIC		
USA 1933	USA 1975	USA 1950	USA 1996	USA 1996	USA 1996	USA 1984	USA 1984	USA	USA 1990
SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 800/877-9372 TECH. DEPT.	SALES DEPT. 605/673-3201 TECH. DEPT. 605/673-3201	SALES DEPT 800/538-2955 TECH DEPT 800/538-2955	R. KO 503/235-9206 R. KO 503/235-9206	DISTRICT OFF. TECH SERVICE 800/641-4691

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC
2. PRODUCT NAME	TAM-PRO Q-15 ELASTOMERIC FLASHING CEMENT	TAM-PRO PLASTIC ROOFING CEMENT	TAM-PRO FIBERED ROOF COATING	TAM-PRO COLD- APPLICATION CEMENT	TAM-PRO WET OR DRY SUR- FACE PLASTIC ROOF. CEMENT	TAM-PRO HEAVY-BODIED FLASHING CEMENT	TAM-PRO FIBERED ALUMINUM ROOF COATING
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING			X				X
C. ASPHALT/COAL TAR CEMENT	X	X		X	X	X	
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)							
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	SILVER
C. SOLIDS CONTENT (% by volume)	70	80 ±5	50	60 ±5	80 ±5	75 ±5	40
D. WEIGHT PER GALLON (lbs.)	9	9.5	84	8.4	9.5	9.0	8.4
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	8	8	8-12	12-24	8	8	2-4
F. COVERAGE (gals./square)	8	8	1-4	2	8	8	1.5
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING			X				X
2. COMPOSITE ROOFING			X				X
3. MODIFIED BITUMEN ROOFING			X				X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING			X				X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X		X	X	X	
2. COMPOSITE ROOFING	X	X		X	X	X	
3. METAL ROOFING	X	X		X	X	X	
4. OTHER ROOFING	X	X		X	X	X	
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X			X	X	X
2. COMPOSITE ROOFING	X	X			X	X	X
3. METAL ROOFING	X	X			X	X	X
4. OTHER ROOFING	X	X			X	X	X
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X				
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING			X				
4. OTHER ROOFING			X				
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING	X	X		X	X	X	
2. COLD-PROCESS MODIFIED BITUMEN ROOFING	X	X		X	X	X	
3. ROLL ROOFING (COATED SHEETS)	X	X		X	X	X	
4. SHINGLES, TILE, OTHER STEEP PRODUCTS	X	X		X	X	X	
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	TROWEL	TROWEL	BRUSH, SPRAY, ROLLER, SQUEEGEE	BRUSH	TROWEL, CAULK	TROWEL	BRUSH, SPRAY
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS							
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS							
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS							
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1990	1990	1990	1990	1990	1990	1990
8.1 FOR SALES INFORMATION, CONTACT:	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.
8.2 FOR TECHNICAL INFORMATION, CONTACT:	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.
TAM-PRO NONFIBERED ALUMINUM ROOF COATING	TAM-PRO FIRE- RATED (FR) FI- BERED ALUM. ROOF COATING	TAM-PRO CPA SBS ADHESIVE	TAM-PRO CPA SBS FLASHING CEMENT	TAM-PRO ASPHALT PRIMER	ALUMINUM ROOF COATING	TEXTROPIC	QUICK-DRY ANTIOXIDENE	ALUMINUM METAL SEAL CEMENT	ALUMINUM METAL SEAL COATING
X	X			X	X	X	X		
		X	X					X	X
NONFIBRATED SILVER	FIBRATED SILVER	FIBRATED BLACK	FIBRATED BLACK	NONFIBRATED BLACK	NONFIBRATED ALUMINUM	FIBRATED ALUMINUM	NONFIBRATED BLACK	FIBRATED ALUMINUM	NONFIBRATED ALUMINUM
40	42	58 ±2	68 ±2	50 ±5	46	64		39 ±2	34 ±2
7.6	8.6	8.5	9.0	7.6	8.17	8.16	7.15	7.2-7.6	7.2-7.6
2-4	2-4	1-4	8	1-2			0.33	24	24
1	1.5	1.5	8	1					1
X	X				X	X			
X	X				X	X			
X	X								
X	X							X	X
		X	X						
		X	X						
								X	X
		X	X						
				X					
				X					
				X			X		
X	X		X						
X	X		X						
X	X							X	
X	X		X						
					X	X	X	X	X
		X							
		X							
		X							
		X							
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY	BRUSH, SPRAY, SQUEEGEE	TROWEL, CAULK	BRUSH, SPRAY, ROLLER	SPRAY, ROLLER	SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	TROWEL	ROLLER, BRUSH
					MIGHTYPLY TYPE II GLAS-BASE POLY-MAT	MIGHTYPLY TYPE II GLAS-BASE POLY-MAT	NA	NA	NA
					MIGHTYPLATE SINGLE-PLY	MIGHTYPLATE SINGLE-PLY	NA	NA	NA
					NA	NA	NA	NA	NA
USA 1990	USA 1990	USA 1990	USA 1990	USA 1990	USA	USA	USA	USA	USA
DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	DISTRICT OFF.	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711
TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/641-4691	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.
2. PRODUCT NAME	MIGHTYPLATE ROOF COATING	MIGHTYPLATE II	MIGHTYPLATE PRIMER	MIGHTYPLATE PLASTIC CEMENT	MIGHTYPLATE WINTER PATCH	BEIGE METAL SEAL COATING	WHITE METAL SEAL COATING
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER			X				
B. ASPHALT/COAL TAR COATING	X	X					
C. ASPHALT/COAL TAR CEMENT				X	X		
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)						X	X
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	BLACK	BLACK	BEIGE	WHITE
C. SOLIDS CONTENT (% by volume)	71.5	73.5	70	79	74.7	40.2	40.2
D. WEIGHT PER GALLON (lbs.)	7.83	8.33	7.79	9.6	8.92	7.8-8.4	7.8-8.4
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)						4	4
F. COVERAGE (gals./square)						1	1
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X				
2. COMPOSITE ROOFING							
3. MODIFIED BITUMEN ROOFING							
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING						X	X
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X		X	X		
2. COMPOSITE ROOFING				X	X		
3. METAL ROOFING				X	X	X	X
4. OTHER ROOFING							
C. PRIMING							
1. BUILT-UP ROOFING	X	X	X				
2. CONCRETE/WOOD DECKS			X				
3. METAL			X				
D. FLASHING							
1. BUILT-UP ROOFING				X	X		
2. COMPOSITE ROOFING				X	X		
3. METAL ROOFING				X	X		
4. OTHER ROOFING							
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X				
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING						X	X
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING	X	X		X	X		
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)				X	X		
4. SHINGLES, TILE, OTHER STEEP PRODUCTS				X	X		
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	BRUSH, SPRAY, SQUEEGEE	TROWEL	TROWEL	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	MIGHTYPLY TYPE II GLAS-BASE POLY-MAT	MIGHTYPLY TYPE II GLAS-BASE POLY-MAT	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE							
8.1 FOR SALES INFORMATION, CONTACT:	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711	J. MCGEE 800/827-0711
8.2 FOR TECHNICAL INFORMATION, CONTACT:	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711	TECH SERVICE 800/827-0711
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TREMCO, INC.	TREMCO, INC.
TOPCOAT MEMBRANE	FLASHING GRADE	MP-300	MB-PRIMING SYSTEM	FLEXSEAL	SB-900 FLASHING GRADE	SKYLITE	ONESTEP PRIMECOAT	ELS	POLYROOF L.V.
			X						
			X						
								X	
			X						
SYN. RUBBER	SYN. RUBBER			SYN RUBBER	SYN. RUBBER	SYN RUBBER			CEMENT
NONFIBRATED UNLIMITED	NONFIBRATED LT. GRAY, WHITE	NONFIBRATED LT. BLUE	NONFIBRATED WHITE	NONFIBRATED WHITE	NONFIBRATED WHITE	NONFIBRATED CLEAR	NONFIBRATED UNLIMITED	FIBRATED BLACK	NONFIBRATED BLACK
58	56	42	51	76	78	40	50		
12.5	12	10	11.5	10	10.5	7.5	10	9.3	8.1
2	2	1	1	1	1	0.5	1		
1.5-3		1	2			2	1.5	8	8
			X						
X							X		
								X	X
X	X		X	X	X				
	X				X	X			
		X					X		
								X	X
	X			X	X				
	X				X				
X							X		
X						X			
X									
X									
SPRAY	BRUSH, CAULK	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, TROWEL	BRUSH,CAULK, TROWEL	BRUSH, ROLLER	SPRAY, ROLLER	TROWEL	TROWEL
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MEMBRANE COMPONENT OF ROOF SYSTEM	FLASHING COMPONENT OF ROOF SYSTEM	RUST INHIBITOR COMPONENT OF ROOF SYSTEM	ASPHALT PATCH SEALANT COM- PONENT OF ROOF SYSTEM	INTERNAL GUTTER LINER COMPONENT OF ROOF SYSTEM	SOLVENT- BASE FLASHING COMPONENT	FIBERGLASS SKYLIGHT SEALER	RUST- INHIBITING MAINTENANCE PAINT	NA	NA
USA 1979	USA 1979	USA 1980	USA 1983	USA 1993	USA 1984	USA 1989	USA 1994	USA	CANADA
M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	M. FORTSON 800/323-0009 C. LEIBY 800/323-0009	SALES OFFICE TECHNICAL DEPARTMENT	SALES OFFICE TECHNICAL DEPARTMENT

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	TREMCO, INC.	TREMCO, INC.	TREMCO, INC.	TREMCO, INC.	TREMCO, INC.	TREMCO, INC.	TREMCO, INC.
2. PRODUCT NAME	TREMFIX	FIBERMAT	SHEETING BOND	SHEETING BOND	TREMPRIME W.B.	DOUBLE DUTY ALUMINUM L.V.	POLARCOTE
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER					X		
B. ASPHALT/COAL TAR COATING						X	
C. ASPHALT/COAL TAR CEMENT	X	X					
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)			CEMENT	CEMENT			ACRYLIC
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED	NONFIBRATED
B. COLOR(S) AVAILABLE	BLACK	BLACK	BLACK	WHITE	BLACK	ALUMINUM	WHITE
C. SOLIDS CONTENT (% by volume)							
D. WEIGHT PER GALLON (lbs.)	9.1	10.1	8.7	8.7	8.8	9.1	
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)							
F. COVERAGE (gals./square)	8	8	4	4	0.5	0.5	
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING						X	X
2. COMPOSITE ROOFING							
3. MODIFIED BITUMEN ROOFING						X	X
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING							
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING	X	X					
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING				X			
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING	X	X					
2. COMPOSITE ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING			X				
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING							
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING							
4. OTHER ROOFING							
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE							
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	TROWEL	TROWEL	TROWEL	TROWEL	BRUSH, SPRAY, ROLLER	ROLLER, BRUSH	BRUSH, SPRAY, ROLLER
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	CANADA	USA	CANADA	CANADA	CANADA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE							
8.1 FOR SALES INFORMATION, CONTACT:	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE	SALES OFFICE
8.2 FOR TECHNICAL INFORMATION, CONTACT:	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT	TECHNICAL DEPARTMENT
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

[illegible]

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX
2. PRODUCT NAME	UNIFLEX 500 ALUMINUM (10 YEAR)	UNIFLEX 300 ALUMINUM (5 YEAR)	UNIFLEX 100 ALUMINUM	LO-VOC ALUMINUM (10 YEAR)	SEAM SEALER	ACRYLIC PATCH CEMENT	ALUMINUM PATCH CEMENT
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING	X	X	X	X			
C. ASPHALT/COAL TAR CEMENT							X
D. ASPHALT EMULSION							
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)					POLY JNT SEALANT	CEMENT	
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED	FIBRATED	FIBRATED	FIBRATED	FIBRATED	NONFIBRATED	NONFIBRATED	FIBRATED
B. COLOR(S) AVAILABLE						WHITE, GRAY	
C. SOLIDS CONTENT (% by volume)	42 ± 2	41.5 ± 2	44 ± 2	61 ± 2	95 MIN.	50 ± 2	
D. WEIGHT PER GALLON (lbs.)	8.75	8.60	8.60	9.6	13	10.5	8.4
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	4-6	4-6	4-6	4-6	2-3	1-2	4-6
F. COVERAGE (gals./square)	2.0-2.5	2.0-2.5	1.5-2.5	2.0-3.0		0.5	0.25
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING	X	X	X	X			
2. COMPOSITE ROOFING	X	X	X	X			
3. MODIFIED BITUMEN ROOFING	X	X	X	X			
4. SINGLE-PLY ROOFING							
5. OTHER ROOFING	X	X	X	X		X	
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING							X
2. COMPOSITE ROOFING							X
3. METAL ROOFING					X	X	X
4. OTHER ROOFING						X	X
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS							
3. METAL							
D. FLASHING							
1. BUILT-UP ROOFING						X	
2. COMPOSITE ROOFING						X	
3. METAL ROOFING				X	X	X	
4. OTHER ROOFING				X		X	
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING	X	X	X	X			
2. COAL TAR BUILT-UP ROOFING							
3. METAL ROOFING	X	X	X	X			
4. OTHER ROOFING	X	X	X	X			
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							X
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							X
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING							
2. REROOFING/MAINTENANCE	X	X	X	X			
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, TROWEL, CAULK	TROWEL, BRUSH	TROWEL, BRUSH
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1946	1946	1946	1984	1987	1984	1984
8.1 FOR SALES INFORMATION, CONTACT:	SALES 800/321-0572	SALES 800/321-0572	SALES 800/321-0572	SALES 800/321-0572	SALES 800/321-0572	SALES 800/321-0572	SALES 800/321-0572
8.2 FOR TECHNICAL INFORMATION, CONTACT:	D. DESTRO	D. DESTRO	D. DESTRO	D. DESTRO	D. DESTRO	D. DESTRO	D. DESTRO
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX	UNIROOF CORPORATION	UNITED COATINGS	UNITED COATINGS
SUPERBRITE ALUMINUM PAINT	RED ZINC PRIMER	WATER BASED METAL PRIMER	BLACK ASPHALT PRIMER	ASPHALT EMULSION	ASPHALT EMULSION	BLACK PLASTIC	FORMFLEX	ROOFMATE	UNISEAL
			X						
X						X			
				X	X				
							ACRYLIC	ACRYLIC	EPOXY
NONFIBRATED			BLACK	FIBRATED BLACK	NONFIBRATED BLACK	FIBRATED BLACK	NONFIBRATED MANY		
34 ± 2	45 ± 2	39		44	48	30		60	20
7.6	11	10.1	7.3	8.6	8.6	10		11.8	8.4
1	2-4	1-2	4-6	4-6	4-6	1-2	4	2	0.50
2.5	2.5	2.5	1-2	2-3	2-3	0.25	1.5	2-4	0.33
X								X	
X								X	
X								X	
								X	
X							X	X	
						X			
						X			
						X	X		
						X			
						X			
			X						X
									X
	X	X					X		
						X	X		
						X	X		
						X	X		
						X	X		
X				X	X				
X				X					
X				X	X				
						X			
						X			
X							X	X	
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER		BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
NA	NA	NA	NA		NA	NA		NA	NA
NA	NA	NA	NA		NA	NA		NA	NA
NA	NA	NA	NA		NA	NA		ROOF MATE BASE COAT, TOP COAT, & POLY-ESTER FABRIC	NA
USA 1984	USA 1984	USA 1984	USA 1980	USA 1970	USA 1970	USA 1970	USA 1985	USA 1973	USA 1993
SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	SALES 800/321-0572 D. DESTRO	D. KONSTAN 407/869-5110 D. KONSTAN 407/869-5110	B. MANN 800/541-4383 B. MANN 800/541-4383	B. MANN 800/541-4383 B. MANN 800/541-4383

Roof Cements and Coatings Part 1: General Information

1. COMPANY NAME	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS	UNITED COATINGS
2. PRODUCT NAME	ACRYLEX 300	ROOF SHIELD 60	BERM 500	BERM 600/ UNITED 600	ELASTRON 858	UNI-TILE SEALER	ALUMISEAL PRIMER
3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY							
A. ASPHALT PRIMER							
B. ASPHALT/COAL TAR COATING							
C. ASPHALT/COAL TAR CEMENT							
D. ASPHALT EMULSION			X				
F. MODIFIED BITUMEN COATING OR CEMENT							
G. ELASTOMERIC COATING OR CEMENT (specify type)	ACRYLIC	ACRYLIC		ACRYLIC	BUTYL	EPOXY	URETHANE
3.2 PRODUCT DESCRIPTION, GENERAL FEATURES							
A. FIBRATED/NONFIBRATED							
B. COLOR(S) AVAILABLE					TAN		
C. SOLIDS CONTENT (% by volume)	38	60	60	55	60	15	55
D. WEIGHT PER GALLON (lbs.)	10.2	11.5	12	11.5			8.6-9.2
E. DRYING TIME (hours, 50% R.H. at 70° F, touch dry)	0.50	2	4	2	4-6	30 MIN.	1-2
F. COVERAGE (gals./square)	0.40	2-3	3-5	1.5-2	3	0.25-0.5	0.33
4. USES							
A. SURFACING							
1. BUILT-UP ROOFING		X					
2. COMPOSITE ROOFING		X		X			
3. MODIFIED BITUMEN ROOFING		X	X	X			
4. SINGLE-PLY ROOFING		X	X	X			
5. OTHER ROOFING		X	X		X	X	
B. PATCHING/REPAIRING							
1. BUILT-UP ROOFING			X				
2. COMPOSITE ROOFING							
3. METAL ROOFING			X		X	X	
4. OTHER ROOFING			X		X	X	
C. PRIMING							
1. BUILT-UP ROOFING							
2. CONCRETE/WOOD DECKS						X	
3. METAL	X					X	X
D. FLASHING							
1. BUILT-UP ROOFING			X				
2. COMPOSITE ROOFING							
3. METAL ROOFING			X				
4. OTHER ROOFING			X				
E. RESATURATION/RESURFACING							
1. ASPHALT BUILT-UP ROOFING			X				
2. COAL TAR BUILT-UP ROOFING			X				
3. METAL ROOFING			X		X	X	X
4. OTHER ROOFING			X		X	X	X
F. COLD-PROCESS ADHESIVE/LAP CEMENT							
1. COLD-PROCESS BUILT-UP ROOFING							
2. COLD-PROCESS MODIFIED BITUMEN ROOFING							
3. ROLL ROOFING (COATED SHEETS)							
4. SHINGLES, TILE, OTHER STEEP PRODUCTS							
G. LIQUID-APPLIED MEMBRANE							
1. NEW ROOFING				X			
2. REROOFING/MAINTENANCE			X	X			
5. APPLICATION METHOD(S) (BRUSH, CAULK, ROLLER, SPRAY, SQUEEGEE, TROWEL)	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
6. ROOF SYSTEM DESCRIPTION (or NA)							
A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE BUILT-UP ROOFING SECTION IF CHECKED							
B. MODIFIED BITUMEN MEMBRANE ROOF COMPONENTS	NA	NA	NA	NA	NA	NA	NA
SEE MODIFIED BITUMEN ROOFING SECTION IF CHECKED							
C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS	NA	ROOF MATE BASE COAT, TOP COAT, & POLY- ESTER FABRIC	BERM 500, BERM 600, & POLYESTER FABRIC	BERM 500, BERM 600, & POLYESTER FABRIC	ELASTRON 858	UNI-TILE SEALER	ALUMISEAL
7.1 COUNTRY OF MANUFACTURE	USA	USA	USA	USA	USA	USA	USA
7.2 YEAR OF FIRST COMMERCIAL USE	1993	1988	1990	1990	1965	1970	
8.1 FOR SALES INFORMATION, CONTACT:	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
8.2 FOR TECHNICAL INFORMATION, CONTACT:	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383	B. MANN 800/541-4383
9. SEE MEMBRANE APPENDIX IF CHECKED							

NA=not applicable

Roof Cements and Coatings Part 1: General Information

UNITED COATINGS	UNITED COATINGS
ADHERE-IT EPDM PRIMER	UNIBASE PRIMER
URETHANE	ACRYLIC
	TRANS. GREEN
55 8.9	
1	1
0.33-0.5	0.5-1
	X
	X
	X
	X
	X
X	X
BRUSH, SPRAY, ROLLER	BRUSH, SPRAY, ROLLER
NA	NA
NA	NA
ADHERE-IT	UNIBASE
USA 1995	USA 1996
B. MANN 800/541-4383	B. MANN 800/541-4383
B. MANN 800/541-4383	B. MANN 800/541-4383

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.	ACRYMAX TECHNOLOGIES INC.
2. PRODUCT NAME	ACRYMAX AF-130	ACRYMAX AF-130 FR	ACRYMAX ACM 9000	ACRYMAX AF-130 XT
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	YES	NO	
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)			TYPE III	
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	ACRYMAX TECHNOLOGIES INC.	ALCO-NVC, INC.	ALCO-NVC, INC.	ALCO-NVC, INC.
2. PRODUCT NAME	ACRYMAX AF-130 BC	#216 AF FLASHING CEMENT	#269T AF SBS TROWEL GR	#269 AF SBS PLUS ADHESIVE
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				CLASS A
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)		TYPE I	TYPE I	
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

ALCO-NVC, INC.	ALCO-NVC, INC.	ALCO-NVC, INC.	ALCO-NVC, INC.	ALCO-NVC, INC.	ALCO-NVC, INC.	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS
#214 AF ALUMAGARD NONFIBRATED COATING	#215 AF ALUMAGARD FIBRATED COATING	#207 ASPHALT ROOF PRIMER	#270 AF ROOF CAP MASTIC	#218 WHITE LATEX COATING	#218E AF WHITE ELASTOMERIC	FIBRATED LIQUID ROOF COATING	FIBRATED LIQUID ROOF COATING, ASBESTOS FREE	RUBBERIZED DAMP SURFACE ROOF COATING	RUBBERIZED DAMP SURFACE ROOF COATING ASBESTOS FREE
CLASS A, B	CLASS A, B		CLASS A						
		YES							
								TYPE I	
						TYPE I			
			TYPE II				TYPE I		TYPE I
TYPE I	TYPE III								

ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS	ALUMINUM COATING MANU-FACTURERS
ASPHALT ROOF AND METAL COATING, NO FIBER	BUTYL LASTIC	ROOF EMULSION FIBERED	NO FIBER ROOF EMULSION	ASPHALT RESATURANT	ASPHALT PRIMER	COLD-PROCESS ADHESIVE	PLASTIC CEMENT	PLASTIC CEMENT, ASBESTOS FREE	WET/DRY CEMENT
					YES				
		TYPE IV	TYPE II						
							TYPE I, CLASS II		TYPE I, CLASS II
								TYPE I	

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS
2. PRODUCT NAME	WET/DRY CEMENT, ASBESTOS FREE	FLASHTITE	FLASHTITE, ASBESTOS FREE	GLAS-MASTIC
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATER-PROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATER-PROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)		TYPE I, CLASS II		
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I		TYPE I	TYPE I
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATER-PROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS	ALUMINUM COATING MANU- FACTURERS
2. PRODUCT NAME	NEOPRENE RUBBER ROOF CEMENT	RUBBERIZED CEMENT	ASPHALT MASTIC TROWEL GRADE	ASPHALT MASTIC BRUSH GRADE
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATER-PROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATER-PROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)	TYPE II, CLASS II			
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)		TYPE I		
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATER-PROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY
2. PRODUCT NAME	# 1866 PREMIUM FIBERED ALUMINUM	# 1868 PREMIUM ALUMINUM	# 1870 SILVER SEAL	# 1931 ATCOPRIME
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B	CLASS A, B		
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B	CLASS A, B		
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO		
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)	TYPE III	TYPE I		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY
2. PRODUCT NAME	# 1860 ALUMINUM ASPHALT COATING	# 1864 ATCOSHIELD2	# 4200 ATCOWHITE	# 5000 ATCOBRITE
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO	NO	NO
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)	TYPE I	TYPE III		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	AMERICAN TAR COMPANY	ANDEK CORP.	ANDEK CORP.	ANDEK CORP.
# 1823 ATCOMASTIC	#1897 FLAMEBLOC	#1898 FLAMEBLOC	#1326 ATCOSTOP	#1340 HYDROGARD	# 1821 RAINSEAL	# 1822 ROOF PATCH	ANDEK RUBBERCOAT TOP	ANDEK RUBBERCOAT 1047	ANDEK BUILDCOTE
	CLASS A, B	CLASS A, B							
	CLASS A, B	CLASS A, B							
NO	NO	NO			NO	NO			
			YES						
	TYPE III	TYPE I							
TYPE I					TYPE I	TYPE II			
YES					YES			YES	

ANDEK CORP.	ANDEK CORP.	AVARD PRODUCTS CO.	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
ANDEK SILVER FILM	ANDEK RUBBERCOAT BASE	SNO-HIDE ROOF SHIELD	FORTRESS FLASHING CEMENT	FORTRESS WET SURFACE ROOF CEMENT	FORTRESS PLASTIC ROOF CEMENT	FORTRESS TAR ROOF CEMENT	FORTRESS MODIFIED BITUMINOUS ADHESIVE	FORTRESS MODIFIED BITUMINOUS CEMENT	FORTRESS FIBERED ASPHALT ROOF COATING
	YES								
									TYPE I
TYPE I									
			TYPE 1	TYPE 1	TYPE 1			TYPE I	
							TYPE III		
			YES	YES	YES	YES		YES	

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
2. PRODUCT NAME	FORTRESS TAR COATING RESATURANT	FORTRESS ASPHALT RESATURANT	FORTRESS ACRYLIC PRIMER	FORTRESS HEAVY DUTY NONFIBERED ASPH. EMULSION
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				TYPE III
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				TYPE I
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY	THE BREWER COMPANY
2. PRODUCT NAME	FORTRESS COLD PROCESS ADHESIVE	FORTRESS ASPHALT PRIMER	FORTRESS HEAVY DUTY FIBERED ASPH. EMULSION	FORTRESS ACRYLIC MOD. ASPHALT EMULSION
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)		YES		
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)			TYPE IV	
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE III			
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)			TYPE I	
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

[illegible][illegible]

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.
2. PRODUCT NAME	SBS MODIFIED BITUMEN FLASHING CEMENT	ALUMINUM ROOF COATING (FIBRATED)	ALUMINUM ROOF COATING (NONFIBRATED)	ELASTIGUM ROOF COATING
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B, C	CLASS A, B, C		CLASS A, B, C
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B, C	CLASS A, B, C		CLASS A, B, C
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	YES	YES		YES
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				TYPE I, II
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)		TYPE III	TYPE I	
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE III			
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.	CELOTEX CORP.
2. PRODUCT NAME	AWP ALL WEATHER PLASTIC CEMENT	SBS MODIFIED BITUMEN ADHESIVE	ASPHALT PRIMER	FLAT TOP EMULSION
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B, C	CLASS A, B, C	CLASS A, B, C	CLASS A, B, C
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B, C	CLASS A, B, C	CLASS A, B, C	CLASS A, B, C
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	YES	YES	YES	YES
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)			YES	
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				TYPE IV
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I, II			
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)		TYPE III		
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.
2. PRODUCT NAME	PRO SBS FLASHING CEMENT	PRO NEO-SEAL NEOPRENE ROOF CEMENT	PRO ROOFLOX 300 ALUMINUM FIBRE COATING	PRO BRITE 200 ALUMINUM FIBRE COATING
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)			TYPE III	TYPE III
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE II, III			
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.	DEWITT PRODUCTS CO.
2. PRODUCT NAME	PRO LAP CEMENT	PRO SBS ADHESIVE	PRO SILVER SHIELD 300 AL- UMINUM COAT- ING NO FIBRE	PRO SILVER SHIELD 200 AL- UMINUM COAT- ING NO FIBRE
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)			TYPE I	TYPE I
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE II, III	TYPE II, III		
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

[illegible][illegible]

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
2. PRODUCT NAME	F670 MOBLSHIELD	M860 POLBRITE	M850 POLRSHIELD	F700 POWRGARD
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO	NO	NO
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				TYPE III
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)	TYPE III			
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
2. PRODUCT NAME	F630, F640, F650 FIBERED ALUMINUM COATING	F600 FLAMEBLOC	M700 RUBRGARD	F750 RAINGARD
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A, B	CLASS A, B	CLASS A, B	CLASS A, B
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO	NO	NO
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)			TYPE III	TYPE IV
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)	TYPE III	TYPE III		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION
F880 SUNGARD	F200 POWRBOND	C250 ROOFFLASH	F300 POWRMASTIC	M300 RUBRMASTIC	C240 TILEBOND	M620 SILVRMASTIC	C100 ROOFCOAT	M150 RUBRSEAL	M200 RUBRBOND
CLASS A, B CLASS A, B NO							CLASS A, B CLASS A, B NO	CLASS A, B CLASS A, B NO	
TYPE III							TYPE II		
								TYPE I	
		TYPE II, CLASS I			TYPE II, CLASS I				
	TYPE II		TYPE I	TYPE I					TYPE I
			YES	YES					

FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	FIELDS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
M800 RUBRSTAR	C300 ROOFMASTIC	C200 ROOFBOND	M400 RUBRPRIME	F460 WATRSTOP	M600 SILVRBLOC	M630 SILVRSHIELD3	GAF PREMIUM FIBERED ALUMINUM ROOF COATING	GAF ALUMINUM ROOF PAINT	GAF ASPHALT/ CONCRETE PRIMER
CLASS A, B CLASS A, B NO					CLASS A, B CLASS A, B NO	CLASS A, B CLASS A, B NO	CLASS A		
			NO	NO	NO	NO			
			YES	YES					YES
TYPE III									
					TYPE III	TYPE III	TYPE III	TYPE I	
	TYPE I, CLASS II	TYPE II, CLASS I							
	YES								

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
2. PRODUCT NAME	GAF WEATHERCOAT EMULSION	RUBEROID MODIFIED BITUMEN ASHESIVE	RUBEROID MODIFIED BITUMEN FLASHING CEMENT	GAF JETBLAK PREMIUM FLASHING CEMENT
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A			
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)	TYPE IV			
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)			TYPE I	TYPE I
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)		TYPE III		
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)			YES	YES
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	GAF MATERIALS CORPORATION	THE GARLAND COMPANY	THE GARLAND COMPANY	THE GARLAND COMPANY
2. PRODUCT NAME	GAF ALUMINUM EMULSION	VITAPLY	GRAVITOP	GARLA-SHIELD
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A			
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	GMX, INC.	GMX, INC.	GRUNDY INDUSTRIES INC.	GRUNDY INDUSTRIES INC.
2. PRODUCT NAME	ULTRA-SHIELD FIBERED ALUMINUM	ULTRA-SHIELD NONFIBERED ALUMINUM	GRUNDY PLASTIC CEMENT	GRUNDY ROOF CEMENT (AF)
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)		TYPE I		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)			TYPE I, CLASS I	
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				TYPE I
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	GRUNDY INDUSTRIES INC.	GRUNDY INDUSTRIES INC.	GRUNDY INDUSTRIES INC.	GRUNDY INDUSTRIES INC.
2. PRODUCT NAME	GRUNDY PLASTIC CEMENT WET SURFACE (AF)	GRUNDY FLASHING CEMENT	GRUNDY NO. 22 FLASHING CEMENT (AF)	GRUNDY NO. 22 ELASTOMERIC CEMENT (AF)
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)		TYPE I, CLASS I		
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I		TYPE I	TYPE I
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)	YES		YES	YES
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.
2. PRODUCT NAME	#209 ELASTOMASTIC	#289 ELASTOCAULK	#203 COLD-AP	#120 PREMIUM ALUMINUM
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)			CLASS A	
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				TYPE I
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)			TYPE III	
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	HENRY CO.	HENRY CO.	HENRY CO.	HENRY CO.
2. PRODUCT NAME	#902 PERMANENT BOND ADHESIVE	#204 PLASTIC ROOF CEMENT	#403 SPRAY-GRADE COLD-AP	#100 ELASTO- MULSION
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A		CLASS A	
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)		TYPE I, CLASS I		
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE III		TYPE III	
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION
2. PRODUCT NAME	#501AF ELASTO-BRITE	# 505AF ELASTO-BRITE-M	# 97 FIBERED ALUMINUM	# 97AF FIBERED ALUMINUM
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)		CLASS A		
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)			TYPE II	TYPE III
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION
2. PRODUCT NAME	# 155 AMPHIBIKOTE WET/DRY	# 169AF NF ALUMINUM	# 170AF TAR CEMENT	# 220AF FIBERED BRUSH EMULSION
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				TYPE II
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)		TYPE I		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)	TYPE I			
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)	YES		YES	
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				TYPE II
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KARNAK CORPORATION	KEMPER SYSTEMS, INC.	KOKEM PRODUCTS INC.	METACRYLICS	METACRYLICS
# 100AF NONFIBERED EMULSION	#107AF VELVET ROOF COATING	# 96 AF ELASTOMERIC PRIMER	# 298AF ALUMIN-R ELASTOMERIC ALUMINUM	# 19 ULTRA RUBBERIZED FLASHING CEMENT	# 81AF MODIFIED BITUMEN ADHESIVE	KEMPEROL	SUNGUARD	ACRYLIC GRAY	ACRYLIC STORM CLOUD
						CLASS A, B	CLASS A, B	CLASS A CLASS A	CLASS A CLASS A
TYPE III									
				TYPE I					
					TYPE III				
				YES					
TYPE II									
						X			

METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS	METACRYLICS
ACRYLIC BEIGE	ACRYLIC DESERT SAND	ACRYLIC BRICK RED	ACRYLIC CUSTOM	ACRYLIC PRIMER	ACRYLIC BASE	ACRYLIC WHITE	ACRYLIC GEL	ACRYLIC COLORS	PRIMER
CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A	CLASS A CLASS A		CLASS A CLASS A
				NO	NO	NO	NO		
				NO					YES
				TYPE III TYPE I					
				TYPE I					

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	METACRYLICS	METACRYLICS	METACRYLICS	MONSEY BAKOR
2. PRODUCT NAME	GEL	BASE	ACRYLIC WHITE	METALSHIELD ELASTOMERIC ROOF COATING GRAY
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A	CLASS A	CLASS A	CLASS A
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A	CLASS A	CLASS A	
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				YES
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, <i>DAMP-PROOFING, AND WATER-PROOFING</i> (yes or no response)	YES	YES	YES	
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, <i>DAMP-PROOFING, AND WATER-PROOFING</i> (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS—ASBESTOS- <i>FREE</i> (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT <i>TO DAMP, WET, OR UNDERWATER SURFACES</i> (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR <i>ADHERING ROOF INSULATION</i> (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND <i>CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATER-PROOFING</i> (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
2. PRODUCT NAME	PREMIUM FIBERED ROOF COATING	BLIND NAILING/ COLD METHOD CEMENT/ROOF ADHESIVE	ELASTIC ROOF SEALER	#27 PRO GRADE FLASH- ING CEMENT
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, <i>DAMP-PROOFING, AND WATER-PROOFING</i> (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, <i>DAMP-PROOFING, AND WATER-PROOFING</i> (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)	TYPE I			
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS—ASBESTOS- <i>FREE</i> (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)			TYPE 1, CLASS 1,	TYPE I, CLASS I
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)		TYPE II		
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT <i>TO DAMP, WET, OR UNDERWATER SURFACES</i> (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR <i>ADHERING ROOF INSULATION</i> (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND <i>CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATER-PROOFING</i> (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
METALSHIELD ELASTOMERIC ROOF COATING WHITE	METALSHIELD FLASHING COMPOUND	#227 PRO GRADE ASBESTOS- FREE FLASH- ING CEMENT	#226 PRO GRADE ASBESTOS- FREE PLASTIC ROOF CEMENT	#300 PREMIUM ALUMINUM ROOF COATING	ASBESTOS- FREE ALUMINUM ROOF COATING	#842 PRO GRADE ASBESTOS-FREE ALUMINUM ROOF COATING	#300 ASBES- TOS-FREE ALUMINUM ROOF COATING	ALUMINUM ROOF PAINT UNFIBERED	PREMIUM UNFIBERED ROOF COATING
CLASS A						CLASS A			
YES									
				TYPE II	TYPE III	TYPE III	TYPE III	TYPE I	
		TYPE I	TYPE I						

MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR	MONSEY BAKOR
LONG-LIFE ASBESTOS- FREE ALL WEA- THER CEMENT	#818 AQUA-BRIGHT ASPHALT EMUL- SION ALUMINUM ROOF COATING	#164 PRO GRADE RUBBERIZED ASPH. CLAY EMUL. (R.A.C.E.)	ASPHALT FIBERED EMULSION ROOF COATING	MBA GOLD MOD. BITUMEN MEMBRANE ASHESIVE	MB GOLD ELASTOMERIC FLASHING CEMENT	#911 PRO GRADE WET SEAL ROOF REPAIR	#113 PRO GRADE AS- PHALT PRIMER	SPRAY MASTIC COATING ASBESTOS- FREE	LONG-LIFE PREMIUM FIBERED ROOF COATING
	CLASS A								
			TYPE II, CLASS I				YES		
								TYPE I	TYPE I
TYPE I					TYPE I	TYPE I			
				TYPE III					
YES						YES			

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	MONSEY BAKOR	MONSEY BAKOR	NATIONAL COATINGS CORPORATION	NATIONAL COATINGS CORPORATION
2. PRODUCT NAME	#225 PRO GRADE ASBESTOS-FREE ALL WEATHER CEMENT	METAL SHIELD PRIMER	ACRYSHIELD	ACRYFLEX
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)			CLASS A	
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)			CLASS A	
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I			
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)	YES			
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.
2. PRODUCT NAME	PERMAFLEX	ALUMAMATION 301	GEOGARD	GEOGARD ALUMINUM
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)		CLASS A	CLASS A	
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)		CLASS A	CLASS A	
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)	TYPE II			
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)		TYPE III		
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	REPUBLIC POWDERED METALS INC.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.
SOLARGARD	SOLARGARD HY-BUILD	PERMAROOF	NO. 301 FIBRATED LIQUID ROOF COATING	NO. 714 FIBRATED LIQUID ROOF COATING AF	NO. 302 ASPHALT LIQUID ROOF COATING	NO. 313 ASPHALT BITUMEN RESATURANT	NO. 315 ASPHALT ROOF PRIMER	NO. 010 TAR-BASE RESATURANT	NO. 071 TAR-BASE PLASTIC ROOF CEMENT
CLASS A	CLASS A								
CLASS A	CLASS A								
							YES		
			TYPE I						
				TYPE I					
									YES

R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.
NO. 351 KWIK-SET CEMENT	NO. 353 POLYESTER MASTIC	NO. 751 KWIK-SET CEMENT AF	NO. 758 ALUMINUM ROOF COATING AF (FIBRATED)	NO. 608 ALUMINUM ROOF COATING (NONFIBRATED)	NO. 718 3-LB ALUMINUM ROOF COATING AF (FIBRATED)	NO. 618 3-LB ALUMINUM ROOF COATING (NONFIBRATED)	NO. 371 ASPHALT PLASTIC ROOF CEMENT	NO. 771 ASPHALT PLASTIC ROOF CEMENT AF	NO. 379 ASPHALT PLASTIC WET SURFACE
	TYPE II								
			TYPE III	TYPE I	TYPE III	TYPE I			
							TYPE I, CLASS II		TYPE I, CLASS II
								TYPE I	
TYPE II		TYPE III							YES

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.	R.M. LUCAS CO.
2. PRODUCT NAME	NO. 766 ELAS-TOMERIC MOD. BIT. ADHESIVE TROWEL	NO. 748 2 LB. ALUMINUM ROOF COATING-AF FIBERATED	NO. 079 TAR-BASE PLASTIC WET SURFACE	NO. 736 ELAS-TOMERIC MOD. BIT. ADHESIVE BRUSH
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41-94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43-94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823-90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479-93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS-ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824-94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)		TYPE III		
G. ASTM D 2822-91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586-93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I			
I. ASTM D 3019-94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)	TYPE III, GRADE 2			TYPE I, GRADE 2
J. ASTM D 3409-93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)			YES	
K. ASTM D 4022-94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187-95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468-90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	R.M. LUCAS CO.	R.M. LUCAS CO.	SOMAY PRODUCTS, INC.	SOMAY PRODUCTS, INC.
2. PRODUCT NAME	NO. 779 ASPHALT PLASTIC ROOF CEMENT WET SURFACE-AF	NO. 721 ASPHALT EMULSION ROOF COATING AF	#842-01 ROOF MASTIC	#7751 PRIME & SEAL
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41-94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43-94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823-90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479-93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS-ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824-94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822-91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586-93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)	TYPE I			
I. ASTM D 3019-94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409-93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)	YES			
K. ASTM D 4022-94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187-95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468-90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	SUNGUARD MARKETING CORP.	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC
2. PRODUCT NAME	PROTECTO- SEAL	TAM-PRO HEAVY-BODIED FLASHING CEMENT	TAM-PRO FIBERED ALUMINUM ROOF COATING	TAM-PRO NONFIBERED ALUMINUM ROOF COATING
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)			TYPE III	TYPE I
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)		TYPE I		
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)		YES		
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC
2. PRODUCT NAME	TAM-PRO FIBERED EMULSION COATING	TAM-PRO COLD- APPLICATION CEMENT	TAM-PRO WET OR DRY SUR- FACE PLASTIC ROOF. CEMENT	TAM-PRO Q-15 ELASTOMERIC FLASHING CEMENT
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)	TYPE IV			
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS-FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)			TYPE I	TYPE I
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)		TYPE III		
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)			YES	YES
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TAMKO ROOFING PRODUCTS INC	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.
TAM-PRO FIRE- RATED (FR) FI- BERED ALUM. ROOF COATING	TAM-PRO CPA SBS ADHESIVE	TAM-PRO CPA SBS FLASHING CEMENT	TAM-PRO ASPHALT PRIMER	TAM-PRO PLASTIC ROOFING CEMENT	TAM-PRO FIBERED ROOF COATING	ALUMINUM ROOF COATING	ALUMINUM METAL SEAL CEMENT	ALUMINUM METAL SEAL COATING	BEIGE METAL SEAL COATING
CLASS A	CLASS A								
			YES						
TYPE III					TYPE I				
		TYPE I		TYPE I					
	TYPE II								
		YES							

TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TEXAS REFINERY CORP.	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION
TEXOTROPIC	QUICK-DRY ANTIOXIDENE	MIGHTYPLATE ROOF COATING	MIGHTYPLATE II	MIGHTYPLATE PRIMER	MIGHTYPLATE PLASTIC CEMENT	MIGHTYPLATE WINTER PATCH	WHITE METAL SEAL COATING	TOPCOAT MEMBRANE	FLASHING GRADE
CLASS A		CLASS A	CLASS A					CLASS A	CLASS A
								CLASS A	CLASS A
								YES	YES

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION
2. PRODUCT NAME	MB-PRIMING SYSTEM	FLEXSEAL	MP-300	ONESTEP RUST PRIMER
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A	CLASS A	CLASS A	
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A	CLASS A	CLASS A	
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO	NO	
4. COMPLIES WITH:				
A. ASTM D 41-94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43-94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823-90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479-93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS-ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824-94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822-91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586-93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019-94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409-93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022-94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187-95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468-90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TOPCOAT, INC., A SUBSIDIARY OF GAF MATERIALS CORPORATION	TREMCO, INC.	TREMCO, INC.
2. PRODUCT NAME	SB-900 FLASHING GRADE	SKYLITE	ELS	TREMLAR LRM-H
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)	CLASS A	CLASS A		
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)	CLASS A	CLASS A		
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)	NO	NO		
4. COMPLIES WITH:				
A. ASTM D 41-94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43-94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMP-PROOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823-90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479-93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS-ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824-94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822-91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586-93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019-94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409-93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022-94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747-95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187-95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468-90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

1. COMPANY NAME	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX
2. PRODUCT NAME	UNIFLEX 300 ALUMINUM (5 YEAR)	UNIFLEX 100 ALUMINUM	LO-VOC ALUMINUM (10 YEAR)	WATER BASED MATAL PRIMER
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPOOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPOOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)			TYPE III	
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

1. COMPANY NAME	UNIFLEX	UNIFLEX	UNIFLEX	UNIFLEX
2. PRODUCT NAME	SEAM SEALER	ACRYLIC PATCH CEMENT	BLACK ASPHALT PRIMER	RED ZINC PRIMER
3. FIRE RATINGS				
A. UL CLASSIFICATION(S) AS A PART OF ANY ROOFING SYSTEM PER ANSI/UL 790 (Class A, B, and/or C)				
B. FIRE RATING(S) AS A PART OF ANY ROOF SYSTEM PER ASTM E 108 (Class A, B, and/or C)				
C. FM CLASS 1 FIRE RATING AS A PART OF ANY ROOF SYSTEM (yes/no)				
4. COMPLIES WITH:				
A. ASTM D 41–94 STANDARD SPECIFICATION FOR ASPHALT PRIMER USED IN ROOFING, DAMPPOOFING, AND WATERPROOFING (yes or no response)				
B. ASTM D 43–94 STANDARD SPECIFICATION FOR COAL TAR PRIMER USED IN ROOFING, DAMPPOOFING, AND WATERPROOFING (yes or no response)				
C. ASTM D 1227–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT USED AS A PROTECTIVE COATING FOR BUILT-UP ROOFING (Type I, II, III, IV, or no response)				
D. ASTM D 2823–90 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS (Type I, II, or no response)				
E. ASTM D 4479–93 STANDARD SPECIFICATION FOR ASPHALT ROOF COATINGS–ASBESTOS- FREE (Type I, II, or no response)				
F. ASTM D 2824–94 STANDARD SPECIFICATION FOR ALUMINUM-PIGMENTED ASPHALT ROOF COATINGS, NON-FIBERED, ASBESTOS FIBERED, AND FIBERED WITHOUT ASBESTOS (Type I, II, III, or no response)				
G. ASTM D 2822–91 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT (Type I and Class I or Class II, or Type II and Class I OR II, or no response)				
H. ASTM D 4586–93 STANDARD SPECIFICATION FOR ASPHALT ROOF CEMENT, ASBESTOS FREE (Type I, II, or no response)				
I. ASTM D 3019–94 STANDARD SPECIFICATION FOR LAP CEMENT USED WITH ASPHALT ROLL ROOFING ROOFING, NON-FIBERED, ASBESTOS FIBERED, AND NON-ASBESTOS FIBERED (Grade 1 or 2, Type I; Type II; Type III; or no response)				
J. ASTM D 3409–93 STANDARD TEST METHOD FOR ADHESION OF ASPHALT-ROOF CEMENT TO DAMP, WET, OR UNDERWATER SURFACES (yes or no response)				
K. ASTM D 4022–94 STANDARD SPECIFICATION FOR COAL TAR ROOF CEMENT (yes or no response)				
L. ASTM D 3747–95 STANDARD SPECIFICATION FOR EMULSIFIED ASPHALT ADHESIVE FOR ADHERING ROOF INSULATION (Type I, II, or no response)				
M. ASTM D 1187–95 STANDARD SPECIFICATION FOR ASPHALT-BASE EMULSIONS USED AS PROTECTIVE COATINGS FOR METAL (Type I, II, or no response)				
N. ASTM D 3468–90 STANDARD SPECIFICATION FOR LIQUID-APPLIED NEOPRENE AND CHLOROSULFONATED POLYETHYLENE USED IN ROOFING AND WATERPROOFING (Grade 1 or 2, Type I; Type II; or no response)				
5. SEE MEMBRANE APPENDIX IF CHECKED				

Roof Cements and Coatings Part 2: Technical Data

[illegible][illegible]

Appendix, Roofing Cements and Coatings

ACRYMAX TECHNOLOGIES, INC.

AcryMax AF-130 series coatings are formulated for specific purposes and are differentiated by the suffix at the end of the AF-130 designations. For example, AF-130 BC designates a base coat formulation and AF-130 FR designates a fire-retardant version. All AF-130 series coatings are based on 100 percent acrylic technology.

THE BREWER COMPANY

Fortress Tar Roof Cement conforms to ASTM D 5643-94 *Standard Specification for Coal Tar Roof Cement, Asbestos Free*

ERSYSTEMS

HER 202: For sealing metal roof systems, fasteners and penetrations is available as a brushable flashing grade (FG) version and the extrudable (EX) version for rapidly pumping and placement of the product along seams. The products differ only in viscosity and thixotropy.

HER 202 is used as the metal roof sealer in both the polyurethane system (polyurethane metal primer and finish coat) and the acrylic system (acrylic metal primer and finish coat).

Eraguard 1100: is a 100% acrylic based coating, identical to Eraguard 1000, and filled with fibers to allow thicker placement on vertical or other steep surfaces without sag and with uniform drying capability.

GRUNDY INDUSTRIES, INC.

PlyGrip Modified Bitumen Adhesive achieves a UL Class A rating as an alternative to hot mopping asphalt for adherence of base/ply and/or SBS modified bitumen membranes for many roofing system classifications. When using PlyGrip with SBS modified bitumen products, obtain the membrane manufacturer's approval before proceeding.

A1MB-AF applied at a rate of 1 to 2 gallons per square provides a UL Class A rating over BUR and numerous modified bitumen membranes. Contact Grundy Industries for a complete listing of approved manufacturers (800/435-1210).

HENRY COMPANY

#111 InsulBond Roof Insulation Adhesive is a solvent-free rubberized asphalt emulsion formulated for laminating solvent-sensitive polystyrene foam board and adhering it to a variety of overlay boards and substrates. It is ideal for tapered insulation systems.

KEMPER SYSTEMS, INC.

Kemperol is an extremely durable fluid-applied polyester resin and polyester fabric-reinforced monolithic membrane. The unsaturated polyester resin offers resistance to ultraviolet and to most chemicals and bonds to most substrate materials, including concrete, metals, wood, glass, plastics, and existing roofing. The fully adhered, seamless, and inert system is rot- and root-proof. Twenty year warranties are available when Kemperol is applied by trained and certified contractors.

MEMBRANE WARRANTIES

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction

The warranty section of the *Low-Slope Roofing Materials Guide* provides information on warranties offered by materials manufacturers applicable to their built-up, modified bitumen, and single-ply membrane products listed in the *Guide*. The information is derived from two sources: an examination of the warranty or guarantee document itself and the manufacturer's responses to a questionnaire sent by NRCA.

All manufacturers with the referenced categories of membrane products appearing in the *Guide* are invited to submit their warranties for examination and listing. Those without warranty listings have elected not to participate.

For each warranty, there are 27 categories, or items, of information listed. The information provided in the following categories was obtained by examination of the document itself:

No. Item of Information

- 1 Identity of issuing entity
- 4 Scope of coverage
- 6 Nature of remedy
- 8 Notification of requirements
- 9 Exclusive of additional remedy
- 10 Inclusion of consequential damages
- 11 Determination of warranty applicability
- 12 Specific exclusions from coverage
- 14 Specific conditions to make warranty ineffective or null and void
- 25 Assignability
- 26 Special features/conditions
- 27 Executed by owner

In addition, information in the following categories was provided by the manufacturer in response to a questionnaire accompanying the warranty document:

No. Item of Information

- 2 Title, original publication date, and identifying symbol (if any)
- 3 Product specification
- 5 Length of coverage
- 13 Wind coverage/exclusion
- 15 Cost to obtain
- 16 Minimum charge
- 17 Ineligible structures or building uses
- 18 Pre-construction notice and approval requirement
- 19 Approved, authorized, or licensed contractor
- 20 Job inspection policy
- 21 Contractor's post-installation obligation
- 22 Backed by named insured or surety company

- 23 Issuing entity manufacturers and/or sells products
- 24 Conditions for renewal or extension

In response to this information, NRCA endeavors to prepare an accurate, comprehensive, and objective listing for each warranty submitted by a manufacturer. Generally, a separate listing is generated for each document; sometimes, however, a manufacturer uses the same warranty document to cover different roofing systems, specifications, or products, and, in addition, the lengths of coverage, the cost to obtain it, the minimum charge, or the monetary limitations may vary. In such cases, there may be more than one listing for a particular warranty reflecting these differences.

A blank space appears for a category of information if the relevant data is not provided by a manufacturer. Brackets ([]) are used in listing to indicate information that a manufacturer feels is pertinent but that may not be contained in the document or at least was not apparent to NRCA in its review. In effect, the use of bracketed statements provides a means for manufacturers to disagree with the analysis made of the document by NRCA; in some instances, these statements may even contradict NRCA's conclusions concerning the import of language in a warranty.

It should be noted that the name of the manufacturer as it appears in Item 1 Issuing Entity may not necessarily be identical to or even the same as the one listed in the membrane index or elsewhere in the membrane section. This is because the name appearing in the warranty section is the name of the entity *appearing in the warranty document itself*. For example, if a manufacturer changes its corporate name but does not change a warranty document that bore its original name, the original will appear in the warranty section. Or if one company purchases the assets of another, upon request NRCA simply moves the products of the acquired company under the name of the company that acquired it. In the warranty section, on the other hand, this may not be possible until warranty documents bearing the new corporate name are provided to NRCA, the name of the entity must remain as it appears in the document. An explanation of such situations is sometimes provided in a footnote in the warranty section in order to clarify an apparent discrepancy in its corporate names.

By necessity, the warranty listing in the *Guide* present rather succinctly a great deal of information contained in the manufacturer's warranties, as well as the policies surrounding them. For this reason,

the reader should obtain and examine the warranty

document itself, discuss additional questions with a representative of the party issuing the warranty, and obtain professional advice from counsel when desired. A warranty has significant legal consequence; therefore, all parties should understand the document at the outset of a construction project to preclude subsequent misunderstandings.

The warranty section of the *Low-Slope Roofing Materials Guide* is prepared by the firm of Hendrick, Phillips, Schemm & Salzman, Atlanta, Ga., in coordination with NRCA staff.

Understanding the Warranty Listing

Following are descriptions of the kind of data that is contained in the 27 categories of information included in each warranty listing.

1. Identity of issuing entity This is the name of the legal entity that issues and is obligated to honor the warranty document. In most instances, this entity is the manufacturer of the product covered by the warranty (but see the explanation of item 23 for more information in this regard).

2. Title, original publication date, and identifying symbol (if any) The title listed is the title printed on the warranty document. The original publication date is the date that the manufacturer first promulgated the warranty form; the document may subsequently be reprinted in the exact same form. Some manufacturer's warranties contain an identifying symbol, or code, that is frequently a combination of numbers and letters, usually in the bottom right-hand or left-hand corner of the document. This identifying symbol indicates the precise document that was reviewed by NRCA. (For the reader to be certain that the warranty document he has in his possession is the same one listed in the *Guide*, the title of the document and the identifying symbol, if any, should match exactly).

3. Product, specification, or system covered This is an enumeration of the manufacturer's products, roof specification, or roofing systems that are covered by the warranty. If properly updated by the manufacturer, the reader should be able to identify these product listings in the membrane section.

4. Scope of coverage In most instances, the initial portion of this entry will be either *material and workmanship* or *material only**. (Material and workmanship indicates that the warranty covers both a defect in the materials supplied by the

manufacturer and a deficiency in the workmanship of the application. The term *workmanship* refers to the workmanship of the contractor and is meant to indicate whether improper or defective workmanship on the part of the roofing contractor/applicator is encompassed under the manufacturer's warranty.) After this entry is made, ensuing information supplied in this category usually corresponds to the language used in the warranty document. Virtually all roof membrane warranties provide only for repairs to leaks, regardless of whether they cover materials only or materials and workmanship.

***Note:** *If the manufacturer's warranty covers defective material and the remedy includes replacement of the defective material plus labor necessary to replace that defective material with the new material, but the warranty does **not** state that a leak caused by improper application of the roofing applicator is covered, the initial entry under scope of coverage will **not** state material and workmanship. The fact that the manufacturer will provide the labor necessary to replace defective material is covered under Item 6 Nature of Remedy.*

5. Length of coverage This is the number of years for which the manufacturer will issue the warranty. In most instances, this period commences upon the completion of the roof installation or final inspection and approval by the manufacturer. In a few instances, particularly in the cases of material-only warranties, the coverage period may begin at the time of sale or invoice date.

6. Nature of remedy This heading states what action the manufacturer will take in the event that there is a problem with the roof covered under the warranty. The language used in this category generally parallels that appearing in the warranty document. For most roof membrane warranties, the remedy provided is the repair of leaks.

7. Monetary limitations The information provided for this category indicates whether the warranty contains a monetary limitation of the manufacturer's obligation under its warranty. The phrase *none stated* indicates that there is no monetary limitation stated in the document, meaning that the manufacturer is obligated to spend whatever sum is necessary in order to honor its warranty. Although most commercial roofing warranties in use today do not contain specific penal sum limitations (as historically was included in roofing bonds offered by roofing materials manufacturers and their sureties), many warranties limit the manufacturer's liability over the life of the warranty to the owner's original cost of the installed roof system. Some warranties, particularly material-only ones, are limited to the original purchase price of the materials; others are

limited to a particular per-square amount based on the size of the roof. The existence of or the amount of a monetary limitation may be dependent upon the specific manufacturer's specification or product used. If the manufacturer prorates the maximum amount available over the life of the warranty, prorating information is included as well. The prorating is usually expressed in terms of a percentage available in the later years of a roof warranty.

8. Notification requirements In this category is information concerning the action that an owner or other claimant is to take in order to make a warranty claim; of particular importance is the prescribed time period in which a leak or defect is to be reported to the manufacturer. If the warranty contains specific notification requirements, they are set forth here. Most warranties require that claimants provide the manufacturer with written notice of a warranty claim within 30 days of the discovery of a leak or purported defect. Some warranties require notice within 10 days and/or that written notice be sent by registered or certified mail.

9. Exclusive or additional remedy Under general legal principles, unless the warranty document specifically excluded other warranties and remedies that may be available to the owner and the owner agrees to be bound by the warranty terms, the rights and remedies set forth in the warranty document are in addition to those warranties, rights and remedies that may be available to the owner or other claimant under state statutory or common law. In addition to providing an owner with specific rights, warranty documents are frequently used as a liability-limiting device so that the liability of the party issuing the warranty is limited to what is prescribed in the warranty document. If the warranty states that it is an exclusive warranty and is issued in lieu of all other warranties, the claimant may not be entitled to seek recovery from the manufacturer based on the breach of any other warranties, express or limited.

The manufacturer's warranty may exclude or seek to exclude the implied and express warranties established by the Uniform Commercial Code (UCC). The UCC, as adopted in most states, provides that a warranty is implied in a contract for sale of goods that the goods shall be merchantable if the seller is a merchant of goods of that kind. To be merchantable goods must be fit at least for the ordinary purposes of which such goods are used, must conform to the promises or affirmations made on the container or label, and must pass without objection in the trade under the contract description. An implied warranty of fitness for particular purpose is created under the UCC when the seller at the time of contracting has reason to know any particular

purpose for which the goods as required and that the buyer is relying on the seller's skill or judgment to select or furnish suitable goods.

In addition to those implied warranties, the UCC provides that express warranties are created when the seller (1) makes an affirmation of fact or promise to the buyer that relates to the goods and becomes a part of the basis of the bargain; (2) gives a description of the goods that is made part of the basis of the bargain; (3) provides a sample or model of the goods that is made a part of the basis of the bargain.

UCC implied warranties may be excluded in accordance with the requirements set forth in the Uniform Commercial Code.

In addition to seeking to make the warranty an exclusive warranty, a manufacturer's warranty may seek to limit the other remedies that the law would otherwise make available to a claimant. A warranty that states that it is the owner's exclusive remedy might limit the claimant's rights to the terms of the warranty and preclude a claim based on another legal theory of liability. Some warranty documents state that remedy provided in the warranty is the owner's "sole and exclusive remedy" and is the manufacturer's sole liability and obligation in the event of a roof problem regardless of whether the owner might otherwise be entitled to pursue a legal claim for breach of contract, negligence or another legal theory of recovery.

The purpose of the category Exclusive or Additional Remedy is to give the reader an indication as to how the manufacturer's warranty may impact other warranties and remedies that may be available to an owner. The phrase *excludes UCC warranties* in this category means that it appears that the warranty document complies with the UCC requirement to exclude warranties established under the Uniform Commercial Code.

10. Inclusion of consequential damages The word *no* in this category indicates that the warranty does not have to cover consequential damages that may result from a roof leak, such as damage to the interior of the building. The majority of roof warranties expressly exclude consequential damages.

11. Determination of warranty applicability Some warranties state explicitly that the manufacturer has the right to determine whether a leak is covered or excluded from warranty coverage. The entry *manufacturer's determination* indicates that manufacturer reserves to itself the right to determine whether a leak is covered or excluded from warranty coverage. Under these circumstances, the manufacturer's determination may be binding, even if it is erroneous and regardless of whether other

parties disagree, provided that the manufacturer's determination was made in good faith.

If the entry in this category states *neutral (no provision)*, the manufacturer's warranty does not contain an explicit provision giving it the right to determine whether the warranty is or is not applicable to a problem. In the event of a dispute concerning the warranty's applicability, a neutral party would ultimately decide whether the warranty is applicable in this case.

12. Specific exclusions from coverage Most roofing warranties state the leaks resulting from certain enumerated causes (e.g., natural disasters, tornadoes, abuse or misuse) will not be covered. A numeric code is used in this category to reference specific exclusions from coverage, a key for which is provided below. The list of specific exclusions is a compilation of those appearing in the warranty documents submitted to NRCA; the language appearing in the index is not necessarily the exact language appearing in a specific warranty document, but it reflects the same exclusion.

The absence of a specific exclusion from coverage does not necessarily mean that a warranty will be applicable to a condition or occurrence not specifically excluded. The applicability of the warranty will generally be determined from the information contained under the category Scope of Coverage.

Index of Specifically Enumerated Exclusions from Coverage

1. Natural disasters and acts of God (lightning, tornadoes, earthquakes)
2. Hail
3. Acts of negligence, abuse, or misuse, accidents, vandalism, civil disobedience, war
4. Damage by structural failure, settlement, movement, distortion, warpage, displacement of structure
5. Failure of the material and/or metal work not supplied by the manufacturer issuing the warranty; movement of metal work
6. Repairs or alterations of roof or installation of structures, fixtures, or utilities on or through roof without prior approval of manufacturer.
7. Defects in, failure or improper application of, roof insulation, roof deck, or any other underlying surface or material used as a base over which the roof is applied.
8. Change in usage of building without prior written approval of manufacturer
9. Traffic or storage of materials on roof
10. Moisture entering roof system through walls, copings, or any part of the building structure, including from adjacent building.

11. Damage resulting from lack of positive, proper, or adequate drainage; ponding on roof
12. Negligence or failure of owner to use reasonable care in maintenance of roof or failure to follow manufacturer's maintenance specifications
13. Environmental fallout, chemical attack or use within building of commercial or industrial solvents, acids, caustic fluids, oils, waxes, greases, absorbent clays, or plasticizers
14. Discoloration or change in usual appearance due to acceleration or streaking of dirt or other airborne material
15. Repairs performed or materials furnished by others in correcting leaks unless specifically authorized and approved by manufacturer; unauthorized repairs; roof maintenance for corrections other than leaks
16. Fire
17. Faulty construction or design of building, including parapet walls, copings, chimneys, skylights, vents, or of roof deck
18. Contaminant that have not been approved first or accepted by manufacturer; exposure to or contact with damaging substances or deteriorating substances or agents
19. Defects or failure caused by misapplication of materials or by application not in strict adherence with roofing specification, application instructions, and approved practices
20. Installation of roofing membrane
21. Abnormal climatic conditions
22. Infiltration or condensation of moisture in or through underlying area; vapor condensation beneath the roof
23. Damages caused by falling objects
24. Acts of parties other than manufacturer or authorized roofing contractor
25. Penetration of the roof membrane by vegetation

13. Wind coverage/exclusion The purpose of this category is to convey the manufacturer's policy in regard to whether damage to the roof caused by wind is covered under the warranty. The information presented is based upon an examination of the warranty document to determine if it addresses the issue of leaks, damages, or conditions resulting from wind and the manufacturer's response to questions concerning this issue.

Many manufacturers' warranties list either gales, strong gales, wind storm, and/or hurricanes and tornadoes as examples of natural disaster or acts of God that are specifically excluded from warranty coverage. This information is covered in the first sentence under the Wind Coverage/exclusion category. In order to provide more specific,

affirmative information regarding the manufacturer's policy concerning wind coverage, NRCA asks manufacturers to identify the wind speed that is covered by each of their warranties or to state that the warrant does not cover damage to the roof caused by wind regardless of speed-meaning that any damage resulting from wind, even at extremely low speeds, is excluded from warranty coverage.

NRCA references the Beaufort Scale in its questions to manufacturers concerning wind speed. The Beaufort Scale rates winds on a scale of 1 to 12 and utilized widely accepted definitions, as shown below.

The second sentence under Wind Coverage/exclusion category, based on NRCA's questions, indicates what speeds, if any, the manufacturer

covers. If NRCA believes that the manufacturer's response is potentially inconsistent with the wind exclusions stated in the warranty or creates an ambiguity, the manufacturer's response is included in brackets. If the warranty document does not address the subject of wind, the information is based exclusively upon the manufacturer's response to the NRCA wind questions. If the manufacturer does not respond to the wind questions but the warranty addresses the subject of wind, the information is based exclusively on an examination of the warranty document. If the category remains blank, the warranty does not address the wind issue and the manufacturer did not respond to the wind questions.

Beaufort Scale			
Beaufort Number	International Description	Miles per Hour	Specification
0	calm	less than 1	calm, smoke rises vertically
1	light air	1-3	direction of wind shown by smoke but not by wind vanes
2	light breeze	4-7	wind felt on face; leaves rustle; ordinary vane move by wind
3	gentle breeze	8-12	leaves and small twigs inconstant motion; wind extend light flag
4	moderate breeze	13-18	raises dust and loose paper; small branches are moved
5	fresh breeze	19-24	small trees in leaf begin to sway; creates wavelets form on inlet islands
6	strong breeze	25-31	large branches in motion; whistling heard in telegraph wire; umbrellas used with difficulty
7	moderate (or near gale)	32-38	whole trees in motion; inconvenience in walking
8	gale (or fresh gale)	39-46	breaks twigs off trees; generally impedes progress
9	strong gale	47-54	slight structural damage occurs
10	storm (or whole gale)	55-63	trees uprooted, considerable damage occurs
11	violent storm	64-72	accompanied by widespread damage
12	hurricane	73*-136	devastation occurs
*The U.S. uses 74 statute mph as the speed criterion for hurricanes.			

For example, a warranty may indicate that repairs, alterations, or additions without the prior approval of the manufacturer make the warranty null and void; this differs from the statement that a leak resulting from a repair or alteration not previously approved by the manufacturer is excluded, or not covered, under the warranty. An alphabetic code is used in this category to reference specific conditions to make warranty ineffective or null and void; a key for which is provided below. The list of specific conditions is a compilation of conditions that appear in roof warranties submitted to NRCA; the language appearing in the various conditions is not necessarily the exact language appearing in a specific warranty document.

Index of Specific Conditions to Make Warranty Ineffective or Null and Void

- A. Lack of inspection at time of application or owner's refusal to allow inspection
- B. Repairs, alterations, and additions without prior approval of manufacturer
- C. Failure of the owner to pay all bills for roof installation and materials
- D. Failure to notify within specified number of days or transfer of ownership
- E. Failure to submit accurate, completed inspection report or checklist, within prescribed time period
- F. Failure to use reasonable care in maintenance; failure to follow manufacturer's maintenance

instructions

- G. Failure to comply with terms and conditions of warranty
- H. Failure to notify manufacturer within prescribed time of discovery of leak
- I. Owner's unwillingness to accept manufacturer's warranty in lieu of all other remedies and to return signed copy to manufacturer; owner's failure to execute the warranty
- J. Change in building usage or a significant change in use of building affecting roof membrane
- K. Assignment of warranty without written approval of manufacturer
- L. Lack of validation by manufacturer
- M. Failure of owner to make repairs to leaks not covered by manufacturer's warranty
- N. Repair work by any contractor other than approved contractor or use of unapproved contractor
- O. Building is used in any manner or for any purpose other than the purpose for which it was intended
- P. Roof is used as a promenade or work deck
- Q. Roof is flooded
- R. Membrane or materials supplied by manufacturer are not applied according to manufacturer's specifications or instructions
- S. Failure to repair damaged roof within specified time period, by approved applicator

15. Cost to obtain This is the amount, if any that the manufacturer charges to obtain the warranty. The word *None* entered in this category means that there is no separate charge, apart from the cost of purchasing the materials, for the warranty. When there is a separate charge, it will generally be stated on a per-square (100 square feet) basis.

16. Minimum charge If the manufacturer has a minimum charge policy for obtaining the warranty, the amount will be entered in this category.

17. Ineligible structures or building use If the manufacturer does not offer its warranties for roofs on certain types of buildings or for buildings used for certain purposes, the types of structures or uses ineligible for warranty coverage will be listed here. Private residences may not be eligible for warranty coverage even though a specific exclusion is not listed. Generally manufacturers with a warranty that excludes residential properties intend to exclude single-family homes and similar structures, but they may still offer the warranty for apartment buildings, cooperatives, or condominium properties.

18. Pre-construction notice and approval requirements This category is where it is noted whether the manufacturer requires that it give notice

and approval prior to construction if the warranty is to be obtained at the completion of the roofing installation. The pre-construction notice and approval requirements, where applicable, generally pertain to the procedure to be employed by the roofing contractor prior to commencing application.

19. Approved, authorized, or licensed applicators

Most manufacturers require that the roof be installed by a roofing contractor who is "approved," "authorized," or "licensed" by the manufacturer in order for the warranty to be obtained. The entry of *Yes* here means that the contractor must be so approved, authorized, or licensed. (The nature of the relationship between the manufacturer and the contractor is frequently defined in a separate contract.) The entry of *No* indicates that the manufacturer does not require the use of a contractor approved, authorized or licensed by the manufacturer in order for the warranty to be obtained.

20. Job-inspection policy This category encompasses in a summary manner the job-inspection policy, if any, of the manufacturer and is where it will be indicated if the manufacturer's representative makes an on-site inspection prior, during, or upon completion of application, as well as some time after application. In this category it will also be indicated whether there is an inspection charge or fee for any on-site job inspections.

21. Contractor's post-installation obligation In this category will be covered briefly the manufacturer's policy regarding an obligation by the contractor to make repairs after issuance of the warranty. While the manufacturer's warranty itself rarely makes reference to an obligation by the contractor to make repairs, there may be a separate agreement between the manufacturer and the contractor concerning such an obligation.

22. Backed by named insurance or surety company In this category it will be indicated whether an insurance company or surety is listed on the face of the warranty document and whether the manufacturer has insurance applicable to its warranty obligations. The entry of *No* indicates that no surety or insurance company is named on the face of the warranty document, meaning that the owner or other claimant would not be entitled to assert a claim against an insurance company or surety in the event the manufacturer were unable to satisfy its warranty commitments.

NRCA also asks manufacturers if they carry insurance covering their warrant obligations, and, if so, the type and amount of coverage. The manufacturer's response is included as the second

part of the information provided in this category.

23. Issuing entity manufacture and/or sells products In this category is indicated whether the entity issuing the warranty is both the manufacturer and seller of the roofing materials covered under the warranty or whether the party issuing the warranty is only the seller of these materials. The information is supplied to NRCA in response to a question concerning this issue.

24. Conditions for renewal or extension In this category is indicated whether a manufacturer's warranty can be extended or renewed and, if so, the procedures to be employed as well as additional costs incurred in doing so.

25. Assignability Like other legal documents, warranties can generally be "assigned" or "transferred" by one party to another, unless there is a specific prohibition against such assignment. Some roofing warranties contain such prohibitions, and some state specifically that no assignment or transfer will be allowed without the prior written permission of the manufacturer. The phrase *No restrictions* stated indicates that the warranty contains no provision barring, limiting, or conditioning the owner's right to assign the warranty to a subsequent building owner, tenant, or other party.

26. Special features/conditions In this category are relatively unique or unusual features, conditions, or limitations. This category is generally based on the warranty document itself, but sometimes may be based on information supplied by the manufacturer.

27. Executed by owner In this category is indicated whether the manufacturer's warranty form states on its face that it is to be signed by the owner. Requiring the roofing warranty to be executed by the owner makes it more likely he will be bound to the terms and conditions set forth in the document in the event that a question subsequently arises as to whether the owner agreed to the terms and conditions in the warranty.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	AlliedSignal, Inc.	AlliedSignal, Inc.	AlliedSignal, Inc.
2. Title, original publication date, and identifying symbol, if any	"Black Armor NDL Roofing System Warranty"; April 1990; 004590	PRMA NDL Roofing System Warranty; February 1991	Roof Materials 10-Year Limited Warranty; 1987; GOES 681
3. Product, specification, or system covered	Built-up roofing specifications: RP-40, RP-41, RP-50TC, RP51-TC, RP-40-5, RP-41-5, RP-60, RP-61, RP-60-5, RP-61-5 (See Special Features/Conditions.)	Built-up roofing specifications RP-40, RP-41, RP-50TC, RP51-TC, RP-40-5, RP-41-5, RP-60, RP-61, RP-60-5, and RP-61-5.	Built-up roofing specifications: RP-40, RP-41, RP-50TC, RP51-TC, RP-40-5, RP-41-5, RP-60, RP-61, RP-60-5, RP-61-5
4. Scope of coverage	Material and workmanship; Allied-Signal warrants that it will at its expense repair or cause to be repaired the roofing system to the extent necessary to return the roof system to a watertight condition only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Black Armor Roof Membrane and the approved base-flashing; (2) blisters, bare spots, fishmouth, wrinkles, ridges, and splits in the built-up roofing membrane not caused by structural movement or failure or movement of any material underlying the roof membrane or base flashing system; and (3) slippage of the built-up roofing membrane or base flashing. Deterioration of the membrane caused by standing water alone is not excluded from this warranty. [AlliedSignal indicates that when the specification requires a [protected roof membrane assembly,] an addendum is added to the warranty stating that warranty includes removal and replacement of the thermal overlay system as required to repair a membrane leak.]	Material and workmanship; AlliedSignal warrants that it will, at its expense, repair or cause to be repaired the roofing system to the extent necessary to return it to a watertight condition and/or the PRMA insulation overlay system to its original installed configuration with no more than a 10 percent variation from its original published thermal resistance value only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Black Armor Membrane and the approved base flashing; (2) blisters, bare spots, fishmouth, wrinkles, ridges, and splits in the built-up roofing membrane not caused by structural movement or failure or movement of any material underlying the roof membrane or base flashing system; and (3) slippage of the built-up roofing membrane or base flashing. Deterioration of the membrane caused by standing water alone is not excluded from this warranty.	Material only; AlliedSignal Corporation warrants that its coal tar pitch and coal tar saturated felt, when used together in a roof membrane system, meet or exceed all of its published specifications in effect on the date of sale and will not vary beyond the specified values, except for normal exposure and wear and tear.
5. Length of coverage	5, 10, 15, 20, or 25 years: BUR Specs: RP-40, RP-41, RP-50TC, RP51-TC, RP-40-5, RP-41-5, RP-60, RP-61, RP-60-5, RP-61-5 with Flashing Spec BS-250; 5-and 10-year coverage available for all BUR specifications with Flashing Spec BS 210. A [protected roof membrane assembly] can be warranted up to 20 years	5 or 10 years: All BUR specs with flashing spec BS-210; 5, 10, 15, or 20 years: all BUR specs with flashing spec BS-250	10 years
6. Nature of remedy	AlliedSignal will at its expense, take appropriate action, as necessary, to return the roofing system to a watertight condition.	AlliedSignal will, at its expense, take appropriate action, as necessary, to return the roofing system to a watertight condition.	If tests confirm that Allied products do not meet published specifications, adjusted for normal exposure and wear and tear, the costs of such tests shall be paid by Allied and Allied shall reimburse owner the original purchase price of the defective products, prorated by year over the ten-year period of the warranty.
7. Monetary limitations	None stated.	None stated.	Prorated of purchase price of defective materials
8. Notification requirements	Written notification upon discovery of a leak to AlliedSignal Inc. Commercial Roofing Systems, P.O. Box 1053, Morristown, NJ 07962. (See Special Features/Conditions.)	Written notification upon discovery of a leak to AlliedSignal, Inc., Black Armor Coal Tar Roofing Systems, P. O. Box 1053, Morristown, NJ 07962-1053. (See Special Features/Conditions.)	Written notification within 30 days to Allied if the owner believes that Allied products no longer meet published specifications, adjusted for normal exposure and wear and tear. Warranty registration form must be completed, executed on behalf of owner, and mailed to Allied.
9. Exclusive or additional remedy	AlliedSignal shall not be liable for any damages based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in warranty.	AlliedSignal shall not be liable for any damages based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in warranty; excludes UCC warranties.	If warranty fails of its essential purpose, the owner's exclusive remedy shall be refund of purchase price of defective products. Warranty provides that buyer agrees that Allied has no liability for any consequential, incidental, special, or punitive damages arising from breach of warranty, breach of contract, negligence, strict liability, or otherwise; excludes UCC warranties.
10 Inclusion of consequential damages	No	No	No
11 Determination of warranty applicability	AlliedSignal's determination	AlliedSignal's determination	Owner takes samples, at his expense, of products in presence of Allied representative and submits samples to independent testing laboratory approved by Allied. Laboratory conducts tests according to appropriate ASTM procedures. Its findings are final and binding on all parties.
12 Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 9, 10, 22. Warranty also excludes failure of owner to make repairs not covered under warranty.	1, 2, 3, 4, 6, 7, 9, 10, 15, 22. Warranty also excludes failure of owner to make repairs not covered under warranty.	None listed; material-only warranty
13. Wind coverage/exclusions	Warranty covers damage caused by winds up to gale force.	Warranty covers roof damage caused by winds up to gale force.	No coverage for damage caused by wind.

14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	M, R (See Special Features/Conditions.)	M, R (See Special Features/Conditions.)	I, R
15. Cost to obtain	5 years: \$8.00/square; 10 years: \$10.00/square; 15 years: \$12.00/sq; 20 years: \$15.00/sq, 25 years: \$20.00/sq	5 years: \$8.00/square; 10 years: \$10.00/square; 15 years: \$12.00/square; 20 years: \$15.00/square	None
16. Minimum charge	5 years: \$700; 10 years: \$800; 15 years: \$900; 20 years: \$1,000; 20 years \$1,500	5 years: \$700; 10 years: \$800; 15 years: \$900; 20 years: \$1,000	None
17. Ineligible structure or building use	Cold-storage and freezer roofs; private residences	Cold-storage and freezer roofs, private residences	None
18. Pre-construction notice and approval requirements	Contractor required to submit request for warranty not less than 14 days prior to date of project start to regional or home office for approval, along with minimum warranty charge.	Contractor required to submit request for warranty not less than 14 days prior to date of project start to regional or home office for approval, along with minimum warranty charge.	Contractor to provide notice prior to commencement of installation; no approval required.
19. Approved, authorized, or licensed applicator	Yes	Yes	No
20. Job inspection policy	Independent field auditor makes on-site inspections prior to, during (depending on length of coverage), and after application, as well as two years after issuance of warranty; no charge.	Independent field auditor makes on-site inspections prior to (depending on length of coverage), and after application, as well as two years after issuance of warranty; no charge.	No on-site inspections
21. Contractor's post-installation obligation	Contractor obligated to repair workmanship deficiencies for two years.	None; material-only warranty	None; material-only warranty
22. Backed by named insurance or surety	No; AlliedSignal indicates that it is self-insured and that Allied-Signal is a \$13 billion corporation.	No; AlliedSignal indicates that it is self-insured.	No; AlliedSignal indicates that it is self-insured and that Allied-Signal is a \$12 billion corporation.
23. Issuing entity manufactures and/or sells products	AlliedSignal Inc. manufactures and sells product	AlliedSignal, Inc. manufactures and sells product.	AlliedSignal Inc. manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty may be transferred to a subsequent owner only if: (1) building owner provides written notification of any transfer of ownership to AlliedSignal Inc., Tar Products, P.O. Box 1053R, Morristown, NJ 07962 within 30 days of such transfer; (2) any repairs required by AlliedSignal Inc. after an inspection of the roof are made; and (3) owner pays to AlliedSignal Inc. the then-current published warranty transfer fee.	No restrictions stated.	Warranty is not transferrable to any other party, including any subsequent building owners.
26. Special features/conditions	If roofing system utilizes insulation, insulation must be supplied or approved by AlliedSignal. If emergency conditions exist and immediate temporary repairs are required to avoid building damage, AlliedSignal Inc. will reimburse the owner for reasonable repair expenses that would have otherwise been AlliedSignal Inc.'s responsibility but for the emergency condition. If the roofing system experiences reoccurring leaks (more than two in a given roof area) during a twelve-month period, the owner may request AlliedSignal to inspect the affected roof area and AlliedSignal technical services representative will make an inspection. AlliedSignal will follow the recommendations of its technical services department as to the appropriate remedy for the problem or, if the leaks are not the responsibility of AlliedSignal under the terms of the warranty, AlliedSignal will advise owner of repairs required to make roof membrane watertight and the cost of such repairs will be the responsibility of the owner. Warranty shall be governed by the laws of the state of New Jersey.	If emergency conditions exist and immediate temporary repairs are required to avoid building damage, AlliedSignal, Inc. will reimburse the owner for reasonable repair expenses that would have otherwise been AlliedSignal, Inc.'s responsibility but for the emergency condition. If the roofing system experiences reoccurring leaks (more than two in a given roof area) during a twelve-month period, the owner may request AlliedSignal to inspect the affected roof area, and AlliedSignal technical services representative will make an inspection. AlliedSignal will follow the recommendations of its technical services department as to the appropriate remedy for the problem or, if the leaks are not the responsibility of AlliedSignal under the terms of the warranty, AlliedSignal will advise owner of repairs required to make roof membrane watertight and the cost of such repairs will be the responsibility of the owner. In the event of a reported diminution in the thermal resistance (R-value) of the overlay insulation, samples shall be taken under the direction of AlliedSignal, Inc. and tested by a qualified laboratory in accordance with ASTM Test Method C518-85. If it is determined that the thermal resistance (R-value) is more than 10 percent below its original published value, AlliedSignal, Inc. shall pay all sampling and testing costs; otherwise, said costs shall be paid by the building owner. Warranty shall be governed by the laws of the state of New Jersey.	Any action for breach of warranty shall be commenced within one year after the cause of action has accrued.
27. Executed by owner	No	No	Yes; warranty registration form must be signed on behalf of owner and mailed to Allied.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	AlliedSignal, Inc.	AlliedSignal, Inc.	AlliedSignal, Inc.
2. Title, original publication date, and identifying symbol, if any	"Millennium" NDL Roofing System Warranty;" August 1994	"Infinitee NDL Roofing System Warranty;" March 1998	"Black Armor Premier Series Warranty"; March 1989; CS
3. Product, specification, or system covered	Millennium - standard base, premium base, ST, SM, GTC, GMC	Infinitee Roofing Systems	Built-up Roofing Specifications: RP-41, RP51-TC, RP-61. If roofing system utilizes insulation, insulation must be supplied by Allied-Signal. Warranty requires use of Black Armor Pitch, Black Armor Felts, Black Armor Base Flashings, and AlliedSignal roof insulations.
4. Scope of coverage	Material and workmanship; AlliedSignal warrants that it will at its expense repair or cause to be repaired the roofing system to the extent necessary to return the roof system to a watertight condition only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Millennium roof membrane and the approved base-flashing; (2) blisters, bare spots, fishmouth wrinkles, ridges, and splits in the roofing membrane not caused by structural movement or failure from movement of any material underlying the roof membrane or base flashing system; and (3) slippage of the roofing membrane or base flashing. Deterioration of the membrane caused by standing water alone is not excluded from this warranty.	Material and workmanship; AlliedSignal warrants that it will at its expense repair or cause to be repaired the roofing system to the extent necessary to return the roof system to a watertight condition only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Infinitee roof membrane and the approved base-flashing; (2) blisters, bare spots, fishmouths, wrinkles, ridges, and splits in the roofing membrane system not caused by structural movement or failures or movement of any material underlying the roof membrane or base flashing system; and (3) slippage of the roofing membrane or base flashing	Material and workmanship; AlliedSignal warrants that it will pay for all appropriate repairs to return the roofing system to a watertight condition only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Black Armor Roofing Membrane and the approved base flashing; (2) blisters, bare spots, fishmouths, wrinkles, ridges, and splits in the built-up roofing membrane not caused by structural movement or failure or movement of any material underlying the roof membrane or base flashing systems; and (3) slippage of the built-up roofing membrane or base flashing.
5. Length of coverage	<p><u>5 years:</u> Millennium Specification Nos.: 100-C-N, 100-C-NN, 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-N, 100-MP-N, 100-MP-NN, 120-MP-N, 120-MP-NN, 140-MP-N, 140-MP-NN, 145-MP-N, 145-MP-NN, 150-MP-NN, 160-MP-N, 160-MP-NN</p> <p><u>10 years:</u> Millennium Specification Nos.: 100-C-NN, 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-NN, 100-MP-NN, 120-MP-N, 120-MP-NN, 140-MP-N, 140-MP-NN, 145-MP-N, 145-MP-NN, 150-MP-NN, 160-MP-N, 160-MP-NN</p> <p><u>10 years:</u> Millennium Specification Nos.: 100-C-NN, 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-NN, 100-MP-NN, 120-MP-N, 120-MP-NN, 140-MP-N, 140-MP-NN, 145-MP-N, 145-MP-NN, 150-MP-NN, 160-MP-N, 160-MP-NN</p> <p><u>15 years:</u> Millennium Specification Nos.: 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-NN, 120-MP-N, 120-MP-NN, 140-MP-N, 140-MP-NN, 145-MP-N, 145-MP-NN, 150-MP-NN, 160-MP-N, 160-MP-NN</p> <p><u>20 years:</u> Millennium Specification Nos.: 145-C-N, 145-C-NN, 150-C-NN, 120-MP-N, 120-MP-NN, 140-MP-N, 140-MP-NN, 145-MP-N, 145-MP-NN, 150-MP-NN, 160-MP-N, 160-MP-NN</p> <p><u>25 Years:</u> Millennium Specification Nos.: 160-MP-N, 160-MP-NN</p>	<p><u>5 years:</u> Infinitee Specification Nos.: 100-MA-N, 100-MA-NN, 105-PM-N, 105-PM-NN, 120-MA-N, 120-MA-NN, 125-PM-N, 125-PM-NN, 130-MA-NN, 135-PM-NN, 140-MA-N, 140-MA-NN, 145-PM-N, 145-PM-NN, 160-MA-N, 160-MA-NN, 165-PM-N, 165-PM-NN, 100-C-N, 100-C-NN, 105-C-N, 105-C-NN, 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-N, 150-C-NN, 100-T-N, 140-T-N, 140-T-NN</p> <p><u>10 years:</u> Infinitee Specification Nos.: 100-MA-NN, 105-PM-NN, 120-MA-N, 120-MA-NN, 125-PM-N, 125-PM-NN, 130-MA-NN, 135-PM-NN, 140-MA-N, 140-MA-NN, 145-PM-N, 145-PM-NN, 160-MA-N, 160-MA-NN, 165-PM-N, 165-PM-NN, 100-C-NN, 105-C-NN, 140-C-N, 140-C-NN, 145-C-N, 145-C-NN, 150-C-N, 150-C-NN, 140-T-N, 140-T-NN</p> <p><u>15 years:</u> Infinitee Specification Nos.: 120-MA-N, 120-MA-NN, 125-PM-N, 125-PM-NN, 130-MA-NN, 135-PM-NN, 140-MA-N, 140-MA-NN, 145-PM-N, 145-PM-NN, 160-MA-N, 160-MA-NN, 165-PM-N, 165-PM-NN, 150-C-N, 150-C-NN, 140-T-N, 140-T-NN</p> <p><u>20 years:</u> Infinitee Specification Nos.: 125-PM-N, 125-PM-NN, 135-PM-NN, 140-MA-NN, 145-PM-N, 145-PM-NN, 160-MA-N, 160-MA-NN, 165-PM-N, 165-PM-NN, 140-T-N, 140-T-NN</p> <p><u>25 years:</u> Infinitee Specification Nos.: 165-PM-N, 165-PM-NN</p>	<p>5 or 10 years: all BUR specs with flashing spec BS-210;</p> <p>5, 10, 15 or 20 years: all BUR specs with flashing spec BS-250;</p> <p>25 years: BUR specs RP-41, RP51-TC, and RP-61 with flashing spec BS-250</p>
6. Nature of remedy	AlliedSignal will, at its own expense, take appropriate action to return the roofing system to a watertight condition.	AlliedSignal will at its expense, take appropriate action, as necessary, to return the roofing system to a watertight condition.	AlliedSignal will take appropriate action to make the roofing system watertight.
7. Monetary limitations	None stated	None stated	Warranty states that there is no aggregate dollar limit to the cost of any "appropriate repairs" over the term of this warranty. However, if a repair otherwise covered by warranty is not an "appropriate repair," owner's sole remedy and AlliedSignal's total remaining liability shall be payment to owner of "remaining roof value," which is prorated, based on years roof has been in service, and total installed cost.
8. Notification requirements	Written notification upon discovery of a leak to AlliedSignal, Inc. Commercial Roofing Systems, P.O. Box 1053, Morristown, NJ 07962. [Allied Signal indicates that address will be changed in subsequent printing to 2000 Regency Parkway, Suite 255, Cary, NC 27511-8507.]	Written notification within 30 days to AlliedSignal Inc. Commercial Roofing Systems, 2000 Regency Parkway, Suite 255, Cary, NC 27511-8507	Written notification within 30 days after discovery of all leaks to AlliedSignal Commercial Roofing Systems, P.O. Box 1053, Morristown, NJ 07960.
9. Exclusive or additional remedy	AlliedSignal shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than the exclusive liability set forth in warranty; excludes UCC warranties	AlliedSignal shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than the exclusive liability set forth in warranty; excludes UCC warranties.	AlliedSignal not liable for any damages based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in warranty.
10 Inclusion of consequential damages	No	No	No
11 Determination of warranty applicability	AlliedSignal's determination	AlliedSignal's determination	Neutral (no provision)
12 Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 22.	1, 2, 3, 4, 5, 6, 9, 11, 13, 15, 22	1, 2, 3, 4, 6, 7, 9, 10, 15, 22. Warranty also excludes failure of owner to make repairs not covered under warranty.
13. Wind coverage/exclusions	AlliedSignal indicates warranty covers roof damage caused by winds up to gale force, Warranty excludes wind storms and gales. [A gale is defined on the Beaufort Scale as winds	AlliedSignal indicates warranty covers roof damage caused by winds up to gale force, Warranty excludes wind storms and gales. [A gale is defined on the Beaufort Scale as winds between 39-46	Warranty excludes gales.

	between 39-46 mph.]	mph.]	
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	C, M, R	C, M, R	R
15. Cost to obtain	5 years: \$3.50/square 10 years: \$5.00/square 15 years: \$7.50 square 20 years: \$12.50/square 25 years: \$20.00/square	5 years: \$ 3.50/square 10 years: \$ 5.00/square 15 years: \$ 7.50/square 20 years: \$12.50/square 25 years: \$20.00/square	5 years: \$ 8.00/square 10 years: \$10.00/square 15 years: \$12.00/square 20 years: \$15.00/square 25 years: \$20.00/square
16. Minimum charge	5 years: \$350 10 years: \$500 15 years: \$750 20 years: \$1,000 25 years: \$1,500	5 years: \$ 350 10 years: \$ 500 15 years: \$ 750 20 years: \$1,000 25 years: \$1,500	5 years: \$ 700 10 years: \$ 800 15 years: \$ 900 20 years: \$1,000 25 years: \$1,500
17. Ineligible structure or building use	Cold storage and freezer roofs; private residences	Cold storage and freezer roofs; private residences	Cold-storage or freezer roofs; private residences
18. Pre-construction notice and approval requirements	Contractor required to submit request for warranty not less than 14 days prior to date of project start to home office for approval, along with minimum warranty charge.	Contractor required to submit request for warranty not less than 14 days prior to date of project start to home office for approval, along with minimum warranty charge.	Contractor required to submit request for warranty not less than 14 days prior to date of project start to regional or home office for approval, along with minimum warranty charge.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Independent field auditor makes on-site inspections prior to or at job start-up, during (once per every 200 squares), and after application, as well as two years after issuance of warranty; no charge.	Independent field auditor makes on-site inspections prior to or at job start-up, during (once per every 200 squares), and after application, as well as two years after issuance of warranty; no charge	Independent field auditor makes on-site inspections prior to, during, and/or after application, as well as two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to repair all leaks, any defects and workmanship deficiencies for two years.	Contractor obligated to repair all leaks, any defects and workmanship deficiencies for two years.	Contractor obligated to repair workmanship deficiencies for two years and for longer than two years if it is found that roof was misapplied beyond what could be reasonably considered a minor infraction of standard practice, per terms of AlliedSignal authorized contractor's agreement.
22. Backed by named insurance or surety	No; AlliedSignal indicates that it is self-insured and that AlliedSignal is a \$14 billion corporation	No; AlliedSignal indicates that it is self-insured and that AlliedSignal is a \$14 billion corporation.	No; AlliedSignal indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	AlliedSignal manufactures and sells product.	AlliedSignal Inc. sells product only	AlliedSignal, Inc. manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated	Warranty may be transferred to a subsequent owner only if: (1) owner provides written notification of any transfer of ownership to AlliedSignal Commercial Roofing Systems, 2000 Regency Parkway, Suite 255, Cary, NC 27511-8507, within 30 days of such transfer; (2) any repairs required by AlliedSignal after an inspection of the roof are made and properly performed; and (3) owner pays to AlliedSignal the then current published warranty transfer fee.	Warranty may be transferred to a subsequent owner only if: (1) owner provides written notification of any transfer of ownership to AlliedSignal Tar Products, P.O. Box 1053R, Morristown, NJ 07960, within 30 days of such transfer; (2) any repairs required by AlliedSignal Inc. after an inspection of the roof are made; and (3) owner pays to AlliedSignal Inc. the then-current published warranty transfer fee.
26. Special features/conditions	<p>If the roof system utilizes insulation, insulation must be supplied or approved by AlliedSignal. If emergency conditions exist and immediate temporary repairs are required to avoid building damage, AlliedSignal will reimburse the owner for reasonable repair expense that would have otherwise been AlliedSignal's responsibility but for the emergency condition.</p> <p>If the roofing system experiences recurring leaks (more than two in a given roof area) during a twelve-month period, the owner may request AlliedSignal to inspect the affected roof area, and AlliedSignal will follow the recommendations of its technical services department as to the appropriate remedy for the problem. If leaks are not the responsibility of AlliedSignal under the terms of the warranty, AlliedSignal will advise owner of repairs required to make roof membrane watertight and the cost of such repairs will be the responsibility of the owner.</p> <p>Warranty shall be governed by the laws of the state of New Jersey</p>	<p>If the roof system utilizes insulation, insulation must be supplied or approved by AlliedSignal. If emergency conditions exist and immediate temporary repairs are required to avoid building damage, AlliedSignal will reimburse the owner for reasonable repair expense that would have otherwise been AlliedSignal's responsibility but for the emergency condition.</p> <p>If the roofing system experiences recurring leaks (more than two in a given roof area) during a twelve-month period, the owner may request AlliedSignal to inspect the affected roof area, and AlliedSignal will follow the recommendations of its technical services department as to the appropriate remedy for the problem at its expense, including, but not limited to crediting the owner with the remaining value of roof based on service life received. If leaks are not the responsibility of AlliedSignal under the terms of the warranty, AlliedSignal will advise owner of repairs required to make roof membrane watertight and the cost of such repairs will be the responsibility of the owner.</p> <p>Warranty shall be governed by the laws of the State of New Jersey</p>	5- and 10-year Premier Series warranties are available for retrofit applications over an existing roof with prior approval by AlliedSignal. Warranty shall be governed by the laws of the state of New Jersey.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	AlliedSignal, Inc.	American Lubricants Company	The Barrett Company, Inc.
2. Title, original publication date, and identifying symbol, if any	Black Armor Premier Series Warranty; March 1989; MFS	Tiffany Division Limited Material Warranty; November 1, 1989; 10/89	Barrett Company Ram-Tough Elastomeric Built Up Roof Five Year Material Limited Warranty; 1986; DT 1249
3. Product, specification, or system covered	Built-up Roofing Specifications: RP-40, RP-41, RP-50TC, RP51-TC, RP-60, RP-61. Warranty requires use of Black Armor Pitch, Black Armor Felts, and Black Armor Base Flashing; no insulation requirement.	Tiffany Modified Bitumen	KLB-100-2F KLB-100-1MBKLB-100-2M, KLB-100-3F, KLB-100-2MBKLB-100-3M, KLB-100-4FKLB-100-4M, K-312-2 FK-312-3, FK-312-4 F
4. Scope of coverage	Material and workmanship; AlliedSignal warrants that it will pay for all appropriate repairs to return the roofing system to a watertight condition only when leaks result from (1) defects in workmanship or ordinary wear and tear of the Black Armor Roofing Membrane and the approved base flashing; (2) blisters, bare spots, fishmouths, wrinkles, ridges, and splits in the built-up roofing membrane not caused by structural movement or failure or movement of any material underlying the roof membrane or base flashing system; and (3) slippage of the built-up roofing membrane or base flashing.	Material only; Tiffany Division warrants its products against leaks when properly applied to all structures subject to normal usage. Tiffany does not warrant the application of the product. Application is solely the responsibility of the purchaser.	Material only; Barrett warrants that the Ram Tough KLB elastomeric built-up roofing components sold by Barrett will be free from manufacturing defects at the time of delivery to the original purchaser and that the KLB component materials will not prematurely deteriorate to the point of failure because of weathering, if properly installed, maintained and used for the purpose Barrett intended, in accordance with Barrett published specifications in effect at the time of sale.
5. Length of coverage	5 or 10 years: All BUR specs with flashing spec BS-210; 5, 10, 15 or 20 years: All BUR specs with flashing spec BS-250; 25 years: BUR specs RP-41, RP51-TC, and RP-61 with flashing spec BS-250	5 years: uncoated; 10 years: if coated at original installation with Silver-Bright Liquid-Aluminum Roof Coating, Tiff-A-Lume, granules or gravel and re-coated after five years; 15 years: see conditions for renewal or extension.	5 years
6. Nature of remedy	AlliedSignal will take appropriate action to make the roofing system watertight.	If leak occurs within the warranty coverage, American Lubricants will furnish, freight collect, sufficient additional materials of Tiffany's manufacture to make necessary repairs for the duration of the warranty.	If the Barrett-supplied membrane components or bitumen evidences manufacturing defects, Barrett will, at its option, repair or replace defective material at original FOB point. If the Barrett membrane components show premature deterioration, Barrett will, at its option, provide repair material for original membrane or will provide credit to be applied towards the purchase of new membrane components at the then current prices for the membrane.
7. Monetary limitations	Warranty states there is no aggregate dollar limit to the cost of any appropriate repairs over the term of this warranty. However, if a repair otherwise covered by warranty is not an appropriate repair, owner's sole remedy and AlliedSignal's total remaining liability shall be payment to owner of remaining roof value which is prorated based on years roof has been in service and total installed cost.	Amount of adjustment material provided by American Lubricants will in no case exceed the amount on the original purchase.	Barrett's maximum liability shall be for the full value of the original Barrett supplied material components only purchase price. In case of premature deterioration, maximum value allowed as credit shall not exceed the original Barrett supplied components purchase price.
8. Notification requirements	Written notification within 30 days after discovery of all leaks to AlliedSignal Commercial Roofing Systems, P.O. Box 1053, Morristown, NJ 07960.	None stated.	None
9. Exclusive or additional remedy	AlliedSignal not liable for any damages based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in warranty.	Excludes UCC warranties	Barrett makes no other warranty or guarantee and is in lieu of all other obligations or liability; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Barrett shall have sole and exclusive right of determination of warranty applicability.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 9, 10, 15, 22. Warranty also excludes failure of owner to make repairs not covered under warranty.	1, 2, 3, 4, 6, 11, 13, 17, 18, 19, 20	19
13. Wind coverage/exclusions	Warranty excludes gales.	No coverage for damage caused by wind	No coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	R	C, R	I, O (See Special Features/Conditions.)
15. Cost to obtain	5 year: \$6.00/square; 10 year: \$7.00/square; 15 year: \$8.00/-square; 20 year: \$12.00/square; 25 year: \$15.00/square	None	None
16. Minimum charge	5 year: \$700; 10 year: \$800; 15 year: \$900; 20 year: \$1,000; 25 year: \$1,500	None	None
17. Ineligible structure or building use	Cold-storage or freezer roofs; private residences	Cold-storage buildings, heated tanks, roofs without positive drainage, Double T or prestressed T prefabricated concrete; private residences.	Unusual or unique applications may require specification modifications or other special considerations.
18. Pre-construction notice and approval requirements	Contractor required to submit request for warranty not less than 14 days prior to date of project start to regional or home	Contractor required to submit roof record and signed warranty form.	Contractor must file Barrett pre-construction form and intent to warrant application with Barrett prior to commencement of

	office for approval, along with minimum warranty charge.		installation.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Independent field auditor makes on-site inspections prior to, during, and after application, as well as two years after issuance of warranty; 5-, 10-, and 15-year warranties, two inspections; 20-, 25-year warranties, three inspections; no charge.	No manufacturer inspections; contractor makes prejob inspection at his discretion.	Barrett makes on-site inspections prior to, during, and after completion, as well as two years after issuance of warranty, as required or deemed necessary; no charge.
21. Contractor's post-installation obligation	Contractor obligated to repair workmanship deficiencies for two years.	None; material-only warranty	Although this is a material only warranty, contractor is obligated to make repairs to all workman ship deficiencies for two years.
22. Backed by named insurance or surety	No; AlliedSignal indicates that it is self-insured	No; American Lubricants Company indicates that it does not carry insurance covering its warranty obligations.	No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance.
23. Issuing entity manufactures and/or sells products	AlliedSignal, Inc. manufactures and sells product.	American Lubricants Company manufactures and sells product.	Barrett manufactures some, but not all, components and sells the products as a complete system.
24. Conditions for renewal or extension	No renewal provision	15-year warranty is in effect providing Silver Bright Aluminum Roof Coating is applied 30 days after installation and at 5-year intervals thereafter.	No renewal provision
25. Assignability	Warranty may be transferred to a subsequent owner only if: (1) building owner provides written notification of any transfer of ownership to AlliedSignal, Inc. Black Armor Coal Tar Roofing Systems, P.O.Box 1053R, Morristown, NJ 07962, within 30 days of such transfer; (2) any repairs required by AlliedSignal, Inc. after an inspection of the roof are made; and (3) owner pays to AlliedSignal, Inc. the then-current published warranty transfer fee.	No restrictions stated.	No restrictions stated.
26. Special features/conditions	5- and 10-year Premier Series warranties are available for retrofit applications over an existing roof with prior approval by AlliedSignal. Warranty shall be governed by the laws of the state of New Jersey.		If purchaser does not accept delivery of the products supplied by Barrett for the purpose of work indicated, the products are to be returned forth with, unopened. Should the owner fail to properly execute and return a signed copy of warranty within 90 days of issuance, warranty shall be null and void in its entirety and any products sold shall become a materials-only sale without any warranty or guarantee as expressly provided for on Barrett invoices and terms of sale.
27. Executed by owner	No	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	The Barrett Company, Inc.	The Barrett Company, Inc.	The Barrett Company, Inc.
2. Title, original publication date, and identifying symbol, if any	Barrett Company [Ram-Tough Elastomeric Built-up Roof Limited Warranty]; 1986; DT 1247	Barrett Company [Ram-Tough Elastomeric Built-Up Roof Material Components Ten Year Limited Warranty]; 1986; DT 1248	Barrett [Protected Membrane Roof Limited Warranty]; 1984; 1984
3. Product, specification, or system covered	KLB-100-1PG, KLB-100-2FKLB-100-2MB, KLB-100-2PGKLB-100-3FK-312-2F, KLB-100-3PGKLB-100-4F K-312-3F, KLB-100-4PGKLB-100-2MK-312-4F, KLB-10-0-2PKLB-100-3MK-312-2P, KLB-100-3PKLB-100-4MK-312-3P, KLB-100-4PKLB-100-1MBK-312-4P	KLB-100-1 PG, KLB-100-2 PG, KLB-100-3 PG, KLB-100-4 PG, KLB-100-2P, KLB-100-3 P,KLB-100-4 P, K-312-2 P, K-312-3 P, K-312-4 P	Ram-Tough TM-500; Ram-Tough KLB Specifications KLB 3-F; KLB 3P; KLB 3-M; KLB 4PG; KLB 4F; KLB 4P; KLB 4M; KLB 4HS
4. Scope of coverage	Material and workmanship; Barrett warrants that the Barrett Ram-Tough Membrane Components will remain in a watertight condition.	Material only; Barrett warrants that the Ram-Tough KLB elastomeric built-up roofing components sold by Barrett will be free from manufacturing defects at the time of delivery to the original purchaser and that the KLB component materials will not prematurely deteriorate to the point of failure because of weathering, if properly installed, maintained, and used for the purpose Barrett intended, in accordance with Barrett published specifications in effect at the time of sale.	Material and workmanship; Barrett warrants that its Barrett Ram-Tough Roof Membrane will remain in a watertight condition and will not fail to function due to workmanship or defective product.
5. Length of coverage	5, 8, 10, 12, 15, 20, or 25 years, depending on specification used	10 years	10 and 20 years
6. Nature of remedy	In the event of failure of the product to function as warranted, whether caused by workmanship or defective product, Barrett will make or cause to be made such repairs and maintenance necessary to enable the product to perform as warranted, except for the removal and replacement of any materials covering the system.	If the Barrett-supplied membrane components or bitumen evidences manufacturing defects, Barrett will, at its option, repair or replace defective material at original F.O.B. point. If the Barrett membrane components show premature deterioration, Barrett will, at its option, provide repair material for original membrane or will provide credit to be applied towards the purchase of new membrane components at the then current prices for the membrane.	Barrett will make or cause to be made such repairs and maintenance necessary to enable the Ram-Tough Roof Membrane to perform as warranted, except for the removal and replacement of any materials covering the waterproof membrane.
7. Monetary limitations	Barrett's repair obligations over the life of the warranty are limited to the owner's original cost of product.	For the first five years from date of completion, Barrett's maximum liability shall be for the full value of the original Barrett-supplied material components\only purchase price. Thereafter, Barrett's liability shall be reduced by 20 percent of the original warranty value each successive year until warranty expiration. In the case of premature deterioration, the maximum value allowed for credit shall not exceed the original purchase price.	Barrett's repair obligations over the life of the warranty are limited to the owner's original cost of the Barrett Ram-Tough Roof Membrane.
8. Notification requirements	Prompt notification and confirmation, in writing, sent by registered or certified mail of any failure of the product within 30 days following such failure.	None	Written notification within 30 days of any failure covered by the warranty.
9. Exclusive or additional remedy	Owner's sole and exclusive remedy; Barrett not liable or obligated for any loss or damage based on breach of warranty or negligence; excludes UCC warranties.	Barrett makes no other warranty or guarantee and is in lieu of all other obligations or liability; excludes UCC warranties.	Excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Barrett shall have the sole and exclusive right of good faith determination of warranty applicability.	Barrett shall have sole and exclusive right of determination of warranty applicability.	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 8, 12, 16, 18	19	1, 2, 4, 6, 7, 8, 12, 16
13. Wind coverage/exclusions	Warranty excludes high winds, gales, hurricanes, and tornadoes. [Barrett indicates that coverage of wind speeds is up to 72 miles per hour.]	Warranty covers roof damage caused by wind speeds up to 72 miles per hour.	Warranty excludes high winds, gales, hurricanes, and tornadoes. [Barrett indicates that warranty covers roof damage from wind speeds up to 72 miles per hour.]
14. Specific condition to make warranty ineffective or null and void (see item no. 14 in Introduction)	B, C, H, I, R	I, O (See Special Features/Conditions.)	B, C, H, R

15. Cost to obtain	\$5.00/square	\$2.00/square	\$5.00/square
16. Minimum charge	\$500	\$250	\$500
17. Ineligible structure or building use	Unusual or unique applications may require specification modifications or other special considerations.	Unusual or unique applications may require specification modifications or other special considerations.	Unusual installations are subject to technical review and approval.
18. Pre-construction notice and approval requirements	Contractor must file Barrett pre-construction form and intent to warrant application with Barrett prior to commencement of installation.	Contractor must file Barrett pre-construction form and intent to warrant application with Barrett prior to commencement of installation.	Contractor must submit request form with pertinent information prior to job start.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Barrett makes on-site job inspections prior to, during and after completion, as well as two years after issuance of warranty as required or deemed necessary; no charge.	Barrett makes on-site inspections prior to, during and after completion, as well as two years after issuance of warranty as required or deemed necessary; no charge.	Barrett technical representative makes on-site inspections prior, during, and after application, as well as two years after completion depending on job conditions; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Although this is a material only warranty, contractor is obligated to make repairs to all workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance.	No; Barrett indicates it carries \$1-million-per-occurrence products liability insurance.	Surety not named on warranty; Barrett indicates it has insurance coverage of \$1 million per occurrence.
23. Issuing entity manufactures and/or sells products	Barrett manufactures some, but not all, components and sells the products as a complete system.	Barrett manufactures some, but not all, components and sells the products as a complete system.	Barrett manufactures and sells some products and only sells some products.
24. Conditions for renewal or extension	No renewable provision	No renewal provision	No renewal provision
25. Assignability	Not assignable	No restrictions stated	Not assignable
26. Special features/conditions	No representative of Barrett has authority to make any representation or promises except as stated on warranty. Should the owner fail to properly execute and return a signed copy of warranty within 90 days of issuance, warranty shall be null and void in its entirety and any products sold shall become a materials-only sale without warranty or guarantee as expressly provided for on Barrett invoices and terms of sale.	If purchaser does not accept delivery of the products supplied by Barrett for the purpose of work indicated, the products are to be returned forth with, unopened. Should the owner fail to properly execute and return a signed copy of warranty within 90 days of issuance, warranty shall be null and void in its entirety and any products sold become a materials-only sale without any warranty or guarantee as expressly provided for on Barrett invoices and terms of sale.	
27. Executed by owner	Yes	Yes	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	The Barrett Company, Inc.	Bitec, Inc.	Bitec, Inc.
2. Title, original publication date, and identifying symbol, if any	Barrett Company [Ram-Tough Platinum System Warranty]; 1986; DT 1246	[Limited Ten-Year Material Warranty]; June 1986; (F-203-1/89)	Limited [Insured] Roofing Warranty; June 1987
3. Product, specification, or system covered	KLB-100-3PG-PMR, K-312-3P-PMR, KLB-100-4PG--PMRK-312-4P-PMR, KLB-100-3P-PMRK-312-4F-PMR, KLB-100-4P-PMR, KLB-100-4F-PMR	All Bitec modified bitumen membranes	All Bitec modified bitumen membranes
4. Scope of coverage	Material and workmanship; Barrett warrants that the Barrett Ram-Tough Membrane Components will remain in a watertight condition and that the Foamular extruded polystyrene insulation material will retain at least 80 percent of its thermal resistance and that the ballast will remain on the roof.	Material only; Bitec, Inc. warrants that the manufactured modified bitumen waterproofing roofing product, at the time of installation, conforms to Bitec's published specifications, provided that the membrane has been stored, handled, and that the installation meets or exceeds the published use, and is installed in accordance with governing industry standards, the Bitec product will be free of manufacturing defects and will remain free.	Material only, first two years; material and workmanship for balance of warranty. Bitec warrants that the roofing installation will be free of defects in material and workmanship that cause it to leak. During the first two years, Bitec will be responsible only for defects in material only. During remaining years, Bitec will pay cost to repair leaks caused by ordinary wear and tear. (See Special Features/Conditions.)
5. Length of coverage	10, 15, 20, or 25 years, depending upon specification used	10 years	10 years: APS4T.1, APS4T.2, APM4T.1, APM4T.2, SPM4.5T.1, SPM4.5T.2, SPM3.5H.1, SPM3.5H.2, SPM4H.1, SPM4H.2, SPS3H.1, SPS3H.2, SFM3.5H.1, SFM3.5H.2, SFM3.5HFR.1, SFM3.5HFR.2; 15 years: APS4T.1.15, APS4T.2.15, APM4T.1.15, APM4T.2.15, SPM4.5T.1.15, SPM4.5T.2.15, SPM3.5H.1.15, SPM3.5H.2.15, SPM4H.1.15, SPM4H.2.15, SPS3H.1.15, SPS3H.2.15, SFM3.5H.1.15, SFM3.5H.2.15, SFM3.5HFR.1.15, SFM3.5HFR.2.15; 20 years: APS4T.1.20, APS4T.2.20, APM4T.1.20, APM4T.2.20, SPM4.5T.1.20, SPM4.5T.2.20, SPM3.5H.1.20, SPM3.5H.2.20, SPM4H.1.20, SPM4H.2.20, SPS3H.1.20, SPS3H.2.20, SFM3.5H.1.20, SFM3.5H.2.20, SFM3.5HFR.1.20, SFM3.5HFR.2.20
6. Nature of remedy	In the event of failure of the product to function as warranted, Barrett will make or cause to be made such repairs and maintenance necessary to enable the product to perform as warranted, except for the removal and replacement of any materials covering the system.	If manufacturing defects cause the membrane to lose its watertight integrity, Bitec, at its sole option, will refund to the owner a portion of the original purchase cost of the membrane or replace a portion of the membrane.	After the first two years, Bitec will pay the cost of repairs to correct roof water leaks that are caused by ordinary wear and tear.
7. Monetary limitations	Barrett's repair obligations over the life of this warranty are limited to the owner's original cost of the product.	Bitec's liability limited to refunding to owner a portion of the membrane's original cost, or replacing a portion of the membrane according to a pro-rated scheduled, reduced 10 percent per year, ranging from 100 per-cent in years 1 and 2 to 10 percent in year 10.	Bitec's obligations limited to the amount of the original cost of labor and material for installation of the defective membrane.
8. Notification requirements	Written notification within 30 days following any failure of the product covered by the warranty.	Notification of any manufacturing defect must be submitted to Bitec's general offices within five days after discovery of any such defect and include certificate number. (See Special Features/Conditions.)	Claims must be directed to Bitec, Inc., P.O. Box 497, Morrilton, AR 72110, must be received within 72 hours of the original occurrence, and must be confirmed in writing and received by Bitec within ten days of the occurrence.
9. Exclusive or additional remedy	Owner's sole and exclusive remedy; Barrett not liable or obligated for any loss or damage based on breach of warranty or negligence; excludes UCC warranties.	Owner's sole and exclusive remedy. Owner shall not be entitled to additional remedies; owner expressly waives any and all other claims for damages, being direct or indirect, consequential or incidental, including but not expressly limited to the following: property damage, personal injury, damage to the owner or third parties, and/or loss of business or profit; excludes UCC warranties.	Owner's sole and exclusive right and remedy and Bitec, Inc.'s sole obligation for any failure of the roofing installation or material; excludes UCC warranties.
10. Inclusion of consequential damage	No	No	No
11. Determination of warranty applicability	Barrett shall have the sole and exclusive right of good faith determination of warranty applicability.	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 8, 12, 16, 18	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including ionized radiation or contamination from any hazardous substance or waste), 15, 16, 23. Warranty also specifically excludes damage caused by food.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including ionized radiation or contamination), 15, 16, 23. Warranty also specifically excludes damage caused by food, birds, vermin, rodents, insects, or any other animal or pest.
13. Wind coverage/exclusions	Warranty excludes gales, windstorms with gust wind speeds in excess of 70 mph, hurricanes, and tornadoes. [Barrett	No coverage for damage caused by wind	No coverage for damage caused by wind

	indicates that warranty covers roof damage resulting from wind speeds up to 70 miles per hour.]		
14. Specific condition to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, C, H, I, R	I, L	B, C
15. Cost to obtain	\$10.00/square	None	10 years: no charge for coated membrane; \$3.00/square for uncoated membranes; 15 years: \$4.00/square; 20 years: \$5.00/square
16. Minimum charge	\$500	None	10 years: \$300; 15 years: \$400; 20 years: \$500
17. Ineligible structure or building use	Unusual or unique applications may require specification modifications or other special considerations.	Roofs installed over cold storage or freezer compartments.	Cold storage, freezer compartments, residences, apartment buildings, and condominiums
18. Pre-construction notice and approval requirements	Contractor must file Barrett pre-construction form and intent to warrant application with Barrett prior to commencement of installation.	None required	Contractor required to give notice and obtain approval at least 14 days before project is started.
19. Approved, authorized, or licensed applicator	Yes	No	Yes
20. Job inspection policy	Barrett makes on-site job inspections prior to, during, and after completion, as well as two years after issuance of warranty, as required or deemed necessary; no charge.	No on-site inspections	Bitec field technical representative makes on-site job inspections prior to, during, and after completion prior to issuance of warranty; no charge. Per diem cost for extra inspection.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to all workmanship deficiencies for two years.	None	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance.	No; Bitec indicates that it does not carry insurance covering its warranty obligations.	No; Bitec indicates that it does not carry insurance covering its warranty obligations.
23 Issuing entity manufactures and/or sells products	Barrett manufactures some, but not all, components and sells the products as a complete system.	Bitec, Inc. manufactures and sells product.	Bitec, Inc. manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Not assignable	Warranty is transferable or assignable only with the prior written approval of Bitec's manager of technical services, and payment of applicable transfer fee, which includes inspection fee and travel expenses.	Not assignable
26. Special features/conditions	No representative of Barrett has authority to make any representation or promises except as stated on warranty. Should the owner fail to properly execute and return a signed copy of warranty within 90 days of issuance date, the warranty shall be null and void in its entirety and any products sold shall become a materials-only sale without warranty or guarantee as expressly provided for on Barrett Invoices and Terms of Sale.	For warranty to be validated, registration form must be completed and mailed to Bitec's offices, P.O. Box 497, Morrilton, AR 72110, within 90 days after job completion.	Owner agrees that the Bitec authorized roofing contractor shall be solely responsible for any and all costs to repair or correct any and all water leaks caused by defective workmanship or installation for two years, and Bitec shall be held harmless against any and all claims arising from workmanship or installation during the first two years.
27. Executed by owner	Yes	Owner signs Bitec registration form.	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Bitec, Inc.	Bondcote Corp.	Burke Rubber Company, a division of Burke Industries
2. Title, original publication date, and identifying symbol, if any	"Mineral Design Limited Warranty"; January 1997; Form MDW - 12/96	BondCote Roofing Systems "Standard Warranty"; Feb. 1, 1993	Burkeline Roofing Systems Warranty for Commercial Building[]; April 1988; BR00322
3. Product, specification, or system covered	Mineral Design MDA or MD5	BondCote Single Ply Roofing Systems	CSPE Hypalon CSPE Hypalon
4. Scope of coverage	Material only; Bitec warrants that the Mineral Design membrane will be free from manufacturing defects which result in leaks. Warranty covers the Bitec Mineral Design membrane only when installed on slope of 3:12 or greater.	Material and workmanship; BondCote Roofing Systems will repair leaks caused by defects in the roofing system manufactured or supplied by it and installed by an authorized BondCote dealer/installer.	Material and workmanship; Burke warrants that Burke will cause to be repaired leaks in Burkeline Roofing System caused by defects in roofing system's material or workmanship of the Burke authorized roofing applicator.
5. Length of coverage	25 years	10 years; 15 years, only for new construction or tear-off applications using certain insulations	5 or 10 years (See Conditions for Renewal or Extension.)
6. Nature of remedy	Bitec will make repairs or cause repairs to be made or will replace the Mineral Design membrane (exclusive of all other roofing components) as required to prevent leaks resulting directly from and solely from manufacturing defects. Extent of repair or replacement is at sole discretion of Bitec.	BondCote Roofing Systems will provide owner with repair to correct any leaks caused by defects in the manufacture or installation of roofing materials supplied by BondCote Roofing Systems.	Burke will cause to be repaired leaks in the Burkeline Roofing System
7. Monetary limitations	Bitec's maximum liability is limited to the original cost of the Mineral Design membrane when purchased, and the reasonable repair or replacement cost of the membrane. After the first year, Bitec's maximum liability is the original cost of the Mineral Design membrane reduced by 4% per year.	BondCote's cost not to exceed the owner's original installed cost of materials supplied by BondCote Roofing Systems.	Burke's liability not to exceed owner's original cost of the installed roof over the life of warranty
8. Notification requirements	Owner must notify Bitec by certified mail at P.O. Box 497, Morrilton, AR, 72110 within 30 days of the alleged discovery of leaks allegedly to have been caused by manufacturing defects. (See Special Features/Conditions)	Written notification to BondCote Roofing Systems, 984 Southford Road, Middlebury, CT, 06762, within 30 days after leaks are discovered or should have been discovered	Written notice within 30 days of discovery of any leaks
9. Exclusive or additional remedy	Warranty is expressly in lieu of any other obligations, warranties and guarantees, or liability on the part of Bitec; excludes UCC warranties.	Warranty is expressly agreed to be an exclusive warranty; warranty is in lieu of any other remedy and all other warranties whether arising under contract, tort, negligence, product liability, or any other action; excludes UCC warranties.	Warranty excludes all other warranties; Burke not liable for any other damages resulting from the use of the roofing system or caused by any defect, failure, or malfunction of the roofing system whether a claim is based upon warranty, contract, negligence, or otherwise; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Bitec's determination	BondCote's good-faith determination	Burke's determination; Burke's sole judgment whether exclusions apply
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including ionized radiation or contamination from any hazardous substance or waste.	1, 2, 3, 4, 6, 8, 12, 16	1, 3, 4, 5, 7, 18
13. Wind coverage/exclusions	Warranty covers wind speeds up to 60 mph for five years after initial application if the Mineral Design membrane has been installed in accordance with published installation requirements and leaks occur. Warranty excludes gales, windstorms, hurricanes and tornadoes.	Warranty excludes wind equal to or exceeding strong gale, hurricanes, and tornadoes. Warranty covers roof damage resulting from wind speeds up to 46 miles per hour.	Warranty excludes winds of peak gust speeds of ___ mph measured 35 feet above the ground, hurricanes, and tornadoes. Burke indicates that warranty covers roof damage resulting from wind speeds up to 60 miles per hour
14. Specific condition to make warranty ineffective or null and void (See item no. 14 in Introduction.)	I, L	C, I	B, C, F, G
15. Cost to obtain	None		5 years: \$6.00/square; 10 years: \$8.00/square
16. Minimum charge			5 years: \$800; 10 years: \$600
17. Ineligible structure or building use	Roof installed over cold storage or freezer compartments.		Residential buildings; there may be other buildings with special requirements.

18. Pre-construction notice and approval requirements	None required.	Contractor must complete project approval form and forward to BondCote Roofing Systems for approval prior to job start.	Contractor must provide roof layout plan and all details to Burke prior to job start; Burke approval required.
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections.	BondCote technical field representative makes inspections after completion prior to issuing warranty; BondCote will inspect prior to and during application for [new contractors] and on large or difficult installations.	Burke field service employees make inspection prior to, during, and after application prior to issuance of warranty as well as two years later; \$350/day charge plus expenses for re-inspections only.
21. Contractor's post-installation obligation	None; material-only warranty.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to all leaks and materials and workmanship for two years.
22. Backed by named insurance or surety	No; Bitec indicates that it does not carry insurance covering its warranty obligations.	No; BondCote indicates that it does not carry insurance covering its warranty obligations.	No; Burke indicates it does carry insurance that covers its warranty obligations.
23. Issuing entity manufactures and/or sells products	Bitec manufactures and sells the product.	BondCote Roofing Systems manufactures and sells the product.	Burke manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision.	None	Warranty may be extended for five years. If owner notifies Burke at the time of issuance of original warranty of intent to seek an extension, there is no fee for inspection. If owner seeks extension later, owner pays \$350/day plus expenses for inspection. Burke makes inspection; owner pays for work necessary to bring roof to condition acceptable to Burke and pays fee for extension.
25. Assignability	Non-transferable. Warranty solely benefits the first consumer, purchaser or owner of Bitec Mineral Design membrane; it cannot be transferred in any form to anyone.	Not assignable without written permission from BondCote Roofing Systems.	No restrictions stated.
26. Special features/conditions	<p>Claims require proof of purchase of the Mineral Design membrane. Owner must provide Bitec with a receipt which can be traced to a Bitec distributor who sold the Mineral Design membrane.</p> <p>Bitec has ninety days after receipt of notification to make, or cause to be made repairs or replacements covered under warranty. Prior to expiration of the ninety day period, Bitec will not be liable for any cost of repair or replacement unless Bitec has given written approval of the repair or replacement of Mineral Design membrane.</p> <p>Warranty may not be changed or modified. No one, including any representative or employee of Bitec has the authority to assume any additional liability for Bitec in connection with Mineral Design membranes.</p>	BondCote Roofing Systems has no obligation under the warranty without owner's signature accepting the warranty in lieu of all other remedies and the return of signed copy to BondCote Roofing Systems; the extended warranty has the same limitations as the original ten-year warranty. Owner shall be responsible for the cost of investigation if any leaks are determined not to be covered under warranty.	No representative of Burke has authority to make any representation or promises except as stated in warranty document
27. Executed by owner	Warranty registration card must be completed and sent to Bitec within 10 days of membrane installation.	Yes (See Special Features/Conditions.)	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Burke Rubber Company, a division of Burke Industries	Burke Rubber Company, a division of Burke Industries	Carlisle SynTec Systems, Division of Carlisle Corporation
2. Title, original publication date, and identifying symbol, if any	□Burkeline Gold Total Roofing System Warranty for Commercial Building□; April 1988; BR00355	□Burkeline Standard Limited Material Warranty□; February 1988; BR 00352	□Carlisle Ten Year Total Roofing System Warranty□; 85-5-938 SM
3. Product, specification, or system covered	CSPE Hypalon	CSPE Hypalon	Carlisle Sure-Seal EPDM, Carlisle Brite-Ply EPDM, and Carlisle Sure-Weld Molecular Bonded Polyolefin Roofing Systems
4. Scope of coverage	Material and workmanship; Burke warrants that Burke will cause to be repaired leaks in Burkeline Roofing System caused by defects in roofing system's material or workmanship of the Burke approved roofing applicator.	Material only; Burke warrants that Burkeline roofing products manufactured by or for it will be free from defects in materials. Products may not always conform exactly to illustrations or samples.	Material and workmanship; Carlisle warrants to repair leaks in the Carlisle Ten Year Total Roofing System caused by a defect in the Carlisle total roofing system's materials or workmanship of the Carlisle authorized roofing applicator in installing the total roofing system. Carlisle total roofing system is defined as Carlisle membrane, flashings, counterflashings, adhesives and sealants, insulation, recovery board, fasteners, fastener plates, fastener strips, hard rubber or metal edging, metal termination bars, and any other Carlisle-brand products utilized in installation.
5. Length of coverage	15 years (See Conditions For Renewal or Extension.)	2 years (See Conditions for Renewal or Extension.)	10 years
6. Nature of remedy	Burke's sole obligation is the repair or replacement of Burkeline roofing products that prove defective within the limited warranty.	Burke's sole obligation is the repair or replacement of Burkeline roofing products that prove defective within the limited warranty.	Carlisle will repair leaks in the total roofing system.
7. Monetary limitations	Burke's liability not to exceed owner's original cost of the installed roof over the life of warranty.	Burke's liability shall not exceed the price paid for the defective product, and Burke may, at its option, discharge such liability, if any, by supplying free of charge an equal quantity of roofing products to replace those found to be defective or by issuing credit to the customer in the amount of a net billing price after cash and other discounts allowed.	None stated.
8. Notification requirements	Written notice within 30 days of discovery of any leaks	Written notice describing any claimed defect must be given to Burke immediately upon discovery and in no case later than 30 days from discovery.	Written notice within 30 days of discovery of any leak in the total roofing system to Carlisle's Warranty Services, P.O. Box 7000, Carlisle, PA 17013
9. Exclusive or additional remedy	Warranty excludes all other warranties; Burke not liable for any other damages resulting from the use of the roofing system or caused by any defect, failure, or malfunction of the roofing system, whether a claim is based upon warranty, contract, negligence, or otherwise; excludes UCC warranties.	Excludes all other warranties; Burke is not liable for any other damages resulting from the use of the product or caused by any defect, failure, or malfunction of the product, whether a claim is based upon warranty, contract, negligence or otherwise; excludes	Owner's remedies and Carlisle's liability limited to repair of leaks in the total roofing system; remedy stated in warranty is owner's sole and exclusive remedy for failure of the Carlisle total roofing system or its components; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Burke's determination; Burke's sole judgment whether exclusions apply	Burke's determination; Burke's sole judgment whether exclusions apply	Carlisle's determination. (See Special Features/Conditions.)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 7, 18	1, 3, 4, 5, 7, 18, 20	1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation.
13. Wind coverage/exclusions	Warranty excludes coverage for roof damage for winds of peak gust speed of ___ mph measured 35 feet above the ground, hurricanes, and tornadoes. Manufacturer indicates that the warranty covers roof damage from wind speeds up to 70 miles per hour. If higher wind speeds are required, Burke will design and approve increased fastener patterns and attachments to accommodate the request.	Warranty excludes damage to the product caused by gales, hurricanes, and tornadoes. [Burke indicates that there is no coverage for damage caused by wind.	Warranty form states that it excludes □winds of peak gust speeds ___ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes.□ Carlisle indicates that 55 mph is inserted when warranty is issued so that warranty covers roof damage resulting from wind speeds up to 55 mph. Carlisle indicates that, when a request is made, warranty can be obtained to cover higher speeds after a project specification and detail review.

14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, C, F, G	B,F,G	B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet)
15. Cost to obtain	\$11.00/square	None	
16. Minimum charge	\$1,100	None	
17. Ineligible structure or building use	Private residences, condominiums, townhomes	None	Single-family residential structures; however, warranty is available for apartment houses, co-ops, condominiums, and the like.
18. Pre-construction notice and approval requirements	Contractor must submit completed Burke Form BR00339 to Burke; approval number and changes/requirements then forwarded by Burke to applicator; must have approval number to apply for final warranty inspection.	No	Carlisle must be contracted for a project specification and detail review.
19. Approved, authorized, or licensed applicator	Yes	No	Yes
20. Job inspection policy	Burke field service employees make on-site inspections prior to, during (depending on job) and after application prior to issuance of warranty, as well as two years later; \$350/day plus expenses for re-inspections only.	No on-site inspections	If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application and after completion prior to issuance of warranty; two inspections at no charge. Each additional inspection will cost \$500.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to all leaks, any defects and materials and workmanship for two years.	Although this is a material-only warranty, contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Burke indicates that it carries insurance that covers its warranty obligations.	No; Burke indicates that it carries general liability and blanket umbrella insurance that covers its warranty obligations.	No; Carlisle indicates that it does not carry insurance covering its warranty obligation.
23. Issuing entity manufactures and/or sells products	Burke manufactures and sells product.	Burke manufactures and sells product.	Carlisle manufactures and sells system components.
24. Conditions for renewal or extension	Warranty may be extended for five years. If owner notifies Burke at time of issuance of original warranty of intent to seek an extension, there is no charge for inspection. If owner seeks extension later, owner pays \$350/day plus expenses for inspection.	Warranty may be extended for up to 15 years by payment of fee. Fee varies depending on length of warranty and system used.	Warranty can be extended for 5 years for Sure-Seal Design A, B and mechanically fastened roofing systems. Owner must request in writing a Carlisle inspection within 30 days after the end of the initial 10 years, pay any expense that may be required to bring the installed roof membrane system into warrantable conditions, and pay \$500 per occurrence for the inspection.
25. Assignability	No restrictions stated.	No restrictions stated.	No restrictions stated.
26. Special features/conditions	No representative of Burke has authority to make any representation or promises except as stated in warranty	Warranty states that it is expressly understood that (1)the products may not always conform exactly to illustrations or samples and (2) Burke has no control over the customer's use of the products or the advisability of using such products for any particular installation. Warranty also states that if any warranty provisions are held or determined to be invalid or unenforceable, the remaining provisions of the warranty shall remain in full force and effect.	Carlisle shall not be responsible for the cleanliness or discoloration of the membrane system caused by environmental conditions, including, but not limited to, dirt, pollutants, or biological agents. Carlisle does not warrant products utilized in installation that it has not furnished and specifically disclaims liability, under any theory of law, arising out of the installation and performance of, or damages sustained by or caused by, products not furnished by Carlisle. If Carlisle's investigation after receipt of notice of leak from owner reveals that cause of leak is outside scope of warranty, investigation and repair costs are to be paid by owner. Warranty runs from substantial completion of roof regardless of date warranty is issued.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Carlisle SynTec Systems, Division of Carlisle Corporation	Carlisle SynTec Systems, Division of Carlisle Corporation	Celotex Corporation
2. Title, original publication date, and identifying symbol, if any	ACarlisle Membrane System Warranty@; 85-5-936 (Rev. 3/95)	AGolden Seal Total Roofing System Warranty@; May 1990; (85-5-939-SM (Rev. 5/90) appears on sample)	"Commercial Roofing Material Only Limited Warranty"; September 1997; Form 1146-1190 Rev.D
3. Product, specification, or system covered	Carlisle Sure-Seal EPDM, Carlisle Brite-Ply EPDM, and Carlisle Sure-Weld Molecular Bonded Polyolefin Roofing Systems	Carlisle Sure-Seal EPDM Roofing Systems	BUR Specifications: AGS-5-W-M, AGS-5-C-M, AGS-4-F-G, G/A-5-W-M, G/A-5-C-M, G/A-4-F-G, AGS-4-W-M, AGS-4-C-M, AGS-4-F-S, G/A-4-W-M, G/A-4-C-M, G/A-4-F-S, AGS-4-W-G, AGS-4-C-G, AGS-H+4-W-M, G/A-4-W-G, G/A-4-C-G, G/A-H+4-W-M, AGS-4-W-S, AGS-4-C-S, AGS-H+3-W-M, G/A-4-W-S, G/A-4-C-S, G/A-H+3-W-M, G/A-3-W-G, AGS-5-F-M, AGS-H+3-W-S, G/A-5-F-M, G/A-H+3-W-S, G/A-3-W-M, AGS-3-C-G, AGS-H+3-W-G, G/A-3-C-G, G/A-H+3-W-G, G/A-3-W-S, AGS-4-F-M, G/A-4-F-M; Modified Bitumen Specifications: SBS-4-W-M, SBS-DP-3-F-M, APP-3-C-M, SBS-3-W-M, SBS-DP-2-F-M, APP-2-C-M, SBS-2-W-M, SBS-H+2-W-M, APP-4-C-S, SBS-DP-4-W-M, SBS-H+2-W-M, APP-3-C-S, SBS-DP-3-W-M, SBS-H+2-IV-W-M, APP-2-C-S, SBS-DP-2-W-M, SBS-DP-H+3-W-M, APP-4-F-M, SBS-4-C-M, SBS-DP-H+2-W-M, APP-3-F-M, SBS-3-C-M, SBS-2-C-M, APP-2-F-M, SBS-2-C-M, SBS-2-R-M, APP-4-F-S, SBS-DP-4-C-M, APP-4-W-M, APP-3-F-S, SBS-DP-3-C-M, APP-3-W-M, APP-2-F-S, SBS-DP-2-C-M, APP-2-W-M, APP-H+3-W-M, SBS-4-F-M, APP-4-W-S, APP-H+2-W-M, SBS-3-F-M, APP-3-W-S, APP-H+2-IV-W-M, SBS-2-F-M, APP-2-W-S, APP-H+3-W-S, SBS-DP-4-F-M, APP-4-C-M, APP-H+2-W-S, APP-H+2-IV-W-S
4. Scope of coverage	Material and workmanship; Carlisle warrants to repair leaks in the Carlisle membrane system caused by a defect in the Carlisle membrane systems's materials or workmanship of Carlisle authorized applicator in installing the membrane system. Carlisle membrane system is defined as Carlisle membrane, flashings, adhesives and sealants, and any other Carlisle-brand products utilized in installation. (See Special Features/Conditions.)	Material and workmanship; Carlisle warrants to repair leaks in the Golden Seal Total Roofing System caused by a defect in Carlisle's Total Roofing System's materials or workmanship of Carlisle-authorized roofing applicator in installing the Total Roofing System. Carlisle's Total Roofing System is defined as Carlislebrand materials: membrane, flashings, counter-flashings, adhesives and sealants, insulation, recovery board, fasteners, fastener plates, fastener strips, hard rubber or metal edging, metal termination bars, and any other Carlisle-brand products utilized in installation.	Material only; Celotex warrants that the Celotex roof membrane and base flashing will withstand ordinary wear and tear by the elements and will be free of manufacturing defects which affect the ability of the materials to keep the roof watertight.
5. Length of coverage	5 or 10 years	15 years from date of Carlisle's acceptance, but not to exceed 15.5 years subsequent to date of substantial completion of roof	10 years: built-up roofing; 12 years: modified bitumen
6. Nature of remedy	Carlisle will repair leaks in the Carlisle membrane system.	Carlisle will repair leaks in the Carlisle Golden Seal Total Roofing System.	Celotex will provide replacement material.
7. Monetary limitations	None stated.	None stated.	Celotex's maximum responsibility is the original cost of the Celotex membrane and flashing materials. Celotex is not responsible for any labor charges.
8. Notification requirements	Written notice within 30 days of discovery of any leak in the Carlisle membrane system to Carlisle's Warranty Services, P.O. Box 7000, Carlisle, PA 17013	Written notice within 30 days of discovery of any leak in the Carlisle Total Roofing System to Carlisle's supporting services department, P. O. Box 7000, Carlisle, PA 17013.	Written notice within 10 days of discovery of any leaks in the roofing system to Celotex Corporation, P.O. Box 31602, Tampa, FL 33631.
9. Exclusive or additional remedy	The owner's remedies and Carlisle's liability are limited to repair of leaks in membrane system; remedy stated in warranty is owner's sole and exclusive remedy for failure of the Carlisle membrane system or its components; excludes UCC warranties.	Owner's remedies and Carlisle's liability limited to Carlisle's repair of leaks in membrane system; remedy stated in warranty is owner's sole and exclusive remedy for failure of the Carlisle Total Roofing System or its components; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy with respect to the roofing system and owner waives any and all other claims, rights, proceedings, actions and demands from Celotex relating to the roofing system. Warranty is in lieu of any and all other Celotex warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Carlisle's determination (See Special Features/Conditions.)	Carlisle's determination (See Special Features/Conditions.)	Celotex's determination.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation.	1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation.	1 (including chemical or organic deposits), 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 20, 23
13. Wind coverage/exclusions	Warranty form states that it excludes Awinds of peak gust speeds ____ mph or higher measured at 10 meters above ground, @ hurricanes, and tornadoes. Carlisle indicates that 55 is inserted when warranty is issued so that warranty covers roof damage resulting from wind speeds up to 55 mph.	Warranty excludes winds of peak gust of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that warranty will be issued excluding winds of peak gust speeds of 72 mph or higher and that warranty covers roof damage resulting from wind speeds up to 72 miles per hour if roof design submitted qualifies; if roof design does not qualify and owner chooses not to make Carlisle's recommended design changes, warranty will be issued to cover winds of peak gust speeds up to 55 mph.	Warranty covers roof damage resulting from wind speeds up to 72 mph. Warranty excludes gales, hurricanes and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet)	B, C, F (including failure to comply with Carlisle's care and maintenance information sheet)	C
15. Cost to obtain			\$100
16. Minimum charge			\$100

17. Ineligible structure or building use	Single-family residential structures; however, warranty is available for apartment homes, co-ops, condominiums, and the like.	Residential structures; however, warranty is available for apartment houses, co-ops, condominiums, and the like.	None
18. Pre-construction notice and approval requirements	Carlisle must be contacted for a project specification and detail review on projects where the building height exceeds 75 feet for Design B, 150 feet for mechanically fastened systems, and 250 feet for adhered systems.	Pre-installation wind design review, roof plan, and specifications must be submitted to and approved by Carlisle; Carlisle sends letter giving approval or indicating necessary modifications.	None
19. Approved, authorized, or licensed applicator	Yes	Yes	No
20. Job inspection policy	If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior and during application; after completion prior to issuance of warranty; two inspections at no charge. Each additional inspection will cost \$500.	If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior and during application; Carlisle makes on-site inspection after completion prior to issuance of warranty; two inspections at no charge. Each additional inspection will cost \$500.	No on-site inspections
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to repair all leaks caused by faulty handling or installation of system for two years.	None; material-only warranty.
22. Backed by named insurance or surety	No; Carlisle indicates that it does not carry insurance covering its warranty obligation.	No; Carlisle indicates that it does not carry insurance covering its warranty obligations.	No; Celotex indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Carlisle manufactures and sells system components.	Carlisle manufactures and sells system components.	Celotex manufactures and sells the product.
24. Conditions for renewal or extension	Warranty may be extended for 5 years for Sure-Seal Design A, B and mechanically fastened roofing systems. The owner must request in writing a Carlisle inspection within 30 days after the end of the initial 10 years, pay any expense that may be required to bring the installed roof membrane system into warrantable conditions, and pay \$500 per occurrence for the inspection.	No renewal provision	No renewal provision.
25. Assignability	No restrictions stated.	No restrictions stated.	Not assignable; warranty accrues to the original owner named in the warranty and does not accrue to the benefit of any tenant, purchaser, successor or assignee.
26. Special features/conditions	Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle membrane system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents. Carlisle does not warrant products utilized in installation that it has not furnished and specifically disclaims liability, under any theory of law, arising out of the installation and performance of, or damages sustained by or caused by, products not furnished by Carlisle. If Carlisle's investigation after receipt of notice of a leak from owner reveals that cause of leak is outside scope of warranty, investigation and repair costs are to be paid by the owner. Warranty runs from substantial completion of roof regardless of date warranty is issued.	Carlisle does not warrant products utilized in the installation that it has not furnished and specifically disclaims liability under any theory of law, arising out of the installation and performance of, or damages sustained by or caused by, products not furnished by Carlisle. If Carlisle's investigation after receipt of notice from owner of leak reveals that cause of leak is outside scope of warranty, investigation and repair costs are to be paid by owner.	Warranty only applies to Celotex materials which are installed in accordance with current Celotex specifications. No representative of Celotex has authority to make any representation or promise except as stated in warranty document. Any inspection conducted by Celotex may require that adequate samples of the roof be taken for testing by Celotex to evaluate any claim of a purported defect or deterioration. Refusal by the owner to permit removal of samples for testing constitutes a waiver of the claim.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Celotex Corporation	Celotex Corporation	Celotex Corporation
2. Title, original publication date, and identifying symbol, if any	"Specification Warranty"; September 1997; Form 1033-0487 Rev. B	"Roofing System Limited Warranty"; September 1997; Form 1005-1092 Rev. A	"Celo-1 Extended Coverage Roofing Sheet Only Warranty"; September 1997; Form 1038-0587 Rev. C
3. Product, specification, or system covered	Built-Up Roofing Specifications: AGS-5-W-M, AGS-4-C-S, AGS-H+3-W-M, AGS-4-W-M, AGS-3-C-G, AGS-H+3-W-G, AGS-4-W-G, AGS-5-F-M, AGS-H+3-W-S, AGS-4-W-S, AGS-4-F-M, AGS-5-C-M, AGS-4-F-G, AGS-4-C-M, AGS-4-F-S, AGS-4-C-G, AGS-H+4-W-M. (All specifications require use of AGS felt.)	Built-Up Roofing Specifications: G/A-5-W-M, G/A-5-C-M, G/A-4-F-G, G/A-4-W-M, G/A-4-C-M, G/A-4-F-S, G/A-4-W-G, G/A-4-C-G, G/A-H+4-W-M, G/A-4-W-S, G/A-4-C-S, G/A-H+3-W-M, G/A-3-W-M, G/A-3-C-G, G/A-H+3-W-G, G/A-3-W-G, G/A-5-F-M, G/A-H+3-W-S, G/A-3-W-S, G/A-4-F-M; Modified Bitumen Specifications: SBS-4-W-M, SBS-DP-3-F-M, APP-3-C-M, SBS-3-W-M, SBS-DP-2-F-M, APP-2-C-M, SBS-2-W-M, SBS-H+3-W-M, APP-4-C-S, SBS-DP-4-W-M, SBS-H+2-W-M, APP-3-C-S, SBS-DP-3-W-M, SBS-H+2-IV-W-M, APP-2-C-S, SBS-DP-2-W-M, SBS-DP-H+3-W-M, APP-4-F-M, SBS-4-C-M, SBS-DP-H+2-W-M, APP-3-F-M, SBS-3-C-M, SBS-2-C-M, APP-2-F-M, SBS-2-C-M, SBS-2-R-M, APP-4-F-S, SBS-DP-4-C-M, APP-4-W-M, APP-3-F-S, SBS-DP-3-C-M, APP-3-W-M, APP-2-F-S, SBS-DP-2-C-M, APP-2-W-M, APP-H+3-W-M, SBS-4-F-M, APP-4-W-S, APP-H+2-W-M, SBS-3-F-M, APP-3-W-S, APP-H+2-IV-W-M, SBS-2-F-M, APP-2-W-S, APP-H+3-W-S, SBS-DP-4-F-M, APP-4-C-M, APP-H+2-W-S, APP-H+2-IV-W-S; EPDM Specifications: Celo-1 Type I, Celo-1 Type II, Celo-1 Type III, Celo-1 Type IIIR Membrane Insulation Assembly (MIA)	Celo-1 Type I, Celo-1 Type II, Celo-1 Type III, Celo-1 Type IIIR
4. Scope of coverage	Material and workmanship; Celotex will repair any leaks in the Celotex roof membrane and base flashing caused by defects in the Celotex roofing materials or errors in workmanship.	Material and workmanship; Celotex warrants that it will repair leaks in the Celotex roof membrane and base flashing caused by defects in the Celotex roofing materials or errors in workmanship.	Material only; Celotex represents that its cured Celo-1 EPDM roofing sheet is free from manufacturing defects and will not deteriorate prematurely to the point of failure due to weathering.
5. Length of coverage	10 years: 3 ply; 15 years: 3 ply; 20 years: 4 ply	10 years: Celo-1 EPDM, Built-up Roofing; 12 years: Modified Bitumen; 15 years: Celo-1 EPDM Built-up Roofing, Modified Bitumen; 20 years: Built-up Roofing and Modified Bitumen	5 or 10 years beyond termination date of Roofing System Limited Warranty for Celo-1 EPDM (See Special Features/Conditions)
6. Nature of remedy	Celotex will have repairs made and will pay for such repairs. Owner's sole remedy and Celotex's liability limited to Celotex's repair of Celotex roofing materials.	Celotex will have repairs made and will pay for such repairs. Owner's sole remedy and Celotex's liability limited to Celotex's repair of the Celotex roof membrane and base flashing.	Celotex will provide replacement material, F.O.B., place of manufacture. Celotex not responsible for any labor and service charges pertaining to either original or replacement product. Owner's sole remedy and Celotex's liability is replacement of that portion of the Celotex roof membrane or base flashing which contains manufacturing defects or deterioration caused by ordinary wear and tear of the elements that has caused one or more leaks. Warranty is prorated for each month of service.
7. Monetary limitations	None stated.	For built-up roofing and modified bitumen specifications, Celotex's maximum liability is limited to \$100/square. For Membrane Insulation Assembly Warranty, Celotex's maximum liability is limited to \$130/square. For Celo-1 EPDM specifications, Celotex's maximum liability is limited to the original installed cost of Celotex membrane materials.	Celotex's maximum responsibility is the original cost of the Celotex membrane and flashing materials. Original purchase price of EPDM sheet is reduced for each month of service provided by the product.
8. Notification requirements	Written notice within 10 days of discovery of any leaks in the roofing system to Celotex Corporation, P.O. Box 31602, Tampa, FL 33631.	Written notice within 10 days of discovery of leaks in the roofing system to Celotex Corporation, P.O. Box 31602, Tampa, FL 33631.	Written notice within 10 days of discovery of any leaks in the roofing system to Celotex Corporation, P.O. Box 31602, Tampa, FL 33631.
9. Exclusive or additional remedy	Warranty is owner's sole and exclusive remedy with respect to the roofing system and owner waives any and all other claims, rights, proceedings, actions and demands from Celotex relating to the roofing system. Warranty is in lieu of any and all other Celotex warranties; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy with respect to the roofing system and Owner waives any and all other claims, rights, proceedings, actions and demands from Celotex relating to the roofing system. Warranty is in lieu of any and all other Celotex warranties; excludes UCC warranties.	Celotex makes no warranties or guarantees of any kind, express or implied, except as stated in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Celotex's determination	Celotex's determination.	Celotex's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1 (including chemical or organic deposits), 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 23	1 (including chemical or organic deposits), 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 23	1 (including chemical or organic deposits), 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 23
13. Wind coverage/exclusions	Warranty covers roof damage resulting from wind speeds up to 72 mph. Warranty excludes gales, hurricanes and tornadoes.	Celotex indicates warranty covers damage resulting from winds without stating a speed. Warranty excludes gales, hurricanes and tornadoes.	Warranty covers roof damage resulting from wind speeds up to 72 mph. Warranty excludes gales, hurricanes and tornadoes.
14. Specific conditions to make	C	C	C

Warranty ineffective or null and void (See item 14 in Introduction.)			
15. Cost to obtain	10 years: \$10.00/square; 15 years: \$12.00/square; 20 years: \$15.00/square	<u>Celo-1</u> 10 years: \$ 5.00/square; 15 years: \$10.00/square <u>Built-Up Roofing</u> 10 years: \$ 7.00/square; 10 years MIA: \$10.00/square; 15 years: \$ 9.00/square; 15 years MIA: \$11.00/square; 20 years: \$14.00/square; 20 years MIA: \$13.00/square <u>Modified Bitumen</u> 12 years: \$ 8.00/square; 12 years MIA: \$10.00/square; 15 years: \$ 9.00/square; 15 years MIA: \$11.00/square; 20 years: \$14.00/square; 20 years MIA: \$13.00/square	5 years: \$1.00/square; 10 years: \$2.00/square
16. Minimum charge	10 years: \$1,000; 15 years: \$1,200; 20 years: \$1,500	<u>Celo-1</u> 10 years: \$ 500; 15 years: \$1,000 <u>Built-up Roofing</u> 10 years: \$ 700; 10 years MIA: \$1,000; 15 years: \$ 900; 15 years MIA: \$1,100; 20 years: \$1,400; 20 years MIA: \$1,300 <u>Modified Bitumen</u> 12 years: \$ 800; 12 years MIA: \$1,000; 15 years: \$ 900; 15 years MIA: \$1,100; 20 years: \$1,400; 20 years MIA: \$1,300	5 years: \$100; 10 years: \$200
17. Ineligible structure or building use	None	Contact local Celotex sales office for building evaluation.	Contact local Celotex sales office for building evaluation.
18. Pre-construction notice and approval requirements	Contractor must fill out Notice of Award; if accepted, notify Celotex of start date and completion.	Contractor must fill out a Notice of Award; if accepted, notify Celotex of start date and completion.	Contractor must fill out a Notice of Award; if accepted, notify Celotex of start date and completion.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Independent inspection service makes on-site inspections prior to application and after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	Independent inspection service makes on-site inspections after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	Independent inspection service makes on-site inspections after completion, as well as two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to all leaks, any defects and workmanship deficiencies for two years.	Contractor obligated to make repairs to materials and workmanship deficiencies for two years.	Contractor obligated to make repairs to materials and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Celotex indicates that it does not carry insurance covering its warranty obligations.	No; Celotex indicates that it does not carry insurance covering its warranty obligations.	No; Celotex indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Celotex manufactures and sells product.	Celotex manufactures and sells the product.	Celotex manufactures and sells the product.
24. Conditions for renewal or extension	Warranty may be extended for five years at a cost of \$500.	No renewal provision. For Celo-1 specifications, "Celo-1 Extended Coverage Roofing Sheet Only Warranty" for 5 or 10 year additional material-only warranty coverage.	No renewal provision
25. Assignability	Not assignable; warranty applies to the original owner named in the warranty and cannot be transferred to or for the benefit of any tenant, purchaser, successor, or assignee.	Not assignable; warranty accrues to the original owner named in the warranty and does not accrue to the benefit of any tenant, purchaser, successor, or assignee.	Not assignable; warranty accrues to the original owner named in the warranty and does not accrue to the benefit of any tenant, purchaser, successor, or assignee.
26. Special features/conditions	No representative of Celotex has authority to make any representation or promise except as stated in warranty document. Any inspection conducted by Celotex may require that adequate samples of the roofing system be taken for testing by Celotex to evaluate any claim of purported defect or deterioration. Refusal by the owner to permit removal of samples for testing constitutes a waiver of the claim.	This warranty form is used for built-up roofing, modified bitumen, Celo-1 EPDM, membrane insulation assembly (M.I.A.), and membrane only. At time of issuance, warranty type is designated. No representative of Celotex has authority to make any representation or promise except as stated in warranty document. Any inspection conducted by Celotex may require that adequate samples of the roofing system be taken for testing by Celotex to evaluate any claim or purported defect or deterioration. Refusal by the owner to permit removal of samples for testing constitutes a waiver of the claim.	This is an extended warranty, issued and valid only with purchase of Celotex Roofing System Limited Warranty and covers roofing sheet only after expiration of standard warranty. No representative of Celotex has authority to make any representation or promise except as stated in warranty document. Any inspection conducted by Celotex may require that adequate samples of the roofing system be taken for testing by Celotex to evaluate any claim of purported defect or deterioration. Refusal by the owner to permit removal of samples of testing constitutes a waiver of the claim. If Celotex Roofing System Limited Warranty is terminated or cancelled for reasons other than normal expiration, this Roofing Sheet Only Limited Warranty shall be void upon such termination or cancellation.
27. Executed by owner	No	No	No

1. Identity of issuing entity	Celotex Corporation	Conklin Company, Inc.	Conklin Company, Inc.
--------------------------------------	----------------------------	------------------------------	------------------------------

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

2. Title, original publication date, and identifying symbol, if any	"Celo-1 EPDM Membrane Material Only Limited Warranty"; September 1997; Form 1010-0888 Rev. D	[[Conklin Limited Materials Warranty]]; November 1990; 1-000141A (Code #078270B 11/96 appears on packet accompanying warranty documents.)	[[Conklin Company, Inc. Total Roof System Limited Joint Warranty]]; Form E; November 1990; 1-000139; (Code #078268B 01/93 appears on packet accompanying warranty documents.)
3. Product, specification, or system covered	Celo-1 Type I, Celo-1 Type II, Celo-1 Type III, Celo-1 Type IIIR	Hy-Crown	Hy-Crown. Warranty is limited exclusively to the use of approved substrate materials overlaid with an approved Conklin roof membrane. The Conklin Total Roof System consists of Conklin roof membrane, Conklin fasteners, plates and approved boardstock insulation, polyurethane foam, and/or Hy-Crown slip sheet.
4. Scope of coverage	Material only; Celotex represents that its cured EPDM rubber roofing sheet is free from manufacturing defects and will not deteriorate prematurely to the point of failure due to weathering.	Material only; Conklin warrants that the roof will not leak in ordinary weather conditions due to any defect in product materials manufactured or sold by Conklin.	Material and workmanship. Conklin and contractor jointly warrant that the Conklin system will be free from water leaks resulting from ordinary wear and tear from the elements or from improper application.
5. Length of coverage	10 years	1 to 15 years	1 to 15 years
6. Nature of remedy	Celotex will, at its option, provide replacement membrane, F.O.B., place of manufacture, to effect repair or provide credit to be applied towards the purchase of replacement membrane. Celotex not responsible for any labor or service charges pertaining to either original or replacement membrane. Warranty is prorated at the rate of 1/120 for each month of service.	Conklin's obligation is limited to the replacement of Conklin roofing product(s) to repair leaks.	Conklin and contractor, at their own expense, will supply the necessary product and labor to correct leakage caused by ordinary wear and tear or improper application.
7. Monetary limitations	Celotex's maximum responsibility is the original cost of the Celotex membrane and flashing materials. In calculating Celotex's liability, the cost of the original membrane will be reduced by the amount of usage owner has received prior to the date of the claim, at the rate of 1/120 for each month of service provided by the membrane after the date of the original purchase.	None stated.	Conklin's and contractor's obligation shall in no event exceed either that portion of the original amount of the roofing contract that relates to the Conklin system and the labor required to apply the Conklin system or \$250,000, whichever is lesser.
8. Notification requirements	Written notice within 10 days of the discovery of any leaks in the membrane to Celotex Corporation, P.O. Box 31602, Tampa, FL 33631.	Notification within 30 days following the discovery of circumstances giving rise to a claim to contractor and Conklin at 551 Valley Park Drive, P. O. Box 155, Shakopee, MN 55379.	Written notification within 30 days following discovery of leak to contractor and Conklin at P. O. Box 155, Shakopee, MN 55379.
9. Exclusive or additional remedy	Celotex makes no warranties or guarantees of any kind, express or implied, except as stated in warranty; excludes UCC warranties.	Warranty is given in lieu of any other warranty; excludes UCC warranties; warrantors shall not be liable for any direct, indirect, incidental, consequential, special, or general damages resulting from failure of the Conklin system.	Owner's sole and exclusive remedy shall be the replacement of the defective membrane; warranty is given in lieu of any other warranty; excludes UCC warranties; warrantors shall not be liable for any direct, indirect, incidental, consequential, special, or general damages resulting from failure of the Conklin system.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Celotex's determination.	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1 (including chemical or organic deposits), 2, 3, 4, 5, 6, 8, 9, 11, 12, 15, 19, 20, 23	1, 2, 3, 4, 6, 7, 14, 15, 16 19, 20, 24, 25	1, 2, 3, 4, 6, 7, 14, 15, 16, 24, 25
13. Wind coverage/exclusions	Warranty covers roof damage resulting from wind speeds up to 72 mph. Warranty excludes gales, hurricanes and tornadoes.	Warranty excludes gales, windstorms, hurricanes, and tornadoes. Conklin indicates that warranty covers roof damage resulting from wind speeds up to 43 miles per hour.	Warranty excludes winds of peak gust speed of ___ mph measured 35 feet above the ground, hurricanes, and tornadoes. Conklin indicates that warranty will be issued excluding winds over 43 miles per hour. Conklin indicates higher wind speed exclusions can be obtained by submitting a wind speed application.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	C	Including notice to contractor (R)	A, B, C, D, E, F, H, J, S. Failure of owner to file an accurate, completed maintenance/inspection report annually within 30 days prior to anniversary of warranty effective date and failure to complete repairs deemed necessary within 60 days of annual inspection shall void the warranty. (See Special Features/Conditions.)

15. Cost to obtain	None	1 to 10 years: no charge; 11 to 15 years: less than 10,000 square feet, \$200; greater than 10,000 square feet, \$300	\$8.00/square
16. Minimum charge	None	None for 1 to 10 years; \$200 for 11 to 15 years	\$800
17. Ineligible structure or building use	None	None	None
18. Pre-construction notice and approval requirements	None required	Application must be submitted within 30 days of completion of project	Contractor must complete preapplication forms and submit them to Conklin prior to starting job; mandatory preinspection by Conklin prior to granting approval.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections.	No on-site inspections.	Conklin warranty inspector makes on-site inspection prior to and after application prior to issuance of warranty; \$300 charge per day for preapplication inspection and \$300 charge per day for post-application inspection; \$100 charge for each additional day. If roof passes first post-application inspection, \$300 is applied toward cost of warranty. If roof fails the first post-application inspection, \$300 is retained and an additional \$300 is due upon scheduling of second post-application inspection.
21. Contractor's post-installation obligation	None; material-only warranty	None; material-only warranty	Contractor obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for three years
22. Backed by named insurance or surety	No; Celotex indicates that it does not carry insurance covering its warranty obligations.	No; Conklin indicates that it does not carry insurance covering its warranty obligations.	No; Conklin indicates that it does not carry insurance covering its warranty obligations
23. Issuing entity manufactures and/or sells products	Celotex manufactures and sells the product.	Conklin sells product only.	Conklin sells product only
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Not assignable; warranty accrues to the original owner named in the warranty and does not accrue to the benefit of any tenant, purchaser, successor, or assignee.	No restrictions stated.	Warranty may be transferred upon giving notification to Conklin and contractor in writing within 60 days of transfer and ownership of structure of the name of new building owner and the intended use of the building. Conklin may inspect roof for a fee and require any modification it deems necessary to protect the roof system. Failure to notify Conklin in timely manner renders warranty null and void.
26. Special features/conditions	No representative of Celotex has authority to make any representation or promise except as stated in warranty document. Any inspection conducted by Celotex may require that adequate samples of the Membrane be taken for testing by Celotex to evaluate any claim of a purported defect or deterioration. Refusal by the owner to permit removal of samples for testing constitutes a waiver of the claim.	Warranty interpreted and governed by the laws of the state of Minnesota.	The Conklin Company, Inc. Total Roof System Limited Joint Warranty is a joint warranty obligating Conklin Company, Inc. and the contractor. Building owner must submit to Conklin a maintenance/ inspection report completed either by original contractor or another contractor approved by Conklin on forms provided by Conklin. The required maintenance inspection report must be filed annually not less than 30 days prior to the anniversary of the effective date of the warranty. Failure to submit accurate, complete report voids the warranty. If corrections are needed, roofing repairs not covered by the warranty must be completed within 60 days of the annual inspection, or warranty will be void. Conklin may require an inspection of repairs with inspection costs to be charged to building owner at current inspection fee rates. Owner must give written notice to Conklin and contractor within 30 days following discovery of damage to roof not covered by warranty, allow Conklin to inspect for a fee, and make repairs in order for warranty to remain in effect. Warranty interpreted and governed by laws of Minnesota.
27. Executed by owner	No	Yes	Yes; warranty also executed by contractor.

1. Identity of issuing entity	Conklin Company, Inc.	Consolidated Coatings Corporation	Consolidated Coatings Corporation
2. Title, original publication date, and identifying symbol, if any	Conklin Company Limited Joint Warranty ; Form E; November 1990; 1-00139A; (Code #078269A 07/94 appears	Ten Year Limited Warranty Goodyear E-Z Roof Premium ; 1980	Limited Material Warranty ; 1980

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

	on packet accompanying warranty documents.)		
3. Product, specification, or system covered	Hy-Crown. Warranty is limited exclusively to the use of approved Conklin Joint Warranty roofing membrane system.	E-Z Roof Premium White, Black	Conso-Gard II
4. Scope of coverage	Material and workmanship. Conklin and contractor jointly warrant that the Conklin membrane/coating will be free from water leaks resulting from ordinary wear and tear from the elements or from improper application.	Material only; Consolidated guarantees Goodyear E-Z Roof Premium Grade and Premium Grade-White against any defect that can be shown to Consolidated's satisfaction to have been caused by faulty workmanship in the manufacture of the goods or deterioration of the goods under normal service conditions.	Material only; Consolidated warrants that if, after complete coverage with Consolidated's Goodyear Roofing materials according to directions, customer's roof develops leaks CPCC agrees to furnish without charge sufficient Consolidated Roofing Materials to stop any leaks.
5. Length of coverage	1 to 10 years	10 years (from date of delivery)	10 years (from invoice date)
6. Nature of remedy	Conklin and contractor, at their own expense, will supply the necessary product and labor to correct leakage caused by ordinary wear and tear or improper application.	Consolidated will procure the making good of any water leaks in defective goods by such methods as it determines fit. Consolidated's obligation is limited to the rectification of defects in the goods causing water leaks, including the costs of labor and materials necessary to repair or replace the defective goods.	Consolidated agrees to furnish without charge, F.O.B. closest U.S.A. or Canada warehouse, or F.O.B. U.S.A. export port of embarkation, sufficient Consolidated Roofing Materials to stop leaks. Warranty does not include any labor or transportation charge.
7. Monetary limitations	Conklin's and contractor's obligation shall in no event exceed either that portion of the original amount of the roofing contract that relates to the roofing membrane/coating and the labor required to apply the roofing membrane/coating or \$250,000, whichever is lesser.	Consolidated's entire liability under warranty shall not exceed the total of the invoices covering the shipment of E-Z Roof to the purchaser.	Consolidated's total obligation over the life of the warranty shall not exceed the owner's original cost of the Consolidated-supplied materials.
8. Notification requirements	Written notification within 30 days following discovery of leak to contractor and Conklin at P. O. Box 155, Shakopee, MN 55379.	The purchaser shall give notice of defects to Consolidated in writing within 28 days of the date on which the purchaser became aware of defect.	No notification requirements stated in warranty.
9. Exclusive or additional remedy	Owner's sole and exclusive remedy shall be the replacement of the defective membrane; warranty is given in lieu of any other warranty; excludes UCC warranties; warrantors shall not be liable for any direct, indirect, incidental, consequential, special, or general damages resulting from failure of the Conklin system.	Guarantee shall be in lieu of any other warranty or guarantee, express or implied. Purchaser's remedy, as stated in warranty, shall be exclusive, and Consolidated shall not be liable for any damages, either direct or consequential.	Warranty is in lieu of all warranties, express, implied, or statutory, and Consolidated neither assures nor authorizes any person to assume for it any other obligation or liability whatsoever.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Consolidated's determination	Consolidated determines if leak is due to an excluded condition.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 14, 15, 16, 24, 25	1, 2, 3, 4, 5, 9, 15, 19, 22	1, 3, 4, 6, 7, 24. (Consolidated indicates that 9, 10, 16, 17 and 19 are also applicable).
13. Wind coverage/exclusions	Warranty excludes winds of peak gust speed of ___ mph measured 35 feet above the ground, hurricanes, and tornadoes. Conklin indicates that warranty will be issued excluding winds over 43 miles per hour. Conklin indicates higher wind speed exclusions can be obtained by submitting a wind speed application.	Warranty excludes windstorms, hurricanes, and tornadoes. Consolidated indicates that there is no coverage for damage caused by wind.	Consolidated indicates that damage as a result of wind is not covered by warranty.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	A, B, C, D, E, F, H, J, S. Failure of owner to file an accurate, complete maintenance/inspection report annually within 30 days prior to anniversary of warranty effective date and failure to complete repairs deemed necessary within 60 days of annual inspection shall void the warranty. (See Special Features/Conditions.)	B (other than emergency repairs properly carried out with compatible materials), C, H, R	B, C, L. (Consolidated indicates that P and R are also applicable.)
15. Cost to obtain	\$5.00/square	None	None
16. Minimum charge	\$500	None	None
17. Ineligible structure or building use	None	Residential structures	Residential structures
18. Pre-construction notice and approval requirements	Contractor must complete preapplication forms and submit to Conklin prior to starting job. Conklin's written approval to start the job is needed before work may begin. Conklin reserves the right to preinspect the job, for a fee, prior to granting approval.	Contractor required to give notice of the type of construction and number of squares and obtain approval from Consolidated prior to beginning installation.	Contractor required to give notice of the type of construction and number of squares and obtain approval from Consolidated prior to beginning installation.
19. Approved, authorized, or licensed applicator	Yes	No	No
20. Job inspection policy	Conklin warranty inspector makes on-site inspection prior to	Consolidated authorized representative will make inspection	Consolidated authorized representative will make inspection

	application sometimes and after application prior to issuance of warranty; \$300 charge per job per day, \$100 for each additional day. If roof passes first post-application inspection, \$300 is applied toward cost of warranty. If roof fails the first post-application inspection, \$300 is retained and an additional \$300 is due upon scheduling of second post-application inspection.	during application and five years after completion; no charge.	during application and five years after completion; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for two years.	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Conklin indicates that it does not carry insurance covering its warranty obligations.	No	No
23. Issuing entity manufactures and/or sells products	Conklin sells product only.	Consolidated manufactures and sells product	Consolidated manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty may be transferred upon giving notification to Conklin and contractor in writing within 60 days of transfer and ownership of structure of the name of new building owner and the intended use of building. Conklin may inspect roof for a fee and require any modification it deems necessary to protect the membrane. Failure to notify Conklin in timely manner renders warranty null and void.	No restrictions stated.	Not assignable
26. Special features/conditions	The Conklin Limited Joint Warranty is a joint warranty obligating Conklin Company, Inc. and the contractor. The building owner must submit to Conklin a maintenance/inspection report completed either by original contractor or another contractor approved by Conklin on forms provided by Conklin. The required maintenance inspection report must be filed annually not less than 30 days prior to the anniversary of the effective date of the warranty. Failure to submit accurate, complete report voids the warranty. If corrections are needed, roofing repairs not covered by the warranty must be completed within 60 days of the annual inspection, or warranty will be void. Conklin may require an inspection of repairs with inspection costs to be charged to building owner at current inspection fee rates. Owner must give written notice to Conklin and contractor within 30 days following discovery of damage to roof not covered by warranty, must allow Conklin to inspect for a fee, and must make repairs in order for warranty to remain in effect. Warranty interpreted and governed by laws of Minnesota.	This guarantee shall not apply in any case where water leaks arise from a defect in the goods or the relevant roofing works or from other circumstances that (a) should have been but were not seen by purchaser or its contractor during the course of or on completion of installation or (b) were so seen but not properly corrected at that time.	
27. Executed by owner	Yes; warranty also executed by contractor.	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Consolidated Coatings Corporation	Danosa Caribbean, Inc.	Dermabit
2. Title, original publication date, and identifying symbol, if any	Roofing System Limited Warranty; 1980	Danosa Roofing Membrane System Limited Warranty; 1979	Dermabit Waterproofing Industries Guarantee Material and Labor; April 1988
3. Product, specification, or system covered	Conso Gard III, IV	Esterdan RM; Glasdan AL-80, Glasdan R-36; Esterdan R-36	Dermabit APP 4170, 4170S; Elaspalt SBS 4170, 4170S
4. Scope of coverage	Material and workmanship; Consolidated warrants that the roofing membrane and flashing materials sold by Consolidated are free from defects in material and installation at the time of application and the roofing materials conform to Consolidated's specification. Warranty covers leaks resulting from deterioration of Consolidated roof membrane or Consolidated flashing caused by ordinary weathering; blisters, buckles, ridges, wrinkles and slips of the Consolidated roof membrane not caused by structural failure; damage to Consolidated roof membrane due to thermal shock; slippage of Consolidated roof membrane or flashing; breaks in approved flashing; deterioration of Consolidated roof membrane due to occasional ponding of water not caused by structural defect; and improper installation if the leak first occurs more than two years after completion. (See Special Features/Conditions.)	Material and workmanship; Danosa will pay all authorized costs of repair to Roofing Membrane System necessary to stop leaks resulting from deterioration of Danosa roofing membrane or flashing membrane system resulting from ordinary wear and tear by elements, improper workmanship in application, blisters, buckles, ridges, wrinkles attributed to roofing membrane and its workmanship, and splits or cracks not caused by structural failure or slippage.	Material only; Dermabit guarantees that the membrane/ flashing will not lose its waterproof quality due to natural deterioration of the membrane, bare spots, ridges, or splits not caused by structural failure or movement of or cracks in substrate, roof base, or insulation.
5. Length of coverage	10 years (from invoice date)	5, 10, 15 years	10 years: Dermabit 4170 APP, 4170 SBS (must be coated); 12 years: Dermabit 4170, 4170S APP, SBS 4170, 4170S (all smooth surfaced specifications must be coated); 20 years: Dermabit 4170, 4170S APP, SBS 4170, 4170S (must be two layers and coated)
6. Nature of remedy	Consolidated will pay the cost of repair necessary to correct leaks in the roof membrane and flashing.	Danosa will pay all authorized costs of repair necessary to stop leaks.	Dermabit shall replace and/or repair any part of the Dermabit membrane/flashing as shall be necessary solely in order to stop water leaks.
7. Monetary limitations	None stated.	Danosa's total cumulative liability not to exceed a per-square limitation established by Danosa at time of completion of warranty form.	Dermabit's obligation over the life of guarantee is the aggregate amount equal to the amount that was paid by owner for supply and installation of the Dermabit membrane/flashing covered by the guarantee.
8. Notification requirements	All claims shall be made by writing to Consolidated at 1801 East Ninth Street, Cleveland, Ohio 44114 within 30 days after discovery of any defects or leaks.	Written notice within 30 days of discovery of leak	Written notification by certified mail to D.W.I., Incorporated, P.O. Box 1154, McLean, VA 22101, within 10 days after discovery of any leak
9. Exclusive or additional remedy	Warranty is exclusive and in lieu of all other warranties whether oral or written, express or implied; excludes UCC warranties.	Excludes other guarantees and warranties; excludes UCC warranties.	Excludes UCC warranties and any other obligations or liability on the part of Dermabit.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 9, 12, 16, 23	1, 2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 17, 22. [Danosa indicates that 11, 15, 16, 18, 19, 23, 24, and 25 are also applicable.]	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including exposure to any chemical or solution, radiation, or contamination by radioactivity from any nuclear fuel waste), 22, 23
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes, and tornadoes. Consolidated indicates that there is no coverage for damage caused by wind.	Warranty excludes hurricanes. [Danosa indicates that there is no coverage for damage caused by wind.]	Warranty excludes windstorms, hurricanes, and tornadoes.

14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	A, B, C, F, H	B, C. [Danosa indicates that F, G, H, I, J, K, L, M, N, O, P, Q, and S are also applicable.]	B (see Special Features/Conditions), C, H, R. Cancellation of this guarantee will also result if building is damaged by any cause listed in Specific Exclusions from Coverage so as to affect the waterproof quality of the membrane or watertightness of structure.
15. Cost to obtain	None	\$6.00 square	None
16. Minimum charge	None	None	None
17. Ineligible structure or building use	Residential structures	None	Cold-storage buildings
18. Pre-construction notice and approval requirements	Contractor required to give notice of the type of construction and number of squares and obtain approval from Consolidated prior to beginning installation.	Danosa requires a letter from contractor indicating date and Danosa specification number before commencing work.	None
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	Consolidated authorized representative will make inspection during application and five years after completion; no charge.	Danosa inspector will inspect prior, during, and after application; will also inspect every five years; no charge.	No on-site inspections. Owners signature on a 48-hour Flood test required.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship	Contractor obligated to make repairs to workmanship deficiencies for 10 years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No	No	No; Dermabit indicates that it carries \$1 million product-liability insurance coverage.
23. Issuing entity manufactures and/or sells products	Consolidated manufactures and sells product.	Danosa manufactures and sells the product.	Dermabit manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	Five- or ten-year extension available if roof passes inspection and additional fee is paid.	No renewal provision
25. Assignability	Warranty is not transferable or assignable to subsequent owners without prior written consent of Consolidated.	Not assignable	Not assignable
26. Special features/conditions	<p>Consolidated's obligation to make repairs resulting from improper installation is limited to the repair of leaks that first occur more than two years after the date of completion. Consolidated shall have no obligation to repair leaks resulting from improper installation that first occur within two years of the date of completion.</p> <p>Any products sold by Consolidated and not manufactured by Consolidated are sold "as is" and without any warranty, express or implied.</p> <p>The expense of removing and replacing the traffic surfaces or other structures building over the roof shall be borne by the owner.</p> <p>The warranty is conditioned upon the owner allowing Consolidated access to inspect the roofing system annually, and with an additional inspection during the final three months of the second year after completion.</p> <p>Warranty shall be construed according to the laws of the state of Ohio. No payment shall be made by Consolidated to the extent that any sums are paid by any corporation affiliated with Consolidated on account of a claim against such affiliated company arising out of the same facts.</p>	All repairs must be authorized in writing in advance by Danosa and all repairs must be performed only by a Danosa approved roofing contractor.	No action, suit, claim, or other proceeding arising out of or relating to the Dermabit membrane or this guarantee may be filed or commenced later than one year after the expiration of the term of this guarantee. Owner shall give 30 days' prior written notice to Dermabit of owner's intention to repair or modify roof or other surface over which membrane is installed, including plans and specifications for the proposed repairs or modifications. No Dermabit representative, employee, or agent or any other person has the authority to assume any additional or other liability or responsibility in connection with the membrane installed.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Dermabit	Dibiten, a division of Johns-Manville Corporation	Dibiten, a division of Johns-Manville Corporation
2. Title, original publication date, and identifying symbol, if any	Dermabit Waterproofing Industries [Material Guarantee]; April 1988	"20 Year Limited Material Warranty"; March 1997; RS-9013 3-97	"15 Year Limited Material Warranty"; March 1997; RS-9012 3-97
3. Product, specification, or system covered	Dermabit APP 4170; Elaspalt 4170, 4170S, SBS	Dibiten Poly/4 Two Ply Specifications: 401-2, 402-2, 403-2, 404-2; Dibiten Poly 4.5 Two Ply Specifications: 451-2, 452-2, 453-2, 454-2	Dibiten Poly 5 specifications with roof coating: 501, 502, 503, 504, R505, R506
4. Scope of coverage	Material only; Dermabit guarantees that Dermabit membrane will not lose its waterproof quality due to natural deterioration of the membrane, bare spots, ridges, or splits not caused by structural failure or movement of or cracks in substrate or roof base or insulation.	Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects.	Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects.
5. Length of coverage	10 years	20 years	15 years
6. Nature of remedy	Dermabit, in its sole discretion, will either refund to owner a prorated portion of the original purchase price of the defective Dermabit membrane or provide, at no cost to owner, a portion of the Dermabit membrane required to replace defective membrane.	If the Dibiten membrane is proved to have manufacturing defects that affect the watertight integrity of the membrane, Dibiten will pay a share, on a pro-rata basis (1/20 per year) of all costs including materials and labor, for repair or replacement of the defective Dibiten membrane.	If the Dibiten membrane is proved to have manufacturing defects that affect the watertight integrity of the membrane, Dibiten will pay a share, on a pro-rata basis (1/15 per year) of all costs including materials and labor, for repair or replacement of the defective Dibiten membrane.
7. Monetary limitations	Original purchase price reduced in accordance with a prorated schedule ranging from 100 percent of original purchase price during the first two years of roof service to 10 percent in year 10.	Dibiten's liability not to exceed the original cost of the membrane.	Dibiten's liability not to exceed the original cost of the membrane.
8. Notification requirements	Written notification by certified mail to D.W.I., Incorporated, P.O. Box 1154, McLean, VA 22101, within 10 days after discovery of any leak.	Written notice within 30 days of discovery of water leaks through the Dibiten membrane to Dibiten, P.O. Box 5108, Denver, Colorado 80217-5108.	Written notice within 30 days of discovery of water leaks through the Dibiten membrane to Dibiten, P.O. Box 5108, Denver, Colorado 80217-5108.
9. Exclusive or additional remedy	Dermabit's obligation to refund a portion of owner's original purchase price or to provide a portion of new membrane shall be the owner's sole and exclusive remedy; excludes UCC warranties and any other obligations or liability on the part of Dermabit.	Warranty is exclusive warranty from Dibiten and represents the exclusive remedy available to any purchaser of the membrane materials. Dibiten makes no other representation or warranty of any kind. No retailer, contractor or distributor is authorized to alter the warranty. Dibiten shall not be liable for any damages which are based on negligence, breach of warranty, strict liability or any other theory other than the limited liability stated in warranty; excludes UCC warranties.	Warranty is exclusive warranty from Dibiten and represents the exclusive remedy available to any purchaser of the membrane materials. Dibiten makes no other representation or warranty of any kind. No retailer, contractor or distributor is authorized to alter the warranty. Dibiten shall not be liable for any damages which are based on negligence, breach of warranty, strict liability or any other theory other than the limited liability stated in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including exposure to any chemical or solution, radiation, or contamination by radioactivity from any nuclear fuel or waste), 22, 23. (Also excludes failure of underlying materials or structures to conform to manufacturer's specifications as to roof slopes or other requirements.)	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes, and tornadoes.	Warranty excludes wind and hurricanes. Dibiten indicates that there is no coverage for damage caused by wind.	Warranty excludes wind and hurricanes. Dibiten indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	B (see Special Features/Conditions), C, H, R. Cancellation of this guarantee will also result if building is damaged by any cause listed under Specific Exclusions from Coverage so as to affect waterproof quality of membrane or watertightness of structure.	C, F, H, I, M, R	C, F, H, I, M, R
15. Cost to obtain	None	None	None
16. Minimum charge	None	None	None

17. Ineligible structure or building use	Cold-storage buildings	Structures used for cool or cold storage.	Structures used for cool or cold storage
18. Pre-construction notice and approval requirements	None	None	None
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections.	No on-site inspections
21. Contractor's post-installation obligation	None	None; material-only warranty.	None; material-only warranty
22. Backed by named insurance or surety	No; Dermabit indicates that it carries \$1 million product-liability insurance coverage.	No; Dibiten indicates that it does not carry insurance covering its warranty obligations.	No; Dibiten indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Dermabit manufactures and sells product.	Dibiten manufactures and sells product.	Dibiten manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision.	No renewal provision
25. Assignability	Not assignable	No restrictions stated. Warranty states that it is made to the original owner.	No restrictions stated
26. Special features/conditions	<p>No action, suit, claim, or other proceeding arising out of or relating to the Dermabit membrane or this guarantee may be filed or commenced later than one year after the expiration of the term of this guarantee. Owner shall give 30 days' prior written notice to Dermabit of owner's intention to repair or modify roof or other surface over which membrane is installed, including plans and specifications for the proposed repairs or modifications. No Dermabit representative, employee, or agent or any other person has authority to assume any additional or other liability or responsibility in connection with the membrane installed.</p>	<p>In order to continue limited warranty coverage, owner must implement a maintenance program prescribed by Dibiten on the reverse side of limited warranty, including repair of any item beyond the scope of the warranty which would affect the integrity of the Dibiten membrane and recoating smooth surfaced membranes as necessary and: (a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (f) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (g) examining roof top equipment to determine if they move excessively or leak; (h) checking building exterior for settlement or movement; and (i) recoating any areas of excessive wear, flaking, or blistered areas of protective coatings. Installing roofing contractor must be licensed by and in good standing with the licensing authority of the jurisdiction in which the structure is located. Region 2 excludes CA, NV, AZ, UT, ID, NM, TX, HI, FL.</p>	<p>In order to continue limited warranty coverage, owner must implement a maintenance program prescribed by Dibiten on the reverse side of limited warranty, including repair of any item beyond the scope of the warranty which would affect the integrity of the Dibiten membrane and recoating smooth surfaced membranes as necessary and: (a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (f) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (g) examining roof top equipment to determine if they move excessively or leak; (h) checking building exterior for settlement or movement; and (i) recoating any areas of excessive wear, flaking, or blistered areas of protective coatings. Installing roofing contractor must be licensed by and in good standing with the licensing authority of the jurisdiction in which the structure is located. Region 2 excludes CA, NV, AZ, UT, ID, NM, TX, HI, FL.</p>
27. Executed by owner	No	Registration form must be completed and returned to Dibiten within 30 days of completion of the Dibiten membrane and a copy of the contractor's bill must be attached.	Registration form must be completed and returned to Dibiten within 30 days of completion of the Dibiten membrane and a copy of the contractor's bill must be attached.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Dibiten, a division of Johns-Manville Corporation	Dibiten, a division of Johns-Manville Corporation	Dibiten, a division of Johns-Manville Corporation
2. Title, original publication date, and identifying symbol, if any	"12 Year Limited Material Warranty"; September 1997; RS-9011 9-97	"10 Year Limited Material Warranty"; March 1997; RS-9010 3-97	"6 Year Limited Material Warranty"; March 1997; RS-9009 3-97
3. Product, specification, or system covered	Dibiten Poly 4 Specifications with roof coating: 401, 402, 404, R405, R406	Dibiten Poly 4 Uncoated Specifications: 401, 402, 403, 404, 405, 406 in Region 2; Dibiten Poly 4.5 Granular Specifications: 451, 452, 453, 454, R455, R456; Dibiten Poly 5 Uncoated Specifications: 501, 502, 503, 504, R505, R506	Dibiten Poly/4 Uncoated Specifications: 401, 402, 403, 404, 405, 406
4. Scope of coverage	Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects.	Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects.	Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects.
5. Length of coverage	12 years	10 years	6 years
6. Nature of remedy	If the Dibiten membrane is proved to have manufacturing defects that affect the watertight integrity of the membrane, Dibiten will pay a share, on a pro-rata basis (1/12 per year) of all costs including materials and labor, for repair or replacement of the defective Dibiten membrane.	If the Dibiten membrane is proved to have manufacturing defects that affect the watertight integrity of the membrane, Dibiten will pay a share, on a pro-rata basis (1/10 per year) of all costs including materials and labor, for repair or replacement of the defective Dibiten membrane.	If the Dibiten membrane is proved to have manufacturing defects that affect the watertight integrity of the membrane, Dibiten will pay a share, on a pro-rata basis (1/6 per year) of all costs including materials and labor, for repair or replacement of the defective Dibiten membrane.
7. Monetary limitations	Dibiten's liability not to exceed the original cost of the membrane.	Dibiten's liability not to exceed the original cost of the membrane.	Dibiten's liability not to exceed the original cost of the membrane.
8. Notification requirements	Written notice within 30 days of discovery of water leaks through the Dibiten membrane to Dibiten, P.O. Box 5108, Denver, Colorado 80217-5108.	Written notice within 30 days of discovery of water leaks through the Dibiten membrane to Dibiten, P.O. Box 5108, Denver, Colorado 80217-5108.	Written notice within 30 days of discovery of water leaks through the Dibiten membrane to Dibiten, P.O. Box 5108, Denver, Colorado 80217-5108.
9. Exclusive or additional remedy	Warranty is exclusive warranty from Dibiten and represents the exclusive remedy available to any purchaser of the membrane materials. Dibiten makes no other representation or warranty of any kind. No retailer, contractor or distributor is authorized to alter the warranty. Dibiten shall not be liable for any damages which are based on negligence, breach of warranty, strict liability or any other theory other than the limited liability stated in warranty; excludes UCC warranties.	Warranty is exclusive warranty from Dibiten and represents the exclusive remedy available to any purchaser of the membrane materials. Dibiten makes no other representation or warranty of any kind. No retailer, contractor or distributor is authorized to alter the warranty. Dibiten shall not be liable for any damages which are based on negligence, breach of warranty, strict liability or any other theory other than the limited liability stated in warranty; excludes UCC warranties.	Warranty is exclusive warranty from Dibiten and represents the exclusive remedy available to any purchaser of the membrane materials. Dibiten makes no other representation or warranty of any kind. No retailer, contractor or distributor is authorized to alter the warranty. Dibiten shall not be liable for any damages which are based on negligence, breach of warranty, strict liability or any other theory other than the limited liability stated in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22
13. Wind coverage/exclusions	Warranty excludes wind and hurricanes. Dibiten indicates that there is no coverage for damage caused by wind.	Warranty excludes wind and hurricanes. Dibiten indicates that there is no coverage for damage caused by wind.	Warranty excludes wind and hurricanes. Dibiten indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See No. 14 in Introduction.)	C, F, H, I, M, R	C, F, H, I, M, R	C, F, H, I, M, R
15. Cost to obtain	None	None	None
16. Minimum charge	None	None	None
17. Ineligible structure or building use	Structures used for cool or cold storage	Structures used for cool or cold storage	Structures used for cool or cold storage
18. Pre-construction notice and approval requirements	None	None	None
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections	No on-site inspections

21. Contractor's post-installation obligation	None; material-only warranty	None; material-only warranty	None; material-only warranty
22. Backed by named insurance or surety	No; Dibiten indicates that it does not carry insurance covering its warranty obligations.	No; Dibiten indicates that it does not carry insurance covering its warranty obligations.	No; Dibiten indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Dibiten manufactures and sells product.	Dibiten manufactures and sells product.	Dibiten manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated	No restrictions stated	No restrictions stated
26. Special features/conditions	<p>In order to continue limited warranty coverage, owner must implement a maintenance program prescribed by Dibiten on the reverse side of limited warranty, including repair of any item beyond the scope of the warranty which would affect the integrity of the Dibiten membrane and recoating smooth surfaced membranes as necessary and:</p> <p>(a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (f) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (g) examining roof top equipment to determine if they move excessively or leak; (h) checking building exterior for settlement or movement; and (i) recoating any areas of excessive wear, flaking, or blistered areas of protective coatings.</p> <p>Installing roofing contractor must be licensed by and in good standing with the licensing authority of the jurisdiction in which the structure is located.</p> <p>Region 2 excludes CA, NV, AZ, UT, ID, NM, TX, HI, FL.</p>	<p>In order to continue limited warranty coverage, owner must implement a maintenance program prescribed by Dibiten on the reverse side of limited warranty, including repair of any item beyond the scope of the warranty which would affect the integrity of the Dibiten membrane and recoating smooth surfaced membranes as necessary and: (a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (f) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (g) examining roof top equipment to determine if they move excessively or leak; (h) checking building exterior for settlement or movement; and (i) recoating any areas of excessive wear, flaking, or blistered areas of protective coatings.</p> <p>Installing roofing contractor must be licensed by and in good standing with the licensing authority of the jurisdiction in which the structure is located.</p> <p>Region 2 excludes CA, NV, AZ, UT, ID, NM, TX, HI, FL.</p>	<p>In order to continue limited warranty coverage, owner must implement a maintenance program prescribed by Dibiten on the reverse side of limited warranty, including repair of any item beyond the scope of the warranty which would affect the integrity of the Dibiten membrane and recoating smooth surfaced membranes as necessary and: (a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (f) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (g) examining roof top equipment to determine if they move excessively or leak; (h) checking building exterior for settlement or movement; and (i) recoating any areas of excessive wear, flaking, or blistered areas of protective coatings.</p> <p>Installing roofing contractor must be licensed by and in good standing with the licensing authority of the jurisdiction in which the structure is located.</p>
27. Executed by owner	Registration form must be completed and returned to Dibiten within 30 days of completion of the Dibiten membrane and a copy of the contractor's bill must be attached.	Registration form must be completed and returned to Dibiten within 30 days of completion of the Dibiten membrane and a copy of the contractor's bill must be attached.	Registration form must be completed and returned to Dibiten within 30 days of completion of the Dibiten membrane and a copy of the contractor's bill must be attached.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Duro-Last Roofing, Inc.	Duro-Last Roofing, Inc.	Ensuro Duradek Limited
2. Title, original publication date, and identifying symbol, if any	15 Year Residential Material Warranty; March 1993; DL 15-01 Rev. 3/93	15 Year Warranty; August 1, 1991; DL 15-00 Rev.	Ensuro Duradek Warranty; September 1995
3. Product, specification, or system covered	Duro-Last Roofing System	Duro-Last	Duradek Classic, Custom, Supreme, Decor, SafetyDek, Reflections, Ultra, Marble, Commercial, SurcoSeal 60, SurcoSeal 40 (See Special Features/Conditions)
4. Scope of coverage	Material only; Duro-Last grants a material-only warranty to the owner of a building with a roof on a porch, sun deck, garage, storage shed, or single-family residence and installed by an authorized dealer/contractor that the Duro-Last membrane material and accessories will be free from manufacturing defects at the time of delivery and the membrane material and accessories will not become defective within the term of the warranty. Warranty does not extend to color.	Material and workmanship; Duro-Last grants a limited warranty to the building owner that it will repair any leak in a Duro-Last roof caused by any defect in Duro-Last membrane materials or accessories or workmanship of the authorized dealer/contractor. Warranty does not extend to color.	Material only; Ensuro Duradek guarantees to repair or replace at its expense any portion of the Duradek Vinyl decking membrane which leaks due to a manufacturing defect
5. Length of coverage	15 years	15 years	5 years
6. Nature of remedy	Should a defect occur in the membrane material or accessories within the warranty, Duro-Last's liability limited solely to provide the materials necessary to make the repairs.	Provided that Duro-Last has authorized the repair and an authorized dealer/contractor makes the repair, Duro-Last's obligation is to repair any covered leak in the roof, including repair or replacement of membrane material and accessories and the cost of or furnishing labor to repair roof at the contractor list price in effect at the time of repair.	Ensuro Duradek agrees to repair or replace the Duradek membrane with the same (or similar) color design or grade of material and pay transportation costs and all other costs necessary to remedy failure.
7. Monetary limitations	None stated.	Duro-Last's liability for cost of labor to repair roof is at the contractor's list price in effect at time of repair; otherwise, no monetary limitations stated.	None stated
8. Notification requirements	Written notification to Duro-Last's corporate headquarters, 525 Morley Drive, Saginaw, MI 48601, within 30 days after discovery of any defective material	Written notification to Duro-Last's corporate headquarters, 525 Morley Drive, Saginaw, MI 48601, within 30 days after discovery of any leak	Written notice to Applicator promptly upon discovery of any needed repairs.
9. Exclusive or additional remedy	Warranty is owner's sole and exclusive remedies for failure of the roofing membrane material or accessories; excludes UCC warranties. (See Special Features/Conditions.)	No warranties, representations, promises, or oral statements have been made by any representative of Duro-Last, and owner is not to rely on same unless added to the warranty in writing. (See Special Features/Conditions.)	Remedies provided in warranty state the limit of Ensuro's responsibilities; seeks to exclude UCC warranties. No representative has authority to make any representations other than those states in warranty.
10. Inclusion of consequential damages	No	No express exclusion	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 18. Warranty also excludes damages caused by chemicals not normally found in nature.	1, 2, 3, 4, 6, 10, 12, 14, 16, 18, 24. Warranty also excludes damages caused by chemicals not normally found in nature. [Duro-Last indicates warranty covers damage caused by oils, wax, grease, animal fats, and acids.]	1, 2, 3, 5, 6, 10, 11, 22 (Warranty also excludes normal wear and tear and failure of the structure to provide an adequate means of waterproofing)
13. Wind coverage/exclusions		Warranty excludes gales, hurricanes, and tornadoes. [Duro-Last does not indicate wind speeds covered by warranty.]	No coverage for damage caused by wind
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	A, C, I	A, C, G, I	C
15. Cost to obtain	None	None	None
16. Minimum charge	None	None	None
17. Ineligible structure or building use	None	Porch, sun deck, garage, storage shed, or	None

		single-family residence of less than 1,000 square feet.	
18. Pre-construction notice and approval requirements	None required	None	Applicator required to obtain approval prior to beginning installation from local distributor who acts as agent for manufacturer's approval.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	Duro-Last quality assurance specialist makes on-site inspection after application prior to issuance of warranty; no charge.	No on-site inspections
21. Contractor's post-installation obligation	Although this is a material-only warranty, contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Applicator obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for 5-years duration of warranty.
22. Backed by named insurance or surety	No; Duro-Last indicates that it does not carry insurance covering its warranty obligations.	No; Duro-Last indicates that it carries \$12 million liability insurance coverage.	No; Ensuro indicates that it carries \$2 million liability insurance coverage
23. Issuing entity manufactures and/or sells products	Duro-Last manufactures and sells product.	Duro-Last fabricates and sells product.	Ensuro Duradek manufacturers and sells product
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated.	Assignable with written permission of Duro-Last, Inc.	No restrictions stated
26. Special features/conditions	All interpretations of this warranty shall be considered that their form, execution, and validity thereof shall be controlled by the laws of the state of Michigan. Oral representations cannot be relied upon as correctly stating the representations of Duro-Last Roofing, Inc.	Owner's failure to comply with the terms and limitations in the limited warranty releases Duro-Last from any liability. All interpretations of this warranty shall be considered that their form, execution, and validity thereof shall be controlled by the laws of the state of Michigan. Duro-Last [does not waive any rights under this limited warranty if it does not enforce the limitations.] Oral representations cannot be relied upon as correctly stating the representations of Duro-Last, Inc.	Proof of purchase and payment must be presented to obtain warranty coverage. Each Duradek system requires a sealant (caulking) in a number of areas. The sealant is subject to annual inspection and maintenance by the building owner. Neither Ensuro nor the Applicator are responsible for damages occurring from repairs necessary due to problems arising from the sealant after the first complete year of installation. Ensuro or the Applicator will provide, at a nominal cost, the correct sealants to maintain the job. Warranty is offered by both Ensuro and the installation company. Ensuro is responsible for any materials related problems and the dealer is responsible for workmanship. In either case, the installing contractor will facilitate any necessary repairs.
27. Executed by owner	Yes	Yes	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Ensurco Duradek Limited	Elastomeric Roofing Systems, Inc.	Elastomeric Roofing Systems, Inc.
2. Title, original publication date, and identifying symbol, if any	Ensurco Duradek Warranty; September 1995	"ERSystems ____ Year Permaweld CPA Material Warranty"; October 1, 1996; 961001 PMMW	"ERSystems ____ Year EPDM Roof System Warranty"; October 1, 1996; 961001 RSW
3. Product, specification, or system covered	Duradek Ultra Series 60 mil products (See Special Features/Conditions)	Permaweld, Permaweld Fleece Backed, PermaVac systems	.045 and .060 black nonreinforced EPDM; .045 and .060 black FR EPDM; reinforced 90, Poly-Bond; plate bond, fully adhered, ballasted, batten, Poly-Bond systems
4. Scope of coverage	Material only; Ensurco Duradek guarantees to repair or replace at its expense any portion of the Duradek Vinyl decking membrane which leaks due to a manufacturing defect.	Material only; ERSystems warrants that the roofing membrane is free from manufacturing defects at the time the material is delivered and that the product will not prematurely deteriorate to the point of failure due to weathering if properly installed, maintained, and used for the purpose for which the membrane is intended. Warranty covers the membrane only and does not cover adhesives, sealants, flashings, seams, coatings, accessories, or workmanship.	Material and workmanship; ERSystems warrants to repair or cause to be repaired any leak in the membrane system caused by premature deterioration due to weathering or a defect in the ERSystems materials or in the workmanship of installing the system. The system is defined as the elastomeric membrane, adhesives, sealants, flashing membrane, fasteners and insulation supplied by ERSystems. All materials not supplied by ERSystems must be approved in writing by ERSystems.
5. Length of coverage	10 years	5, 10, or 15 years	5 or 10 years: Poly-Bond; 5, 10, or 15 years: .045 and .060 black nonreinforced EPDM, .045 and .060 black FR EPDM, reinforced 90
6. Nature of remedy	Ensurco Duradek agrees to repair or replace the Duradek membrane with the same (or similar) color design or grade of material and pay transportation costs and all other costs necessary to remedy failure	If the product shows premature deterioration due to weathering, ERSystems liability is limited, at ERSystems option, to provide the repair material for the original product or credit toward the purchase of new membrane to repair the leak.	The owner's remedies and ERSystems' liability is limited to the cost of repair of the leaks in the system.
7. Monetary limitations	None stated	The maximum value allowed by ERSystems for the repair or credit shall not exceed the original product purchase price.	None stated.
8. Notification requirements	Written notice to Applicator promptly upon discovery of any needed repairs.	The buyer must notify ERSystems by registered mail, return receipt requested, at 50 Medina Street, Loretto, MN 55357-0056, within 30 days of discovery of the failure.	The buyer must notify ERSystems by registered mail, return receipt requested, at 50 Medina Street, Loretto, MN 55357-0056, within 30 days of discovery of the failure.
9. Exclusive or additional remedy	Remedies provided in warranty state the limit of Ensurco's responsibilities; seeks to exclude UCC warranties. No representative has authority to make any representations other than those stated in warranty.	The warranty is exclusive and in lieu of any other warranties; ERSystems shall have no further obligation or liability of any kind. ERSystems' sales personnel are not authorized to make warranties; ERSystems' employees' oral statements do not constitute warranties and shall not be relied upon; excludes UCC warranties.	The warranty is exclusive and in lieu of any other warranties; ERSystems shall have no further obligation or liability of any kind. ERSystems' sales personnel are not authorized to make warranties; ERSystems' employees' oral statements do not constitute warranties and shall not be relied upon; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	ERSystems' determination	ERSystems' determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 5, 6, 10, 11, 22 (Warranty also excludes normal wear and tear and failure of the structure to provide an adequate means of waterproofing)	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 16, 17, 18, 20, 22, 23. Warranty also specifically excludes damages caused by atomic radiation, insects or animals, and specific Condition P.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 16, 17, 18, 20, 22, 23. Warranty also specifically excludes damages caused by atomic radiation, insects or animals, and specific Condition P.
13. Wind coverage/exclusions	No coverage for damage caused by wind	The warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty excludes gales (exceeding 55 mph) and tornadoes.	The warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty excludes gales (exceeding 55 mph) and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	C	C, M, S (See Special Features/Conditions.)	C, M, S (See Special Features/Conditions.)
15. Cost to obtain	None	5 years: \$50; 10 years: \$75; 15 years: \$2.00/square	5 years: \$8.00/square; 10 years: \$11.00/square; 15 years: \$15.00/square
16. Minimum charge	None	5 years: \$50; 10 years: \$75; 15 years: \$100	5 years: \$600; 10 years: \$800; 15 years: \$1,000

17. Ineligible structure or building use	None	Cold-storage buildings, single-family residences, and special purpose facilities	Cold-storage buildings, single-family residences, and special purpose facilities
18. Pre-construction notice and approval requirements	Applicator required to obtain approval prior to beginning installation from local distributor who acts as agent for manufacturer's approval.	ERSystems must receive a completed warranty pre-notification form prior to the start of the project. All warranty requests require approval in advance of starting the project. Any deviations from ER Systems' published specifications must be approved in writing prior to job start.	ERSystems must receive a completed warranty pre-notification form prior to the start of the project. All warranty requests require approval in advance of starting the project. Any deviations from ER Systems' published specifications must be approved in writing prior to job start.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	ERSystems technical support representative makes inspections during application depending on size and complexity of job and qualifications of contractor, and after completion prior to issuance of warranty as well as two years after issuance of warranty; no charge for initial warranty; charge for subsequent inspection if job does not pass inspection. ERSystems reserves the right to require a pre-job inspection.	ERSystems technical support representative makes inspections during application depending on size and complexity of job and qualifications of contractor, and after completion prior to issuance of warranty as well as two years after issuance of warranty; no charge for initial warranty; charge for subsequent inspection if job does not pass inspection. ERSystems reserves the right to require a pre-job inspection.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for 10-year duration of warranty.	None; material-only warranty	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Ensurco indicates that it carries \$2 million liability insurance coverage	No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations.	No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Ensurco Duradek manufacturers and sells product	ERSystems sells product only.	ERSystems sells product only.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated	The warranty is transferable subject to the terms of ERSystems' inspection, written approval, and payment of the current transfer fee, solely at the discretion of ERSystems.	The warranty is transferable subject to the terms of ERSystems' inspection, written approval, and payment of the current transfer fee, solely at the discretion of ERSystems.
26. Special features/conditions	<p>Proof of purchase and payment must be presented to obtain warranty coverage.</p> <p>Each Duradek system requires a sealant (caulking) in a number of areas. The sealant is subject to annual inspection and maintenance by the building owner. Neither Ensurco nor the Contractor are responsible for damages occurring from repairs necessary due to problems arising from the sealant after the first complete year of installation. Ensurco or the Contractor will provide, at a nominal cost, the correct sealants to maintain the job.</p> <p>Warranty is offered by both Ensurco and a "Medallion Level" certified applicator only. Ensurco is responsible for any materials related problems and the Contractor is responsible for workmanship. In either case, the application contractor will facilitate any necessary repairs.</p>	<p>If ERSystems determines the cause of a reported leak to be outside the scope of the warranty, inspection and repair costs shall be paid by the owner; failure of owner to pay for nonwarranted repairs within 30 days of notification shall render the warranty null and void.</p> <p>The warranty shall be governed and construed in accordance with the laws of the state of Minnesota. The courts of Minnesota shall have exclusive jurisdiction over all disputes arising out of warranty.</p> <p>Any action for breach of the contract or warranty, except for nonpayment by buyer, must be commenced within one year after the cause of action occurs, and all actions shall be barred after such time. Warranty states that it is agreed and understood that the price for the system is consideration for the limitation of ERSystems liability stated in warranty.</p>	<p>If ERSystems determines the cause of a reported leak to be outside the scope of the warranty, inspection and repair costs shall be paid by the owner; failure of owner to pay for nonwarranted repairs within 30 days of notification shall render the warranty null and void.</p> <p>The warranty shall be governed and construed in accordance with the laws of the state of Minnesota. The courts of Minnesota shall have exclusive jurisdiction over all disputes arising out of warranty.</p> <p>Any action for breach of the contract or warranty, except for nonpayment by buyer, must be commenced within one year after the cause of action occurs, and all actions shall be barred after such time. Warranty states that it is agreed and understood that the price for the system is consideration for the limitation of ERSystems liability stated in warranty.</p>
27. Executed by owner	No	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Elastomeric Roofing Systems, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.
2. Title, original publication date, and identifying symbol, if any	"ERSystems ____ Year EPDM Membrane Material Warranty"; October 1, 1996; 961001 MMW	Red Shield "Roofing System Limited Warranty;" November 1997; 11/97 - Item #811-01	Firestone "Modified Bitumen Membrane Limited Warranty;" November 1997; 11/97 Item # 595(R)MB (Replaces 7/94)-01
3. Product, specification, or system covered	.045 and .060 black nonreinforced EPDM, .045 and .060 black FR EPDM, reinforced 90, Poly-Bond; plate bond, fully adhered, ballasted, batten and Poly-Bond systems	Firestone RubberGard EPDM Systems, Firestone UltraPly 78+ Systems, Firestone APP Systems, Firestone SBS Systems, Firestone Built-up Systems	Firestone APP, Firestone SBS
4. Scope of coverage	Material only; ERSystems warrants that the roofing membrane is free from manufacturing defects at the time the material is delivered and that the product will not prematurely deteriorate to the point of failure due to weathering if properly installed, maintained, and used for the purpose for which the membrane is intended. Warranty covers the membrane only and does not cover adhesives, sealants, flashings, seams, coatings, accessories, or workmanship.	Material and workmanship; Firestone warrants to repair any leak in the Firestone roofing system. The Firestone roof system is limited to Firestone-brand membranes, Firestone-brand insulations, and other Firestone-brand accessories when installed in accordance with Firestone technical specifications. Firestone indicates that roof coatings and sealants, specifically Firestone PC 100 AcryliTop Coating, Aluminum Roof Coating, S-10 Pourable Sealer and General Purpose Sealant, are not covered under this warranty.	Material only; Firestone warrants that it will repair any leak caused by weathering of the Firestone modified bitumen roofing membrane as a result of ordinary exposure to the elements or any manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealant, coatings, or workmanship.
5. Length of coverage	5 or 10 years: Poly-Bond; 5, 10, or 15 years: .045 and .060 black nonreinforced EPDM, .045 and .060 black FR EPDM, reinforced 90	5, 10, 15, or 20 years: Firestone EPDM; 5, 10, or 15 years: UltraPly 78+; 5, 10, 12, 15, or 20 years: Firestone SBS; 5, 10, 12, 15, or 20 years: Firestone APP	5, 10, or 12 years
6. Nature of remedy	If the product shows premature deterioration due to weathering, ERSystems liability is limited, at ERSystems option, to provide the repair material for the original product or credit toward the purchase of new membrane to repair the leak.	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.
7. Monetary limitations	The maximum value allowed by ERSystems for the repair or credit shall not exceed the original product purchase price.	None stated.	Firestone's repair obligations over the life of the warranty are limited to the original cost of the membrane installation.
8. Notification requirements	The buyer must notify ERSystems by registered mail, return receipt requested, at 50 Medina Street, Loretto, MN 55357-0056, within 30 days of discovery of the failure.	Written notification within 30 days of any occurrence of a leak	Written notification within 30 days of any occurrence of a leak
9. Exclusive or additional remedy	The warranty is exclusive and in lieu of any other warranties; ERSystems shall have no further obligation or liability of any kind. ERSystems' sales personnel are not authorized to make warranties; ERSystems' employees' oral statements do not constitute warranties and shall not be relied upon; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	ERSystems' determination	Firestone's determination	Firestone's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 16, 17, 18, 20, 22, 23. Warranty also specifically excludes damages caused by atomic radiation, insects or animals, and Specific Condition P.	1, 2, 3, 6, 7, 8, 10, 12 (see Special Features/Conditions), 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H.	1, 2, 3, 6, 7, 8, 10, 11, 12 (see Special Features/Conditions), 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H.
13. Wind coverage/exclusions	The warranty covers roof damage resulting from wind speeds up to 55 mph. The warranty excludes gales (exceeding 55 mph) and tornadoes.	Warranty excludes winds in excess of 55 mph, hurricanes, and tornadoes. Firestone indicates that warranty covers roof damage resulting from wind speeds up to 55 mph.	Warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damaged caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	C, M, S (See Special Features/Conditions.)	C, M, S (See Special Features Conditions.)	M, S (See Special Features/Conditions.)
15. Cost to obtain	5 years: \$50; 10 years: \$75; 15 years: \$2.00/square	Firestone EPDM: 5 years: \$3.00/square; 10 years: \$5.00/square; 15 years: \$8.00/square; 20 years: \$10.00/square; (warranty price is reduced \$1.00/square for using nonreinforced membrane with the exception of 20-year term.) UltraPly: 5 years: \$3.00/square; 10 years: \$5.00/square; 15 years: \$8.00/square; Firestone APP (without roof monitoring): 5 years: \$3.00/square; 10 years: \$7.00/square; 12 years: \$9.00/square; 15 years: \$12.00/square; 20 years: \$17.00/square; Firestone SBS (without roof monitoring): 5 years: \$3.00/square; 10 years: \$7.00/square; 12 years: \$9.00/square; 15 years: \$12.00/square; 20 years: \$17.00/square; Firestone Built-up (without roof monitoring): 5 years: \$3.00/square; 10 years: \$7.00/square; 12 years: \$9.00/square; 15 years: \$12.00/square; 20 years: \$17.00/square; (warranty price for APP, SBS, and built-up systems are reduced when roof monitoring is employed)	\$50.00
16. Minimum charge	5 years: \$50; 10 years: \$75; 15 years: \$100	Varies from \$250 to \$750 depending on length of coverage	300
	Cold-storage buildings, single-family residences, and special-purpose	Single-family residence, patio, plaza deck, roofs outside of U.S. and	

17. Ineligible structure or building use	facilities.	Canada	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada
18. Pre-construction notice and approval requirements	ERSystems must receive a completed warranty pre-notification form prior to the start of the project. All warranty requests require approval in advance of starting the project. Any deviations from ER Systems' published specifications must be approved in writing prior to job start.	Preinstallation notice must be submitted 14 days prior to job start and must be approved by Firestone technical service.	Contractor must submit [application for warranty] certifying that the membrane has been installed in accordance with Firestone technical specifications.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	ERSystems technical support representative makes inspections during application depending on size and complexity of job and qualifications of contractor and after completion prior to issuance of warranty as well as two years after issuance of warranty; no charge for initial warranty; charge for subsequent inspection if job does not pass inspection. ERSystems reserves the right to require a pre-job inspection.	Firestone field technical representative makes on-site inspection after completion and prior to issuance of warranty; no charge	No on-site inspections
21. Contractor's post-installation obligation	None; material-only warranty.	Contractor obligated to repair workmanship deficiencies for two years.	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations.	No; Firestone indicates that it is self-insured.	No; Firestone indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	ERSystems sells product only.	Firestone manufactures and sells the product.	Firestone manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No arenewal provision	No renewal provision
25. Assignability	Warranty is transferable subject to the terms of ERSystems' inspection, written approval, and payment of the current transfer fee, solely at the discretion of ERSystems.	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.
26. Special features/conditions	<p>If ERSystems determines the cause of a reported leak to be outside the scope of the warranty, inspection and repair costs shall be paid by the owner; failure of owner to pay for non-warranted repairs within 30 days of notification shall render the warranty null and void.</p> <p>The warranty shall be governed and construed in accordance with the laws of the state of Minnesota. The courts of Minnesota shall have exclusive jurisdiction over all disputes arising out of warranty.</p> <p>Any action for breach of the contract or warranty, except for nonpayment by buyer, must be commenced within one year after the cause of action occurs, and all actions shall be barred after such time.</p> <p>The warranty states that it is agreed and understood that the price for the system is consideration for the limitation of ERSystems liability stated in warranty.</p>	<p>If Firestone's investigation reveals that the cause of a leak is excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the owner and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires owner compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, the owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system that are due to delays associated with said restrictions. The owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, excluding accepted stone ballast or pavers, as necessary to expose the system for inspection and/or repair.</p>	<p>If Firestone's investigation reveals that the cause of a leak is outside the scope of the warranty, investigation costs shall be paid by owner; failure of owner to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the owner and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires owner compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, the owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. The owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the system for inspection and/or repair.</p>
27. Executed by owner	Yes	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.
2. Title, original publication date, and identifying symbol, if any	Firestone 10-Year EPDM/Ultraply 78+ Membrane Limited Warranty; August 1994; 8/94Item #916R-01	Firestone Protected Membrane Limited Warranty; August 1994; 8/94Item #915R-01	Firestone Modified Bitumen Standard Roof System Limited Warranty; January 1996; 1/96Item #558(R)MB (Replaces 7/94)-01
3. Product, specification, or system covered	Firestone Rubbergard EPDM, Firestone UltraPly	Firestone Rubbergard EPDM, Firestone Protected Membrane System	Firestone APP Systems, Firestone SBS Systems
4. Scope of coverage	Material only; Firestone warrants that it will provide replacement membrane materials sufficient to replace any area of EPDM or UltraPly roofing membrane which leaks as a result of ordinary exposure to the elements or manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealants, coatings, or workmanship.	Material only; Firestone warrants that it will provide replacement membrane material sufficient to replace any area of Firestone EPDM membrane that leaks as a result of ordinary exposure to the elements or any manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealants, coatings, or workmanship.	Firestone warrants that it will repair any leak in the Firestone modified bitumen roofing system. The Firestone System is limited to mean Firestone-brand membranes, Firestone-brand insulation, and other Firestone-brand accessories when installed in accordance with Firestone technical specifications.
5. Length of coverage	10 years	10 years	5, 10, or 12 years
6. Nature of remedy	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.
7. Monetary limitations	Firestone's replacement obligations over the life of the warranty are limited to the original cost of the membrane.	Firestone's replacement obligations over the life of the warranty are limited to the original cost of the membrane.	Firestone's repair obligation over the life of the warranty is limited to the original cost of the system installation.
8. Notification requirements	Written notification within 30 days of any occurrence of a leak	Written notification within 30 days of any occurrence of a leak	Written notification within 30 days of any occurrence of a leak
9. Exclusive or additional remedy	Warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	Warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Firestone's determination	Firestone's determination	Firestone's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 6, 7, 8, 10, 12 (see Special Features/Conditions), 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals, and Specific Condition H.	1, 2, 3, 6, 7, 8, 10, 12 (see Special Features/Conditions), 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals, and Specific Condition H.	1, 2, 3, 6, 7, 8, 10, 11, 12 (see Special Features/Conditions), 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H.
13. Wind coverage/exclusions	Warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damage caused by wind.	Warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damage caused by wind.	Warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	M, S (See Special Features/Conditions.)	C, M, S (See Special Features/Conditions.)	C, M, S (See Special Features/Conditions.)
15. Cost to obtain	\$50	\$200	5 years: \$3.00/square; 10 years: \$5.00/square; 12 years: \$6.00/square
16. Minimum charge	\$50	\$200	5 years: \$300/square; 10 years: \$350/square; 12 years: \$400/square
17. Ineligible structure or building use	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada
18. Pre-construction notice and approval requirements	Preinstallation notice must be submitted 14 days prior to job start.	Preinstallation notice must be submitted 14 days prior to job start.	Preinstallation notice must be submitted 14 days prior to job start and must be approved by Firestone technical service.

19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections	Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Firestone indicates that it is self-insured.	No; Firestone indicates that it is self-insured.	No; Firestone indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	Firestone manufactures and sells the product.	Firestone manufactures and sells the product.	Firestone manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.
26. Special features/conditions	<p>If Firestone's investigation reveals that the cause of a leak is outside the scope of the warranty, investigation costs shall be paid by purchaser; failure of purchaser to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the purchaser and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires purchaser compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, purchaser shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. Purchaser shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the surface of the membrane for inspection and/or repair.</p>	<p>If Firestone's investigation reveals that the cause of a leak is outside the scope of the warranty, investigation costs shall be paid by owner; failure of owner to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the owner and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires owner compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, the owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. The owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the system for inspection and/or repair.</p>	<p>If Firestone's investigation reveals that the cause of a leak is excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay these costs shall render the warranty null and void. Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires owners compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, the owner shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. The owner shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the system for inspection and/or repair.</p>
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.	Firestone Building Products Company, division of Bridgestone/Firestone, Inc.
2. Title, original publication date, and identifying symbol, if any	Firestone Modified Bitumen Product Limited Warranty ; September 1997; 9/97 Item #913MB (Replaced 2/96)-01	Firestone Roofing Membrane Limited Warranty ; December 1996; 12/96 Item #812R (Replaces 8/94)-01	"Manufacturer's Insulation Warranty"; 4/96 - Item #953S-01
3. Product, specification, or system covered	Firestone APP 160, 170, 180, Firestone SBS	Firestone Rubbergard EPDM, Firestone Ultra Ply 78+	Firestone ISO 95+ insulation
4. Scope of coverage	Material only; Firestone warrants that it will provide replacement membrane material or a prorated credit (based upon the remaining months of the unexpired warranty) sufficient to replace any area of Firestone modified bitumen membrane that leaks as a result of ordinary exposure to the elements or any manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealants, coatings, or workmanship.	Material only; Firestone warrants that it will provide replacement membrane materials sufficient to replace any area of Firestone roofing membrane that leaks as a result of ordinary exposure to the elements or any manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealants, coatings, or workmanship.	Material only; Firestone warrants that when used under a Firestone-manufactured roofing membrane, the Firestone ISO 95+ will not warp, bow, or destabilize to the point of causing a roof leak as a result of any manufacturing defect in the ISO 95+. This warranty is only effective when issued with a Firestone Standard or Red Shield System warranty.
5. Length of coverage	10 years: Firestone APP 160 or 170 (smooth surfaced), Firestone SBS (granule surfaced); 12 years: Firestone APP 160 or 170 (smooth surfaced) with approved field-applied roof coating, Firestone APP 180 (granule surfaced), Firestone SBS (granule surfaced) installed over a hot asphalt attached base sheet.	15 years: Firestone Ultra Ply 78+; 20 years: Firestone EPDM	10, 15, or 20 years [firestone indicates term of insulation warranty cannot exceed that of the standard or Red Shield Term.]
6. Nature of remedy	Purchaser's sole and exclusive remedy and Firestone's liability shall be limited either to the supply of replacement membrane material sufficient to cover or replace the deteriorated membrane area or a prorated credit (based on the number of remaining months of the unexpired warranty) to be applied towards the purchase of the new membrane material.	The owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak.	Firestone shall provide the owner with free Firestone 95+ and Firestone roofing membrane materials and shall repair the affected roof area.
7. Monetary limitations	Firestone's replacement obligations over the life of the warranty are limited to the original cost of the membrane.	Firestone's repair obligations over the life of the warranty are limited to the original cost of the membrane installation.	None stated.
8. Notification requirements	Written notification within 30 days of any occurrence of a leak.	Written notification within 30 days of any occurrence of a leak.	Written notification within 30 days of the discovery of any event leading to a claim.
9. Exclusive or additional remedy	The warranty is purchaser's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	The warranty is owner's sole and exclusive remedy against Firestone; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	The warranty is the owner's sole and exclusive remedy against Firestone; the warranty supersedes and is in lieu of all other warranties or guarantees; Firestone shall not be liable for any damages that are based on negligence, breach of warranty, strict liability, or any other theory, other than the limited liability set forth in the warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Firestone's determination	Firestone's determination	Firestone's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 6, 7, 8, 10, 11, 12 (see Special Features/Conditions), 13, 17, 18, 22. The warranty also specifically excludes damages caused by atomic radiation, insects, or animals, and Specific Condition H.	1, 2, 3, 6, 7, 8, 10, 12, 17, 18, 22. The warranty also specifically excludes damages caused by atomic radiation, insects, or animals, and Specific Condition H.	1, 2, 3, 6, 7, 10, 12, 13, 18, 22. The warranty also specifically excludes damages caused by atomic radiation, insects, or animals.
13. Wind coverage/exclusions	The warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damage caused by wind.	The warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damage caused by wind.	The warranty excludes winds, hurricanes, and tornadoes. Firestone indicates that there is no coverage for damages caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	M, S (See Special Features/Conditions.)	M, S (See Special Features/Conditions.)	J
15. Cost to obtain	None	\$200	None
16. Minimum charge	None	\$200	None

17. Ineligible structure or building use	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada.	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada.	Single-family residence, patio, plaza deck, roofs outside of U.S. and Canada.
18. Pre-construction notice and approval requirements	None required.	Preinstallation notice must be submitted 14 days prior to job start.	Preinstallation notice must be submitted 14 days prior to job start and must be approved by Firestone technical service.
19. Approved, authorized, or licensed applicator	No	No	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections	Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	None required.	Although this is a material-only warranty, the contractor is obligated to make repairs to workmanship deficiencies for two years.	Although this is a material-only warranty, the contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Firestone indicates that it is self-insured.	No; Firestone indicates that it is self-insured.	No; Firestone indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	Firestone manufactures and sells the product.	Firestone manufactures and sells the product.	Firestone manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.	Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee.	No restrictions stated.
26. Special features/conditions	<p>If Firestone's investigation reveals that the cause of a leak is outside the scope of the warranty, investigation costs shall be paid by purchaser; failure of purchaser to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the purchaser and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires purchaser compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, purchaser shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. Purchaser shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the surface of the membrane for inspection and/or repair.</p>	<p>If Firestone's investigation reveals that the cause of a leak is outside the scope of the warranty, investigation costs shall be paid by purchaser; failure of purchaser to pay these costs shall render the warranty null and void. Any dispute, controversy, or claim between the purchaser and Firestone concerning warranty shall be settled by final and binding arbitration in accordance with the American Arbitration Association's rules for the construction industry. Warranty shall be governed and construed in accordance with the laws of the state of Indiana without regard to conflict of laws.</p> <p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate. Warranty cannot be amended, altered, or modified in any way except in writing signed by the president of Firestone or a person to whom his authority has been delegated in writing.</p> <p>Warranty requires purchaser compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty document, including at least twice yearly inspections; ponding water not be allowed; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counter flashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event the roof access is limited due to security or other restrictions, purchaser shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the system which are due to delays associated with said restrictions. Purchaser shall be responsible for the removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, as necessary to expose the surface of the membrane for inspection and/or repair.</p>	<p>Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of roof system is appropriate.</p> <p>Warranty requires compliance with Firestone roofing care and maintenance requirements stated on reverse side of warranty, including at least twice yearly inspections; ponding water not allowed; drain areas remain clear; no exposure to acids, solvents, greases, oils, fats, chemicals and the like. Contact Firestone immediately if the Firestone Roofing System comes into contact with any such materials.</p>
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Flex Membrane International	Flex Membrane International	GAF Materials Corporation (GAF)
2. Title, original publication date, and identifying symbol, if any	□Warranty□; July 1990	□Membrane Material Warranty□; July 1990	□Limited Warranty on Material GAFGLAS□; March 1994, Form 10450 3/94
3. Product, specification, or system covered	Flex FB Elvaloy, Flex MF/R Elvaloy, Flex MF/R 50, Flex MF/R 60, Flex MF/R 70, Flex MF/R 80, Flex FB 100	Flex membrane material in all Flex roof systems	GAFGLAS Ply 6, GAFGLAS Ply 4 and all GAF BUR specifications
4. Scope of coverage	Material and workmanship; Flex warrants against leakage caused by defects in Flex materials or workmanship in the application of Flex's material.	Material only; Flex warrants that the Flex membrane material will be free from defects.	Material only; GAF warrants that the GAFGLAS roof membrane and GAF base flashing materials will withstand ordinary wear and tear of the elements and will be free of manufacturing defects that affect their ability to maintain the roof in a watertight condition. Warranty applies only to GAFGLAS roofing membrane and GAF base flashings installed in accordance with current specifications.
5. Length of coverage	5, 10, or 15 years	5, 10, or 15 years	10 years
6. Nature of remedy	Flex's sole obligation shall be to repair any leaks in the roof caused by defects in Flex materials or workmanship of the roofing contractor in the application of Flex's material.	Flex's sole obligation shall be to repair or replace the defective membrane material.	GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of GAF materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. Repair or replacement of the roof deck or of other materials not sold by GAF is not included.
7. Monetary limitations	None stated.	Flex's liability shall not exceed the original value of the membrane material.	GAF's maximum liability during first year after completion is the original cost of GAF materials. After the first year, GAF's maximum liability is the original cost of the GAF materials reduced by 10 percent of the maximum liability during each year after the first year, less any costs previously incurred by GAF for repair or replacement. In no event shall GAF be liable for a sum greater than the maximum GAF liability stated herein or more than five times the proportional cost paid to GAF for the GAF materials installed on the affected portion of the roof, whichever is less.
8. Notification requirements	Written notification to Flex Membrane International, Bethlehem Drive, Morgantown, PA 19543, by registered mail within 30 days of discovery of any defect in Flex material.	Written notification to Flex Membrane International, Bethlehem Drive, Morgantown, PA 19543, by registered mail within 30 days of discovery of any defect in Flex material.	Written notification within 30 days to nearest GAF district office of leak resulting from manufacturing defect or ordinary wear and tear by the elements
9. Exclusive or additional remedy	Warranty supersedes and is in lieu of any and all other express warranties that conflict with the terms and conditions stated in the warranty.	Warranty supersedes and is in lieu of any and all other expressed warranties that are in conflict with the terms and conditions stated in warranty.	Warranty is expressly in lieu of any other guarantee and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Flex's judgement	Flex's judgment	Neutral (no provision).
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 16	1, 2, 3, 4, 5, 16	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials), 15, 17, 18, 19, 20, 22; also excludes any damage occurring more than 30 days after discovery of a leak, unless GAF is notified within 30 days of discovery.
13. Wind coverage/exclusions	Warranty excludes hurricanes and tornadoes. Flex indicates that warranty covers wind speeds up to 60 mph.	Warranty excludes hurricanes and tornadoes. Flex indicates that warranty covers wind speeds up to 60 mph.	Warranty excludes windstorms, hurricanes, and tornadoes. GAF indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make	B, C, F, G, H	B, C, F, G, H	C, H, I. Also, warranty provides that cancellation of this warranty will result if the roof is damaged by any cause

warranty ineffective or null and void (See item no. 14 in Introduction.)			listed above as a specific exclusion that will affect the integrity or watertightness of the roof.
15. Cost to obtain	5 years: None; 10 years: \$5.00/square; 15 years: \$8.00/square	5 years: None; 10 years: \$1.00/square; 15 years: \$2.00/square	None
16. Minimum charge	5 years: None; 10 years: \$375; 15 years: \$600	5 years: None; 10 years: \$50; 15 years: \$100	None
17. Ineligible structure or building use	None	None	Domed structures, heated tanks, storage silos, drying kilns, car wash buildings, swimming pools, and other structures with abnormally high-humidity conditions, cold-storage and cooler buildings when the freezer or cooler insulation is used as the base to receive the roof
18. Pre-construction notice and approval requirements	The contractor submits request for guarantee to Flex for approval with roof diagram.	The contractor submits request for guarantee to Flex for approval with roof diagram.	None
19. Approved, authorized, or licensed applicator	Yes	Yes	No
20. Job inspection policy	Flex technical representative makes on-site inspections prior to, during application (a minimum of one inspection), and after completion of installation prior to issuance of warranty; no charge.	Flex technical representative makes on-site inspection prior to, during application (a minimum of one inspection), and after completion of installation prior to issuance of warranty; no charge.	No on-site inspections
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to all leaks and workmanship deficiencies for two years.	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.	None; material-only warranty
22. Backed by named insurance or surety	No; Flex indicates that it does not carry insurance covering its warranty obligations.	No	No; GAF indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Flex manufactures and sells the product.	Flex manufactures and sells the product.	GAF manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision in warranty. Flex indicates that it may issue extensions on an individual project basis.	No renewal provision in warranty. Flex indicates that it may issue extension on individual project basis.	No renewal provision
25. Assignability	Warranty may not be transferred without the written consent of Flex. Flex indicates it permits transfer with written consent from Flex and payment of transfer fee.	Warranty may not be transferred without Flex's written consent. Flex indicates that it permits transfer with written consent from Flex and payment of transfer fee.	Not transferable or assignable in any manner
26. Special features/conditions	No representative of Flex has authority to make any representations or promises except as stated in warranty.	No representative of Flex has authority to make any representations or promises except as stated in warranty.	Owner must sign and mail in GAF warranty registration form within 30 days of roof completion in order for warranty to be effective. No representative, employee, or agent of GAF, or any other person has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications in regard to the construction of the roof, unless the change or amendment to the specifications are approved in writing by an authorized GAF technical service manager.
27. Executed by owner	No	No	

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)
2. Title, original publication date, and identifying symbol, if any	"Liberty Guarantee"; November 1996; Form 10446 11/96	"Commercial Roof Guarantee"; November 1996, Form 10442 11/96	"Ruberoid LMG"; January 1, 1997; Form 10460 1/97
3. Product, specification, or system covered	Built-Up Roofing and Modified Bitumen Products: Ruberoid Torch FR, Ruberoid Torch Plus, Ruberoid Torch, Ruberoid Mop, Ruberoid Mop FR, Ruberoid Mop 170 FR, Ruberoid Mop Plus, Ruberoid 30 FR, Ruberoid 30, Ruberoid 20, Ruberoid Mop Smooth, Ruberoid Torch 1, Ruberoid 601 Plus, Ruberoid Modified Base Sheet, GAFGLAS Ply 6, GAFGLAS Ply 4, GAFGLAS Flex Ply 6, Ultima 80 Base	All Ruberoid and GAFGLAS Specifications	Modified Bitumen Products: Ruberoid Mop Plus, Ruberoid Mop FR, Ruberoid Mop 170 FR, Ruberoid Mop Granule, Ruberoid 30, Ruberoid 30 FR, Ruberoid Torch FR, Ruberoid Torch Plus, Ruberoid Torch Granule, Ruberoid Torch Smooth Coated, Ruberoid Torch Smooth
4. Scope of coverage	Material and workmanship; GAF guarantees to make repairs to GAF roofing membrane, GAF base flashing, GAF insulation, GAF expansion joint covers, and GAF pre-flashed accessories as are necessary solely to correct leaks resulting from natural deterioration of GAF materials; blisters; bare spots; fishmouths; ridges; splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAF insulation over which GAF materials are applied; buckles and wrinkles; workmanship in applying the GAF materials; and slippage of membrane or base flashing.	Material and workmanship; GAF guarantees to make repairs to GAF roofing membrane, GAF base flashing, GAF insulation, GAF expansion joint covers and GAF pre-flashed accessories as are necessary solely to correct leaks resulting from natural deterioration of GAF materials; blisters; bare spots; fishmouths; ridges; splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAF insulation over which GAF materials are applied; buckles and wrinkles; workmanship in applying the GAF materials; and slippage of membrane or base flashing.	Material only; GAF warrants that the Ruberoid roof membrane and Ruberoid base flashing materials will withstand ordinary wear and tear by the elements and will be free of manufacturing defects which affect their ability to maintain the roof in watertight condition. Warranty applies to Ruberoid materials installed in accordance with current GAF specifications.
5. Length of coverage	5, 10 and 12 years: 3- or 4-ply GAFGLAS Ply 4 or Ply 6 Specifications, Ruberoid, or Plus specifications; 12 years: Ruberoid or Plus specifications; 15 or 20 years: 4-Ply GAFGLAS Ply 6 Specifications, Ruberoid Plus specifications. Approved coating or asphalt and gravel must be applied as top covering for smooth surface Ruberoid membrane to obtain 12-year Ruberoid Liberty Guarantee.	5 and 10 years: 3- or 4-ply GAFGLAS Ply 4 or Ply 6 specifications, Ruberoid, or Plus specifications; 10 years: Ruberoid or Plus specifications; 12 years: Ruberoid or Plus specifications; 15 years: 4-ply GAFGLAS Ply 6 specifications, Ruberoid Plus specifications; 20 years: 4-ply GAFGLAS Ply 6 specifications, Ruberoid Plus specifications. Approved coating or asphalt and gravel must be applied as top covering for smooth surface Ruberoid membrane to obtain 10, 15, or 20-year guarantee.	10 years: Ruberoid 30, Ruberoid 30 FR, Ruberoid Torch Smooth; 12 years: Ruberoid Mop 170 FR, Ruberoid Mop Granule, Ruberoid Torch Smooth Coated, Ruberoid Torch Granule; 15 years: Ruberoid Mop Plus, Ruberoid Mop Plus FR, Ruberoid Torch Plus, Ruberoid Torch FR
6. Nature of remedy	GAF will make repairs to GAF membrane, base flashing, insulation, expansion joint covers, and pre-flashed accessories as shall be necessary solely in order to correct covered leaks at no cost to owner. Warranty excludes repair or replacement of materials not sold by GAF.	GAF will make repairs to GAF membrane, base flashing, insulation, expansion joint covers, and pre-flashed accessories as shall be necessary solely in order to correct covered leaks at no cost to the owner. Warranty excludes repair or replacement of materials not sold by GAF.	GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of the Ruberoid materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. Repair or replacement of the roof deck or other roof components used with the Ruberoid materials is not included.
7. Monetary limitations	None stated.	GAF's maximum liability shall not exceed in the aggregate over the life of the guarantee more than \$100 per square.	None stated.
8. Notification requirements	Written notification within 30 days of discovery of leak to GAF technical services department, 1361 Alps Road, Building 2-1, Wayne, NJ 07470	Written notice within 30 days of discovery of leak to GAF technical services department, 1361 Alps Road, Building 2-1, Wayne, NJ 07470	Written notice within 30 days of discovery of leak to GAF Technical Services Department, 1361 Alps Road, Building 2-1, Wayne, NJ 07470
9. Exclusive or additional remedy	The guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties.	The guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties.	Warranty is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	GAF's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7 (not applicable to GAF insulation or GAF roof base), 8, 9, 10, 11, 12, 13, 15, 17, 22, 24.	1, 2, 3, 4, 5, 6, 7 (not applicable to GAF insulation or GAF roof base), 8, 9, 10, 11, 12, 13, 15, 17, 22, 24.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 19, 20, 22, 24.
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes, and tornadoes. GAF indicates that there is no coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates that there is no coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	C, H, I, S. Also, guarantee states that cancellation of this guarantee will result if roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.	C, H, I, S. Also, the guarantee states that cancellation of this guarantee will result if the roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.	Warranty states that cancellation of this warranty will result if the roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof.
15. Cost to obtain	5 years: \$5.00/square; 10 years: \$9.00/square; 12 years: \$10.00/square; 15 years: \$12.00/square; 20 years: \$17.00/square	5 years: \$4.00/square; 10 years: \$6.00/square; 12 years: \$7.00/square; 15 years: \$9.00/square; 20 years: \$12.00/square	None
16. Minimum charge	5 years: \$350; 10 years: \$750; 12 years: \$750; 15 years: \$800; 20 years: \$1,000	5 years: \$350; 10 years: \$500; 12 years: \$500; 15 years: \$500; 20 years: \$500	None
17. Ineligible structure or building use	High-humidity buildings (i.e., car washes, swimming pools), domed structures, heated tanks, storage silos, drying kilns, freezer or cooler buildings when the freezer or cooler insulation is also the roof insulation.	Domed structures, heated tanks, storage silos, drying kilns, car wash buildings, swimming pools and other structures with abnormally high humidity conditions, cold-storage and cooler buildings when the freezer or cooler insulation is used as the base to receive the roof.	Applications over buildings with high internal humidity, freezer buildings or buildings used for cold storage.

18. Pre-construction notice and approval requirements	The contractor must submit a notice of award of contract at least ten days prior to commencement, providing job details.	Contractor must submit a notice of award of contract prior to commencement, providing job details.	None required.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	GAF territory manager makes on-site inspections prior to and during application. GAF field technical representative makes on-site inspections after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	GAF territory manager makes on-site inspections prior to and during application. GAF field technical representative makes on-site inspections after completion, prior to issuance of guarantee, as well as two years after issuance of guarantee; no charge.	No on-site inspections.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to all leaks and workmanship deficiencies for two years.	Contractor obligated to make repairs to all leaks and workmanship deficiencies for two years	None; material-only guarantee.
22. Backed by named insurance or surety	No; GAF indicates that it does not carry insurance covering its guarantee obligations.	No; GAF indicates it does not carry insurance covering its guarantee obligations.	No; GAF indicates it does not carry insurance covering its guarantee obligations.
23. Issuing entity manufactures and/or sells products	GAF manufactures and sells product.	GAF manufactures and sells product.	GAF manufactures and sells product.
24. Conditions for renewal or extension	Warranty may be renewed for five years at a cost of \$500.	The owner requests during the last six months of the fifth year that GAF make roof inspection free of charge. GAF will advise the owner of any repairs necessary to qualify for additional five years. The owner must make repairs at his sole expense and notify GAF no later than 45 days after the expiration of the original five-year guarantee. GAF will then reinspect and, if acceptable, guarantee will be extended for five years. GAF reserves the right to refuse to renew the guarantee if GAF determines repairs are needed due to specific exclusions from guarantee coverage.	No renewal provision
25. Assignability	Assignable to another owner only if (1) request is made in writing 30 days after ownership transfer; (2) membrane is inspected and any required repairs are completed at owner's expense; (3) proposed assignment is approved in writing by an authorized GAF technical services manager; and (4) an assignment fee of \$500 is paid to GAF. Otherwise, guarantee is not assignable, directly or indirectly.	Assignable to another owner only if (1) request is made in writing within 30 days after ownership transfer, (2) membrane is inspected and any required repairs are completed at owner's expense, (3) proposed assignment is approved in writing by an authorized GAF technical services manager, and (4) an assignment fee of \$500 is paid. Otherwise, guarantee is not assignable, directly or indirectly.	Not transferable or assignable in any manner.
26. Special features/conditions	<p>Owner shall, at its expense, (a) perform regular inspections and maintenance; (b) keep records of all inspections and maintenance performed; and (c) perform repairs to the roof or other building components identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials. Failure of owner to perform work promptly following written notification by GAF may result in cancellation of guarantee if the owner's failure results in damage to the GAF roofing materials.</p> <p>Owner shall, at its expense, remove (and, if desired, subsequently replace) any materials and equipment that impede inspection and repair of the GAF roofing materials, such as HVAC units and satellite dishes mounted so that there is no functional access to the roof system, and precast concrete or rubber pavers, wood decking or steel grating that are installed over the GAF roofing materials.</p> <p>No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications, unless the change or amendment to the specifications is approved in writing by an authorized GAF technical service manager.</p> <p>In an emergency, the Owner may authorize or perform temporary repairs to minimize damage to the building or its contents. Such work will not result in the cancellation of guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the GAF membrane or base flashing. Owner is responsible for all expenses associated with temporary repairs.</p>	<p>Owner shall, at its expense, (a) perform regular inspections and maintenance; (b) keep records of all inspections and maintenance performed; and (c) perform repairs to the roof or other building components identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials. Failure of owner to perform work promptly following written notification by GAF may result in cancellation of guarantee if the owner's failure results in damage to the GAF roofing materials.</p> <p>Owner shall, at its expense, remove (and, if desired, subsequently replace) any materials and equipment that impede inspection and repair of the GAF roofing materials, such as HVAC units and satellite dishes mounted so that there is no functional access to the roof system, and precast concrete or rubber pavers, wood decking and steel grating that are installed over the GAF roofing materials.</p> <p>No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications, unless the change or amendment is approved in writing by an authorized GAF technical services manager. The roofing contractor is not an agent of GAF; notice to the roofing contractor is not notice to GAF.</p> <p>In an emergency, the owner may authorize or perform temporary repairs to minimize damage to the building or its contents. Such work will not result in the cancellation of guarantee provided the temporary repairs are reasonable and customary and do not result in permanent damage to the GAF membrane or base flashing. Owner is responsible for all expenses associated with temporary repairs.</p>	<p>Claims under this warranty require proof of purchase.</p> <p>GAF shall have reasonable time after notification of a claim to inspect the roof and if GAF determines manufacturing defects are covered by warranty, GAF will have 90 days after receipt of notification of leaks to make or cause to be made repairs or replacement.</p> <p>The owner must initiate and follow a 10-point maintenance program prescribed by GAF on the reverse side of guarantee including: (1) maintaining a file showing all inspections, repairs, original construction drawings and specifications; (2) inspecting roof at least semiannually; (3) inspecting roof for damage after severe weather conditions; (4) repairing non-guaranteed conditions affecting the GAF roof system; (5) removing any debris; (6) examining/reattaching loose metalwork; (7) repairing loose masonry/coping stones; (8) examining roof top equipment to determine if they move excessively or leak; (9) recoating any cracked, flaking, blistered or worn areas of protective coatings; and (10) minimize rooftop traffic.</p> <p>No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF specifications, unless the change or amendment to the specifications is approved in writing by an authorized GAF technical services manager. Notice to the roofing contractor or distributor is not notice to GAF.</p>
27. Executed by owner	No	No	Yes; Owner must sign and mail in warranty registration form within 30 days of roof completion.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)
2. Title, original publication date, and identifying symbol, if any	[Limited Warranty on Material Ruberoid Ten]; March 1994; Form 10301 3/94	"Liberty PDR Guarantee"; November 1996; Form 10457 11/96	"Liberty LWIC Single Source Guarantee"; December 1996; Form 10459 12/96
3. Product, specification, or system covered	All Ruberoid specifications	Modified Bitumen Specifications: NN-O-2-MS(PD), I-O-2-MS(PD), NN-O-2-TS(PD), I-O-2-TS(PD), NN-O-3-MS(PD), I-O-3-MS(PD), NN-O-3-TS(PD), I-O-3-TS(PD)	GAFGLAS Built-Up Roof Specifications: N-B-5-G, N-B-5-C, N-B-5-M, N-B-4-G, N-B-4-C, N-B-4-M, N-B-5-G/P6, N-B-5-C/P6, N-B-5-M/P6, N-B-4-G/P6, N-B-4-C/P6, N-B-4-M/P6; Ruberoid Modified Bitumen Specifications: N-1-2-20/30, N-1-2-20/30FR, N-1-1-TS, N-1-1-TG, N-1-1-TSC, N-1-1-MG, N-1-1-MGFR, N-1-1-MSG, N-2-1-MGP, N-2-1-MGPFR, N-3-1-MGP, N-3-1-MGPFR, N-1-2-20/MG, N-1-2-20/MGRF, N-1-2-20/MSG, N-1-2-20/MGP, N-1-2-20/MGPFR, N-2-1-TGP, N-2-1-TGPFR, N-3-1-TGP, N-3-1-TGPFR, N-1-2-TGP, N-1-2-TGPFR, N-1-2-TG
4. Scope of coverage	Material only; GAF warrants that the Ruberoid roofing membrane and Ruberoid base flashing materials will withstand ordinary wear and tear by the elements and will be free of manufacturing defects that affect their ability to maintain the roof in a watertight condition. Warranty applies only to Ruberoid roofing membrane and Ruberoid base flashings installed in accordance with current Ruberoid specifications.	Material and workmanship; GAF guarantees GAF roofing membrane, GAF base flashing, GAF underlying insulation, GAF expansion joint covers and GAF pre-flashed accessories installed with an above-grade plaza deck assembly will withstand ordinary wear and tear by the elements and will be free of manufacturing and installation workmanship defects which affect its ability to maintain a watertight condition. Warranty covers repairs to the GAF materials as shall be necessary solely to correct leaks resulting from natural deterioration of GAF materials; blisters; fishmouths; ridges; splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAF insulation over which GAF materials are applied; buckles and wrinkles; workmanship in applying the GAF materials; slippage of membrane or base flashing; and normal pedestrian plaza deck usage. Guarantee covers repairs to GAF roofing materials and does not include repair or replacement of roof deck, insulation, protection boards, drainage boards and traffic surfacing used in conjunction with the plaza deck assembly not sold by GAF.	Material and workmanship; GAF guarantees to make repairs to GAF roofing membrane, GAF base flashing, GAF expansion joint covers, GAF pre-flashed accessories and GAF lightweight concrete insulation as are necessary solely to correct leaks resulting from natural deterioration of GAF materials; blisters; bare spots; fishmouths; ridges; buckles and wrinkles; splits not caused by structural failure or movement or cracks in substrate or roof base (other than the LWIC insulation) over which GAF materials are applied; workmanship in applying the GAF materials; and slippage of membrane or base flashing. GAF also warrants that, as to the LWIC insulation, the actual resistance to heat flow through the LWIC insulation will be at least 80% of the design thermal resistance and that the LWIC will not cause the roofing membrane to leak as a result of the vapor pressure effects (blisters) of moisture retained within the LWIC or cause structural damage to the building as a result of thermal or chemical reactions.
5. Length of coverage	10 years; 12 years with GAF weather-coated emulsion or fibered aluminum coating, or granule surface.	10 years: NN-O-2-MS(PD), I-O-2-MS(PD), NN-O-2-TS(PD), I-O-2-TS(PD); 15 or 20 years: NN-O-3-MS(PD), I-O-3-MS(PD), NN-O-3-TS(PD), I-O-3-TS(PD)	5, 10 and 12 years: 3- or 4-ply GAFGLAS Ply 4 or Ply 6 Specifications, Ruberoid or Plus Specifications; 12 years: Ruberoid or Plus Specifications; 15 or 20 years: 4-Ply GAFGLAS Ply 6 Specifications, Ruberoid Plus Specifications. Approved coating or asphalt and gravel must be applied as top covering for smooth surface Ruberoid membrane to obtain 12 year guarantee.
6. Nature of remedy	GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of Ruberoid materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak.	GAF will make repairs to GAF membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories as shall be necessary solely in order to correct covered leaks. Warranty excludes repair or replacement of materials not sold by GAF. Removal and replacement of plaza deck assembly materials to expose the GAF materials shall be made at the sole cost of the Owner even if GAF determines the leak is covered by the GAF guarantee.	GAF will make repairs to GAF membrane, base flashing, expansion joint covers, pre-flashed accessories and lightweight concrete insulation as shall be necessary solely in order to correct covered leaks at no cost to owner. Warranty excludes repair or replacement of roof deck or other materials not sold by GAF. Should the LWIC insulation fail to perform, GAF shall, at its own expense, (1) make or cause to be made repairs or modifications to the LWIC insulation as GAF deems appropriate so that the LWIC insulation will perform as warranted, and (2) repair or replace the roof membrane to the extent that it is damaged as a result of the failure of the LWIC insulation to perform as warranted as a result of repairs or modifications to the LWIC insulation.
7. Monetary limitations	GAF's maximum liability during the first year after completion is the original cost of Ruberoid materials. After the first year, GAF's maximum liability is the original cost of the Ruberoid materials reduced by ten percent of the maximum liability during each year after the first year, less any costs previously incurred by GAF for repair or replacement. In no event shall GAF be liable for a sum greater than maximum liability of warranty or more than five times the proportional cost paid to GAF for the Ruberoid materials installed on the affected portion of the roof, whichever is less.	None stated.	None stated
8. Notification requirements	Written notification within 30 days to nearest GAF district office of leak resulting from manufacturing defect or ordinary wear and tear by the elements.	Written notification within 30 days of discovery of leak to GAF Technical Services Department, 1361 Alps Road, Building 2-1, Wayne, NJ 07470.	Written notification within 30 days of discovery of leak or a failure of the LWIC insulation to GAF Technical Services Department, 1361 Alps Road, Wayne, NJ 07470.
9. Exclusive or additional remedy	Warranty is expressly in lieu of any other guarantee and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties.	Guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties.	Guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty or any other theory or cause of action; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision).	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials), 15, 17, 18, 19, 20, 22. Also excludes any damage occurring more than 30 days after discovery of a leak, unless GAF is notified within 30 days of discovery.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 15, 17, 22, 24. Warranty also excludes new penetrations, modifications or additions, damage resulting from removal of plaza decking material applied over the GAF roofing materials, and damage caused by vehicular traffic on the plaza deck.	1, 2, 3, 4, 5, 6, 7 (not applicable to GAF insulation or GAF roof base), 8, 9, 10, 11, 12, 13, 15, 17, 22, 24. Also excludes any damage occurring more than 30 days after discovery of a leak unless GAF is notified within 30 days of discovery, and damage due to underlying materials or structures having failed or ceased to conform to GAF's or other applicable specifications as to roof slopes or other requirements.
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes, and tornadoes. GAF indicates that there is no coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes, and tornadoes. GAF indicates that there is no coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make	C, H, I. Also, warranty provides that cancellation of this warranty will result if the roof is damaged by any cause listed above as a specific exclusion that will affect	C, H, I, S. Also, guarantee states that cancellation of this guarantee will result if roof is damaged by any cause listed as an exclusion (See Item 12 above) if the	C, H, I, S. Also, the guarantee states that cancellation of this guarantee will result if roof is damaged by any cause listed as an exclusion if the damage

warranty ineffective or null and void (See no. 14 in Introduction.)	the integrity or watertightness of the roof.	damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.	affects the integrity or watertightness of the roof and the owner does not promptly make repairs to rectify the damage and preserve the integrity of the roof following notification by GAF.
15. Cost to obtain	None	C, H, I, S. Also, guarantee states that cancellation of this guarantee will result if roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.	5 years: \$6.00/square; 10 years: \$10.00/square; 12 years: \$12.00/square; 15 years: \$14.00/square; 20 years: \$19.00/square
16. Minimum charge	None	10 years: \$800; 15 years: \$1,000; 20 years: \$1,200	5 years: \$450; 10 years: \$850; 12 years: \$900; 15 years: \$1,000; 20 years: \$1,200
17. Ineligible structure or building use	Domed structures, heated tanks, storage silos, drying kilns, car wash buildings, swimming pools and other structures with abnormally high-humidity conditions, cold-storage and cooler buildings when the freezer or cooler insulation is used as the base to receive the roof	High-humidity buildings (i.e., car washes, swimming pools), domed structures, heated tanks, storage silos, drying kilns, freezer or cooler buildings when freezer or cooler insulation is also the roof insulation.	High-humidity buildings (i.e., car washes, swimming pools), domed structures, heated tanks, storage silos, drying kilns, freezer or cooler buildings when the freezer or cooler insulation is also the roof insulation.
18. Pre-construction notice and approval requirements	None	Contractor must submit a notice of award of contract at least ten days prior to commencement, providing job details.	The contractor must submit a notice of award of contract at least ten days prior to commencement, providing job details.
19. Approved, authorized, or licensed applicator	None	Yes	Yes
20. Job inspection policy	No on-site inspections	GAF territory manager makes on-site inspections prior to and during application. GAF field technical representative makes on-site inspections after completion prior to issuance of guarantee, as well as two years after issuance of guarantee; no charge. Flood testing of all plaza deck roofing installations is required.	GAF territory manager makes on-site inspections prior to and during application. GAF field technical representative makes on-site inspections after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	None	Contractor obligated to make repairs to all leaks and workmanship deficiencies for two years.	Contractor obligated to make repairs to all leaks and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; GAF indicates that it does not carry insurance covering its warranty obligations.	No; GAF indicates it does not carry insurance covering its guarantee obligations.	No; GAF indicates it does not carry insurance covering its guarantee obligations.
23. Issuing entity manufactures and/or sells products	GAF manufactures and sells the product.	GAF manufactures and sells product.	GAF manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal policy	No renewal policy
25. Assignability	Not transferable or assignable in any manner	Assignable to another owner only if (1) request is made in writing 30 days after ownership transfer; (2) the visible GAF roofing materials and plaza deck are inspected and any required repairs are completed at owner's expense; (3) proposed assignment is approved in writing by an authorized GAF technical services manager; and (4) an assignment fee of \$500 is paid to GAF. Otherwise, guarantee is not assignable, directly or indirectly.	Assignable to another owner only if (1) request is made in writing 30 days after ownership transfer; (2) membrane is inspected and any required repairs are completed at owner's expense; (3) proposed assignment is approved in writing by an authorized GAF technical services manager; and (4) an assignment fee of \$500 is paid to GAF. Otherwise, guarantee is not assignable, directly or indirectly.
26. Special features/conditions	The owner must sign and mail in GAF warranty registration form within 30 days of roof completion in order for warranty to be effective. No representative, employee, or agent of GAF, or any other person has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications in regard to the construction of the roof, unless the change or amendment to the specifications are approved in writing by an authorized GAF technical service manager.	Upon request by GAF, the owner shall remove (and subsequently replace) all plaza deck assembly materials to expose the GAFMC Roofing Materials to allow for inspection and repair of the GAFMC Roofing Materials. Removal and replacement of the plaza deck assembly materials shall be made at the sole cost of the owner even if GAF determines that the leak is covered by this guarantee. No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications, unless the change or amendment to the specification is approved in writing by an authorized GAF technical service manager.	Owner shall, at its expense, (a) perform regular inspections and maintenance; (b) keep records of all inspections and maintenance performed; and (c) perform repairs to the roof or other building components identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials. Failure of owner to perform work promptly following written notification by GAF may result in cancellation of guarantee if the owner's failure results in damage to the GAF roofing materials. Owner shall, at its expense, remove (and, if desired, subsequently replace) any materials and equipment that impede inspection and repair of the GAF roofing materials, such as HVAC units and satellite dishes mounted so that there is no functional access to the roof system, and precast concrete or rubber pavers, wood decking or steel grating that are installed over the GAF roofing materials. No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility. GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications, unless the change or amendment to the specifications is approved in writing by an authorized GAF technical service manager. In an emergency, the Owner may authorize or perform temporary repairs to minimize damage to the building or its contents. Such work will not result in the cancellation of guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the GAF membrane or base flashing. Owner is responsible for all expenses associated with temporary repairs. No claim may be made in respect to thermal performance unless based on tests carried out by a qualified laboratory using tests and procedures satisfactory to GAF. GAF reserves the right to perform thermal testing on the LWIC insulation at its discretion and at its own cost.
27. Executed by owner	Yes (See Special Features/Conditions.)	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)	GAF Materials Corporation (GAF)
2. Title, original publication date, and identifying symbol, if any	"EverGuard Material Only Guarantee (A Limited Warranty)," January 1, 1998; Form 10512 1/98	"EverGuard Silver Seal Guarantee;" January 1998; Form 10511 1/98	"EverGuard Gold Seal Guarantee;" January 1998; Form 10510 1/98
3. Product, specification, or system covered	All EverGuard Single-Ply Membrane Applications	EverGuard Single-Ply Membrane Systems	EverGuard Single-Ply Membrane Systems
4. Scope of coverage	Material only; GAF warrants that the EverGuard roof membrane and EverGuard coated metal and membrane flashing materials will withstand ordinary wear and tear by the elements and will be free of manufacturing defects which affect their ability to maintain the roof in watertight condition.	Material and workmanship; GAF guarantees to make repairs to GAF EverGuard roofing membrane, coated metal roof edges and base flashing, membrane base flashing, expansion joint covers, and pre-flashed accessories as are necessary to correct leaks resulting solely from natural deterioration of the EverGuard roofing materials and from workmanship in applying the EverGuard roofing materials.	Material and workmanship; GAF guarantees to make repairs to GAF EverGuard roofing membrane, coated metal roof edges and base flashing, membrane base flashing, expansion joint covers, and pre-flashed accessories as are necessary to correct leaks resulting solely from natural deterioration of the EverGuard roofing materials and from workmanship in applying the EverGuard roofing materials.
5. Length of coverage	10 years	10 years: All materials and systems 15 years: Minimum .045" material, all systems 20 years: Minimum .080" material, new/tear-off systems	10 years: All materials and systems 15 years: Minimum .045" material, all systems 20 years: Minimum .080" material, new/tear-off systems
6. Nature of remedy	GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of the EverGuard materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. Repair or replacement of the roof deck or other roof components used with the EverGuard materials is not included. If GAF determines there are manufacturing defects covered by this warranty, GAF will repair or replace the EverGuard materials within 90 days after notification of leaks.	GAF will make repairs to GAF EverGuard roofing membrane, coated metal roof edges and base flashing, membrane base flashing, expansion joint covers, and pre-flashed accessories as shall be necessary to correct covered leaks at no cost to owner. Warranty excludes repair or replacement of insulation or other materials not sold by GAF	GAF will make repairs to GAF EverGuard roofing membrane, coated metal roof edges and base flashing, membrane base flashing, expansion joint covers, and pre-flashed accessories as shall be necessary to correct covered leaks at no cost to owner. Warranty excludes repair or replacement of insulation or other materials not sold by GAF.
7. Monetary limitations	None stated	GAF's maximum liability shall not exceed in the aggregate over the life of guarantee more than the original cost of the GAF supplied materials and reasonable and customary cost of labor used to install such materials.	None stated
8. Notification requirements	Written notice within 30 days of discovery of leak to GAF EverGuard Technical Services Department, 1361 Alps Road, Wayne, NJ 07470. Notice to the roofing contractor is not notice to GAF.	Written notification within 30 days of discovery of leak to GAF Technical Services Department, 1361 Alps Road, Wayne, NJ 07470. Notice to roofing contractor is not notice to GAF.	Written notification within 30 days of discovery of leak to GAF Technical Services Department, 1361 Alps Road, Wayne, NJ 07470. Notice to roofing contractor is not notice to GAF.
9. Exclusive or additional remedy	Warranty is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties. No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility.	Guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties. No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility.	Guarantee is expressly in lieu of any other guarantees and/or warranties and any other obligations or liability on the part of GAF, whether any claim is based upon strict liability, negligence, breach of warranty, or any other theory or cause of action; excludes UCC warranties. No representative, employee, or agent of GAF, or any other person, has any authority to assume for GAF any additional or other liability or responsibility.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	GAF's determination	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1,2,3,4,5,6,7,8,9,10,11 12,13,15,17,19,20,22,24	1, 2, 3, 4, 5, 6, 7 (not applicable to GAF insulation or GAF roof base), 8, 9, 10, 11, 12, 13, 15, 17, 22	1, 2, 3, 4, 5, 6, 7 (not applicable to GAF insulation or GAF roof base), 8, 9, 10, 11, 12, 13, 15, 17, 22
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates that there is no coverage for damage caused by wind.	GAF indicates warranty covers roof damage resulting from wind speeds up to 60 mph. Warranty excludes roof damage resulting from windstorms above 60 mph, hurricanes and tornadoes.	GAF indicates warranty covers roof damage resulting from wind speeds up to 60 mph. Warranty excludes roof damage resulting from windstorms above 60 mph, hurricanes and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	Warranty states that cancellation of this warranty will result if the roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof.	C, H, I, S. Also, guarantee states that guarantee will be canceled if roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.	C, H, I, S. Also, guarantee states that cancellation of this guarantee will result if roof is damaged by any cause listed as an exclusion (See Item 12 above) if the damage affects the integrity or watertightness of the roof and owner does not promptly make repairs following notification by GAF.
15. Cost to obtain	None	10 years: \$4.00/square 15 years: \$6.00/square 20 years: \$8.00/square	10 years: \$6.00/square 15 years: \$9.00/square 20 years: \$12.00/square
16. Minimum charge	None	10 years: \$400 20 years: \$900 15 years: \$600	10 years: \$500 20 years: \$1,000 15 years: \$750

7. Ineligible structure or building use	Private residences, walking decks, applications over buildings with high internal humidity, freezer buildings or buildings used for cold storage unless approved in writing in advance by GAF.	Private residences, walking decks, buildings with high internal humidity, freezer buildings or buildings used for cold storage unless approved in writing in advance by GAF.	Private residences, walking decks, buildings with high internal humidity, freezer buildings or buildings used for cold storage unless approved in writing in advance by GAF.
18. Pre-construction notice and approval requirements	Pre-installation form is submitted by contractor, reviewed by Technical Services department, project acceptance is faxed and/or mailed back to contractor.	Pre-installation form is submitted by contractor, reviewed by Technical Services department, project acceptance is faxed and/or mailed back to contractor.	Pre-installation form is submitted by contractor, reviewed by Technical Services department, project acceptance is faxed and/or mailed back to contractor.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	GAF technical field representative makes on-site inspections prior to and during (as required by project size and project specifications) and after application, as well as two years after issuance of warranty; no charge.	GAF technical field representative makes on-site inspections prior to and during (as required by project size and project specifications) and after application, as well as two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	None; material-only guarantee	Contractor obligated to make repairs to all leaks and workmanship deficiencies for two years.	Contractor obligated to make repairs to all leaks and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; GAF indicates it does not carry insurance covering its guarantee obligations.	No; GAF indicates it does not carry insurance covering its guarantee obligations	No; GAF indicates it does not carry insurance covering its guarantee obligations.
23. Issuing entity manufactures and/or sells products	GAF sells products only.	GAF sells products only.	GAF sells products only.
24. Conditions for renewal or extension	No renewal provision.	No renewal provision.	No renewal provision
25. Assignability	Not transferable or assignable in any manner.	Assignable to another owner only if (1) request is made in writing 30 days after ownership transfer; (2) membrane is inspected and any required repairs are completed at owner's expense; (3) proposed assignment is approved in writing by an authorized GAF technical services manager; and (4) an assignment fee of \$500 is paid to GAF. Otherwise guarantee is not assignable, directly or indirectly.	Assignable to another owner only if (1) request is made in writing 30 days after ownership transfer; (2) membrane is inspected and any required repairs are completed at owner's expense; (3) proposed assignment is approved in writing by an authorized GAF technical services manager; and (4) an assignment fee of \$500 is paid to GAF. Otherwise guarantee is not assignable, directly or indirectly.
26. Special features/conditions	<p>The owner must initiate and follow a 9-point maintenance program prescribed by GAF on the reverse side of guarantee including: (1) maintaining a file showing all inspections, repairs, original construction drawings and specifications; (2) inspecting roof at least semiannually; (3) inspecting roof for damage after severe weather conditions; (4) repairing non-guaranteed conditions affecting the GAF roof system; (5) removing any debris; (6) examining/reattaching loose metalwork; (7) repairing loose masonry/coping stones; (8) examining roof top equipment to determine if they move excessively or leak; and (9) minimize rooftop traffic.</p> <p>GAF shall not be responsible for or liable for any change or amendment to the GAF specifications, unless the change or amendment to the specifications is approved in writing by an authorized GAF technical services manager.</p>	<p>Owner shall, at its expense, (a) perform regular inspections and maintenance; (b) keep records of all inspections and maintenance performed; and (c) perform repairs to the roof or other building components identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials. Failure of owner to perform work promptly following written notification by GAF may result in cancellation of guarantee if the owner's failure results in damage to the GAF roofing materials.</p> <p>Owner shall, at its expense, remove (and, if desired, subsequently replace) any materials and equipment that impede inspection and repair of the GAF roofing materials, such as HVAC units and satellite dishes mounted so that there is no functional access to the roof system, and precast concrete or rubber pavers, wood decking or steel grating that are installed over the GAF roofing materials.</p> <p>GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications in regard to the roof construction, unless the change or amendment to the specifications is approved in writing by an authorized GAF technical services manager.</p> <p>In an emergency, the Owner may authorize or perform temporary repairs to minimize damage to the building or its contents. Such work will not result in the cancellation of guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the GAF membrane or base flashing. Owner is responsible for all expenses associated with temporary repairs</p>	<p>Owner shall, at its expense, (a) perform regular inspections and maintenance; (b) keep records of all inspections and maintenance performed; and (c) perform repairs to the roof or other building components identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials. Failure of owner to perform work promptly following written notification by GAF may result in cancellation of guarantee if the owner's failure results in damage to the GAF roofing materials.</p> <p>Owner shall, at its expense, remove (and, if desired, subsequently replace) any materials and equipment that impede inspection and repair of the GAF roofing materials, such as HVAC units and satellite dishes mounted so that there is no functional access to the roof system, and precast concrete or rubber pavers, wood decking or steel grating that are installed over the GAF roofing materials.</p> <p>GAF shall not be responsible for or liable for any change or amendment to the GAF roof specifications in regard to the roof construction, unless the change or amendment is approved in writing by an authorized GAF technical services manager.</p> <p>In an emergency, the Owner may authorize or perform temporary repairs to minimize damage to the building or its contents. Such work will not result in the cancellation of guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the GAF membrane or base flashing. Owner is responsible for all expenses associated with temporary repairs.</p>
27. Executed by owner	Yes; owner must sign and mail in warranty registration form within 30 days of roof completion.	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GenCorp Inc.	GenCorp Inc.	GenCorp Inc.
2. Title, original publication date, and identifying symbol, if any	"Thermoplastic Roofing System Warranty"; 1996; 10-96	"EPDM Roofing System Warranty"; 1996; 10-96	"Limited Membrane Only Warranty;" 1996; 10-96
3. Product, specification, or system covered	GenFlex PVC and GenFlex TPO Roofing Systems	GenFlex EPDM	GenFlex Thermoplastic PVC and TPO membranes, GenFlex EPDM
4. Scope of coverage	Material and workmanship; GenCorp warrants that it will repair leaks in the GenFlex RM or GenFlex TPO roofing system caused by a defect in GenFlex brand materials or workmanship of the GenFlex authorized contractor. The roofing system consists of GenFlex RM or GenFlex TPO brand membrane, GenFlex brand insulation, fasteners, adhesives, sealants, flashings, fastener plates, metal bars and related GenFlex brand accessory items when used in accordance with GenFlex's published written technical specifications.	Material and workmanship; GenCorp warrants that it will repair leaks in the GenFlex EPDM roofing system caused by a defect in GenFlex brand materials or workmanship of the GenFlex authorized contractor. The roofing system consists of GenFlex EPDM brand membrane, GenFlex brand insulation, fasteners, adhesives, sealants, flashings, roofing tapes, fastener plates, metal bars, and related GenFlex EPDM brand accessory items when used in accordance with GenFlex's published written technical specifications.	Material only; GenCorp warrants that the roofing membrane will not deteriorate to the point of causing leaks through the membrane due to normal weathering. Warranty applies only to roofing membrane and does not apply to labor, materials, or construction details.
5. Length of coverage	5, 10, or 15 years	5, 10, or 15 years	5, 10, 15 or 20 years. In order to obtain 20 year coverage, thermoplastic membranes must be at least .060 mils.
6. Nature of remedy	If there is a leak caused by a defect in GenFlex brand materials or workmanship, GenCorp will repair the leak.	If there is a leak caused by a defect in GenFlex brand materials or workmanship, GenCorp will repair the leak.	GenCorp will, at its option, either repair the membrane or issue credit against the purchase of a new roofing membrane from GenCorp, prorated based on months of service.
7. Monetary limitations	None stated.	None stated.	Credit issued by GenCorp shall be determined by multiplying the current price of replacement membrane by a fraction, the numerator of which is the remaining months of the warranty and the denominator of which is the total number of months the warranty is to be in effect.
8. Notification requirements	Written notice within 30 days of discovery of any leak and any warranty claim by certified mail to GenFlex Roofing Systems, 1722 Indian Wood Circle, Maumee, Ohio 43537, Attention: Technical Department.	Written notice within 30 days of discovery of any leak and any warranty claim by certified mail to GenFlex Roofing Systems, 1722 Indian Wood Circle, Maumee, OH 43537, Attention: Technical Department	Written notice within 30 days of discovery of any leak and any warranty claim by certified mail to GenFlex Roofing Systems, 1722 Indian Wood Circle, Maumee, OH 43537, Attention: Technical Department.
9. Exclusive or additional remedy	Remedy stated in warranty is sole and exclusive remedy for failure of the system; no other express warranties; excludes UCC warranties.	The owner's sole and exclusive remedy for failure of the system; excludes UCC warranties.	Remedy stated in warranty is the sole and exclusive remedy for failure of the roofing membrane; no other express warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral	GenCorp's determination	Neutral
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1,2,3,4,5,6,7,9,10,12 (see Special Features/Conditions), 13,17,24. (Warranty also specifically excludes damages caused by insects and animals.)	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12 (see Special Features/Conditions), 13, 17, 24. (Warranty also excludes damages caused by insects and animals.)	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12 (see Special Features/Conditions), 13, 17, 24. Warranty also specifically excludes damages caused by insects and animals.
13. Wind coverage/exclusions	Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes. GenCorp indicates that, when a request is made prior to bidding and after a specific roof system design criteria is met, GenCorp's "Thermoplastic Roofing System High Wind Warranty" covering winds of peak gusts up to 100 mph may be obtained. GenFlex Technical Department must be contacted for approval.	Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes. GenCorp indicates that, when a request is made prior to bidding and after a specific roof system design criteria is met, GenCorps "EPDM Roofing System High Wind Warranty" covering winds of peak gusts up to 100 mph may be obtained. GenFlex Technical Department must be contacted for approval.	Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, C (Warranty may also be suspended if owner fails to reimburse GenCorp for investigation costs if GenCorp's investigation reveals that GenCorp is not responsible for owner's claim.), D, H, K	B, C (Warranty may also be suspended if owner fails to reimburse GenCorp for investigation costs if GenCorp's investigation reveals that GenCorp is not responsible for owner's claim.), D, H, K	B, C (warranty may also be suspended if owner fails to reimburse GenCorp for investigation costs if GenCorp's investigation reveals that GenCorp is not responsible for owner's claim.), D, H, K
15. Cost to obtain	5 years: \$3.00/square; 10 years: \$6.00/square; 15 years: \$10.00/square	5 years: \$3.00/square; 10 years: \$5.00/square; 15 years: \$8.00/square	10 years: no charge; 15 years: \$100; 20 years: \$200
16. Minimum charge	5 years: \$250; 10 years: \$300; 15 years: \$400	5 years: \$250; 10 years: \$300; 15 years: \$400	10 years: no charge; 15 years: \$100; 20 years: \$200.
17. Ineligible structure or building use	Private residences, walking decks	Private residences, walking decks	Private residences, walking decks
18. Pre-construction notice and approval requirements	Authorized contractor must submit pre-job survey form to GenCorp technical department in Maumee, Ohio	Authorized contractor must submit pre-job survey form to GenCorp technical department in Maumee, Ohio	Authorized contractor must submit pre-job survey form to GenFlex Roofing Systems technical department in Maumee, Ohio.
19. Approved, authorized, or licensed	Yes	Yes	Yes

applicator			
20. Job inspection policy	Upon request or dependent on GenCorp's evaluation, GenCorp technical representative makes on-site inspections prior to, during application, and after completion prior to issuance of warranty, no charge.	Upon request or GenFlex evaluation, a GenFlex technical representative makes on-site inspection prior to, during application and after completion prior to issuance of warranty; no charge.	No on-site inspections
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.	None; material-only warranty
22. Backed by named insurance or surety	No; GenCorp indicates that it is self-insured.	No; GenCorp indicates that it is self-insured.	No; GenCorp indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	GenCorp manufactures and sells GenFlex PVC and TPO thermoplastic membranes.	GenCorp sells product only.	GenCorp manufactures and sells GenFlex thermoplastic PVC and TPO membranes and only sells GenFlex EPDM.
24. Conditions for renewal or extension	Within 30 days of the expiration of 5 and 10 year warranties, GenCorp will provide an option to extend the warranty for 5 years once a fee of \$500 has been paid and any required repairs to the roofing system have been completed.	Within 30 days of the expiration of 5 and 10 year warranties, GenCorp will provide an option to extend the warranty for 5 years once a fee of \$500 has been paid and any required repairs to the roofing system have been completed.	No renewal provision
25. Assignability	Warranty may not be transferred upon change of ownership unless the owner (a) notifies GenCorp in writing of proposed change at least 45 days prior to change (b) pays GenCorp the warranty transfer fee in effect on the date the warranty was issued, and (c) completes all repairs required by GenCorp in order to comply with owner's obligations under this warranty.	Warranty may not be transferred upon change of ownership unless the owner (a) notifies GenCorp in writing of its proposed change at least 45 days prior to the change, (b) pays GenCorp the warranty transfer fee in effect on the date the warranty was issued, and (c) completes all repairs required by GenCorp in order to correct failures to comply with owner's obligations under the warranty.	Warranty may not be transferred upon change of ownership unless the owner (a) notifies GenCorp in writing of proposed change at least 45 days prior to change, (b) pays GenCorp the warranty transfer fee in effect on the date the warranty was issued, and (c) completes all repairs required by GenCorp in order to comply with the owner's obligations under this warranty.
26. Special features/conditions	<p>If GenCorp's investigation of any claim reveals that GenCorp is not responsible for owner's claim, owner shall promptly reimburse GenCorp for the investigation and repair costs incurred by GenCorp.</p> <p>While GenCorp reserves the right to suspend its warranty obligations if all bills for installation have not been paid, or the warranty fee has not been paid or if the owner has not reimbursed GenCorp for claim investigation costs, the sole and exclusive remedy provision for failure of the roof membrane and exclusion of other warranties, including UCC warranties, remains in full force and effect.</p> <p>Warranty requires compliance with GenFlex maintenance and care requirements stated on reverse side of warranty, including at least twice yearly inspections; ponded water will not be allowed; roof must have slope to drain and all drain areas must remain clear; regular cleaning in areas where contaminants (i.e., oil, grease, freon, acids, solvents) potentially harmful to the roof system may accumulate; protective walkways for roof traffic; maintenance of counterflashing, metal work, equipment curb and supports, pitch pockets, caulking, walk pads, and any other roof top accessories.</p> <p>Any claim or dispute between owner and GenCorp arising out of warranty or relating to any material supplied or specifically required by GenCorp shall be resolved by final and binding arbitration in accordance with the rules of the American Arbitration Association.</p> <p>No representative has authority to make any representations other than those stated in the warranty.</p>	<p>If GenCorp's investigation of any claim reveals that GenCorp is not responsible for owner's claim, owner shall promptly reimburse GenCorp for the investigation and repair costs incurred by GenCorp.</p> <p>While GenCorp reserves the right to suspend its warranty obligations if all bills for installation have not been paid, or the warranty fee has not been paid or if the owner has not reimbursed GenCorp for claim investigation costs, the sole and exclusive remedy provision for failure of the roof membrane and exclusion of other warranties, including UCC warranties, remains in full force and effect.</p> <p>Warranty requires compliance with GenFlex maintenance and care requirements stated on reverse side of warranty, including at least twice yearly inspections; ponded water will not be allowed; roof must have slope to drain and all drain areas must remain clear; regular cleaning in areas where contaminants (i.e., oil, grease, freon, acids, solvents) potentially harmful to the roof system may accumulate; protective walkways for roof traffic; maintenance of counterflashing, metal work, equipment curb and supports, pitch pockets, caulking, walk pads, and any other roof top accessories.</p> <p>Any claim or dispute between owner and GenCorp arising out of warranty or relating to any material supplied or specifically required by GenCorp shall be resolved by final and binding arbitration in accordance with the rules of the American Arbitration Association.</p> <p>No representative has authority to make any representations other than those stated in the warranty.</p>	<p>If GenCorp's investigation of any claim reveals that GenCorp is not responsible for owner's claim, owner shall promptly reimburse GenCorp for the investigation and repair costs incurred by GenCorp.</p> <p>While GenCorp reserves the right to suspend its warranty obligations if all bills for installation have not been paid, or the warranty fee has not been paid or if the owner has not reimbursed GenCorp for claim investigation costs, the sole and exclusive remedy provision for failure of the roof membrane and exclusion of other warranties, including UCC warranties, remains in full force and effect.</p> <p>Warranty requires compliance with GenFlex maintenance and care requirements stated on reverse side of warranty, including at least twice yearly inspections; ponded water will not be allowed; roof must have slope to drain and all drain areas must remain clear; regular cleaning in areas where contaminants (i.e., oil, grease, freon, acids, solvents) potentially harmful to the roof system may accumulate; protective walkways for roof traffic; maintenance of counterflashing, metal work, equipment curb and supports, pitch pockets, caulking, walk pads, and any other roof top accessories.</p> <p>Any claim or dispute between owner and GenCorp arising out of warranty or relating to any material supplied or specifically required by GenCorp shall be resolved by final and binding arbitration in accordance with the rules of the American Arbitration Association.</p> <p>No representative has authority to make any representations other than those stated in the warranty.</p>
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GenCorp, Inc.	W.R. Grace & Co. - Conn.	W.R. Grace & Co. - Conn.
2. Title, original publication date, and identifying symbol, if any	"Ten Year Membrane Only Warranty For Commercial Buildings"; 1997; 4-97	"PRMA System 10 Year Material Warranty"; June 1997; PRMA-031 6/97	"PRMA System Gold 10 Year Material and Labor Warranty"; June 1997; PRMA-035 6/97
3. Product, specification, or system covered	GenFlex Thermoplastic, PVC, and TPO membranes, GenFlex EPDM	PRMA Membrane	PRMA membrane
4. Scope of coverage	Material only; GenCorp warrants that the roofing membrane will not deteriorate to the point of causing leaks through the membrane due to normal weathering. Warranty applies only to roofing membrane and does not apply to labor, materials, or construction details.	Material only; Grace warrants that water will not leak directly through any individual sheet of PRMA membrane as a result of deterioration of the sheet caused by ordinary wear and tear and the effects thereof and the PRMA membrane will bridge ruptures caused by cracking of the immediate substrate up to 1.6 mm (0.0625 in.) in width.	Material and workmanship; Grace agrees to make or cause to be made, at Grace's expense, all repairs necessary to correct leaks to the Grace PRMA System resulting from system membrane deterioration as a result of ordinary wear and tear and the effects thereof; improper workmanship by the contractor in the installation of the PRMA System; splits in the System membrane; temperature fluctuations or thermal shock; and System membrane slippage.
5. Length of coverage	10 years	10 years	10 years
6. Nature of remedy	GenCorp will, at its option, either repair the membrane or issue credit against the purchase of a new roofing membrane from GenCorp, prorated based on months of service.	Grace will supply replacement PRMA membrane, and accessory products deemed necessary and approved by Grace equal to the cost of materials paid to Grace for the original installation. Warrants does not cover any costs or expenses associated with labor costs for the removal of ballast or pavers or otherwise exposing the PRMA membrane and installation of replacement membrane.	Grace agrees to make or cause to be made, at Grace's expense, repairs necessary to correct leaks. Costs for removing ballast or removable pavers is the responsibility of Grace. Cost for removing solid or interlocking pavers or otherwise exposing the PRMA system is the responsibility of owner.
7. Monetary limitations	Credit issued by GenCorp shall be determined by multiplying the current price of replacement membrane by a fraction, the numerator of which is the remaining months of the warranty and the denominator of which is the total number of months the warranty is to be in effect.	Grace's liability to provide replacement material is limited to the cost of materials paid to Grace for the original installation.	Grace's total liability shall not exceed the cost of materials required and approved by Grace for repair plus labor costs for repair activities approved by Grace.
8. Notification requirements	Written notice within 30 days of discovery of any leak and warranty claim by certified mail to GenFlex Roofing Systems, 1722 Indian Wood Circle, Maumee, Ohio 43537, Attention: Technical Department.	None stated.	Written notice within 30 days from the date of discovery of the need for any repair or the date such need should reasonably have been discovered that may be a responsibility of Grace.
9. Exclusive or additional remedy	Remedy stated in warranty is sole and exclusive remedy for failure of the roofing membrane; no other express warranties; excludes UCC warranties.	Owner waives any and all other claims, actions, and demands relating to the use of the PRMA System. Statements, obligations, and representations contained in the warranty and made expressly in lieu of all other warranties; excludes UCC warranties.	Owner waives any and all other claims, actions, and demands relating to the use of the PRMA System. Statements, obligations, and representations contained in warranty are made expressly in lieu of all other warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral	Grace's determination	Neutral
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 24. (Warranty also specifically excludes damages caused by insects and animals.)	1, 3, 15, 17	1, 2, 3, 4, 6, 7, 8, 10, 15
13. Wind coverage/exclusions	Warranty excludes damage resulting from wind gusts in excess of 54 mph and hurricanes.	No coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes and tornadoes. Grace indicates there is no coverage for damage caused by wind.
14. Specific condition to make warranty ineffective or null and void (See item 14 in Introduction.)	B, C, D, H, K	R	C, I
15. Cost to obtain	None	\$1.50/square	\$2.50/square
16. Minimum charge	None	\$150	\$250
17. Ineligible structure or building use	Private residences, walking decks	None	None

18. Pre-construction notice and approval requirements	None	Grace requires contractor to provide a pre-job report prior to commencement of installation.	Grace requires contractor to give a pre-job report prior to commencement of installation.
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections	Grace representative makes on-site inspections prior to and after completion, prior to issuance of warranty, as well as two years after issuing warranty; no charge.	Grace representative makes on-site inspections prior to and after completion, prior to issuance of warranty, as well as two years after issuing warranty; no charge.
21. Contractor's post-installation obligation	None; material-only warranty	Although this is a material-only warranty, contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; GenCorp indicates that it is self-insured.	No; Grace indicates that it does not carry insurance covering its warranty obligations.	No; Grace indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	GenCorp manufactures and sells GenFlex thermoplastic PVC and TPO membranes and only sells GenFlex EPDM.	Grace manufactures and sells product.	Grace manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty may not be transferred upon change of ownership unless the owner (a) notifies GenCorp in writing of proposed change at least 45 days prior to change, (b) pays GenCorp the warranty transfer fee in effect on the date the warranty was issued, and (c) completes all repairs required by GenCorp in order to comply with the owner's obligations under this warranty.	No restrictions stated.	Assignable provided (1) Grace is given not less than 30 days written notice prior to transfer and the intended building use is stated and approved by Grace, (2) an inspection of the structure is made by Grace, (3) all repairs deemed necessary by Grace are made at owner's expense and such repairs are inspected and approved by Grace, (4) Grace's then-current inspection and processing fee is paid to Grace.
26. Special features/conditions	While GenCorp reserves the right to suspend its obligations under the warranty if all bills for installation, supplies, and service have not been paid in full to the roofing contractor and material suppliers, the sole and exclusive remedy provision for failure of the roofing membrane and exclusion of other warranties, including UCC warranties, remains in full force and effect. Any claim or dispute between owner and GenCorp arising out of the warranty or relating to any material supplied or specifically required by GenCorp shall be resolved by final and binding arbitration in accordance with the rules of the American Arbitration Association. No representative has authority to make any representations other than those stated in warranty.	Warranty provides that Grace shall not be liable for penal damages.	PRMA System must be maintained by owner in accordance with such instructions of Grace as may be in effect from time to time. Warranty provides that Grace shall not be liable for penal damages.
27. Executed by owner	Registration form is to be completed and submitted to GenFlex Roofing Systems in Maumee, Ohio.	Yes; warranty is to be signed and "accepted" by owner and installing contractor.	Yes; warranty is to be signed and "accepted" by owner and installing contractor.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	W.R. Grace & Co. - Conn.	GS Roofing Products Company, Inc.	GS Roofing Products Company, Inc.
2. Title, original publication date, and identifying symbol, if any	"PRMA System Platinum 15 Year Material and Labor Warranty"; June 1997; PRMA-032 6/97	Roof Membrane Limited Warranty; 3/93; 70-01-0003-5245/003	Ten Year Roof Membrane Limited Warranty; March 1996
3. Product, specification, or system covered	PRMA membrane	All GS Roofing BUR specifications.	All GS Roofing BUR specifications.
4. Scope of coverage	Material and workmanship; Grace agrees to make or cause to be made, at Grace's expense, all repairs necessary to correct leaks to the Grace PRMA System, resulting from system membrane deterioration as a result of ordinary wear and tear and the effects thereof; improper workmanship by the contractor in the installation of the System; splits in the PRMA System membrane; temperature fluctuations or thermal shock; and System membrane slippage.	Material and workmanship; GS warrants that, should there be any leaks in the roof membrane caused solely by reason of ordinary wear of the elements or workmanship on the part of the GS authorized roofing contractor and not caused completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks as necessary to retain the roof membrane in a watertight condition at GS's expense. (See Special Features/ Conditions.)	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)
5. Length of coverage	15 years	10 years	5 years
6. Nature of remedy	Grace agrees to make or cause to be made, at Grace's expense, all repairs necessary to correct leaks. Cost for removing ballast or removable pavers is the responsibility of Grace. Cost for removing solid or interlocking pavers or otherwise exposing the PRMA System from structural or solid overburden is the responsibility of owner.	GS or authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS's expense.	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.
7. Monetary limitations	Grace's total liability shall not exceed the cost of materials required and approved by Grace for repair plus labor costs for repair activities also approved by Grace.	\$50/square; GS shall be discharged of all further obligation whenever the value of all repairs furnished (based on the cost to GS of all repair labor and materials) together with any inspection cost incurred by GS, shall equal the amount of \$50 per square.	\$50/square; GS shall be discharged of all further obligation whenever the value of all repairs furnished (based on the cost to GS of all repair labor and materials) together with any inspection cost incurred by GS, shall equal the amount of \$50 per square.
8. Notification requirements	Written notice within 30 days from the date of discovery of the need for any repair or the date such need should reasonably have been discovered that may be a responsibility of Grace.	Written notification to GS at applicable regional office within 30 days after discovery of any claim.	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)
9. Exclusive or additional remedy	Owner waives any and all other claims, actions, and demands relating to the use of the PRMA System. Statements, obligations and representations contained in warranty and made expressly in lieu of all other warranties; excludes UCC warranties.	Warranty is in lieu of all other guarantees or warranties and all other obligations and liabilities on the part of GS; excludes UCC warranties.	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. Warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral	Neutral (no provision)	GS' determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 8, 10, 15	1, 2, 4, 5, 7, 9, 10, 11, 18 (including damages caused by solid or liquid deposits of any substance), 22, 23. Warranty also excludes sleet or icing.	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23.
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes and tornadoes. Grace indicates there is no coverage for damage caused by wind.	GS indicates warranty covers roof damage resulting from wind speeds up to 54 mph. Warranty excludes winds or gusts exceeding Force 9 on the Beaufort Scale and tornadoes.	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	C, I	B, C (service charge must be received by GS within six months after completion), H, I, J, L	A, B, C, J
15. Cost to obtain	\$4.50/square	\$4.00/square	\$4.00/square
16. Minimum charge	\$450	\$400	\$400
17. Ineligible structure or building use	None	Residential, apartments, condominiums, heated tanks, and cold-storage facilities	Residential, condos, heated tanks, cold storage facilities
18. Pre-construction notice and approval requirements	Grace requires contractor to give a pre-job report prior to commencement of installation.	The contractor must submit application for GS warranty prior to job start for review and approval. The contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.	The contractor must submit application for GS warranty prior to job start for review and approval. The contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
	Grace representative makes on-site inspections prior to and after	GS personnel make on-site inspections prior, during, and after	GS personnel make on-site inspections prior, during, and after

20. Job inspection policy	completion, prior to issuance of warranty, as well as two years after issuing warranty; no charge.	application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.	application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Grace indicates that it does not carry insurance covering its warranty obligations.	No; GS indicates that it does not carry insurance covering its warranty obligations.	No; GS indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Grace manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal policy	GS indicates that warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.
25. Assignability	Not assignable	The owner may transfer to a third party provided the use to which said third party puts the structure is not one prohibited by GS in the 1990 edition of its commercial roofing systems specification manual. The owner shall notify GS's regional office prior to making any transfer.	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, the owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.
26. Special features/conditions	PRMA System shall be maintained by owner in accordance with such instructions of Grace as may be in effect from time to time. Warranty provides that Grace shall not be liable for penal damages.	Roof deck, metal work, drains, expansion joints, skylights, vents, plastic-type flashings, and reflective color coating are not considered part of the roof membrane and are not included within the protection of the warranty. Failure of flashings are not covered, except if covered by a GS Flashing Endorsement. Flashings are not covered unless a flashing endorsement is separately executed and attached; failure of flashings is excluded from warranty coverage, unless a flashing endorsement is obtained. GS will extend warranty coverage to roof insulation, vapor retarder, and insulation fasteners if they are GS-brand or approved by GS and covered by a separately executed and attached roof insulation endorsement. Neither issuance of warranty nor any review or inspection of plans by GS shall constitute waiver by GS of exclusions and limitations in warranty. No GS representative may waive any exclusion or limitation either orally or in writing. In calculating whether monetary limitation has been reached, inspection costs incurred by GS are included in addition to value of repair.	Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane. GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied. The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department. No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the Roof Membrane, unless said change and/or amendment has been signed by an officer of GS. No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued. All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.
27. Executed by owner	Yes; warranty is to be signed and "accepted" by owner and installing contractor.	Yes; the owner signs and returns warranty acknowledgement form to GS regional office.	

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	GS Roofing Products Company, Inc.	GS Roofing Products Company, Inc.	GS Roofing Products Company, Inc.
2. Title, original publication date, and identifying symbol, if any	Twelve Year Flintlastic Roof Membrane Product Warranty (A Limited Warranty)[]; March 1996; GRP-1603-A R 3/96	Five Year Full Value Roof Membrane Warranty (A Limited Warranty)[]; March 1996	Ten Year Full Value Roof Membrane Warranty (A Limited Warranty)[]; March 1996
3. Product, specification, or system covered	All GS Roofing Flintlastic specifications.	All GS Roofing BUR specifications.	All GS Roofing BUR specifications.
4. Scope of coverage	Material only; GS warrants that the GS Flintlastic products are free from manufacturing defects and will withstand ordinary wear of the elements, provided that the materials are installed in accordance with GS' current published specifications and conditions. The warranty applies to leaks caused solely by ordinary wear of the elements or manufacturing defect and not caused completely or partially by any excluded cause. The warranty does not cover roof insulation, roof deck, vapor retarder, flashings, drains, expansion joints, skylights, vents or optional reflective, decorative or fire-resistant coatings and surfacings.	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor, and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor, and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)
5. Length of coverage	12 years	5 years	10 years
6. Nature of remedy	GS or its authorized agent will repair or replace, at its option, including labor and materials, the Flintlastic roof membrane and/or Flintlastic base flashing.	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.
7. Monetary limitations	GS' maximum liability over term of warranty is \$80/square for Flintlastic roofing membrane. GS' maximum liability is decreased by 14.29 percent of the original liability per year after the first five years from the date of completion.	None stated.	None stated.
8. Notification requirements	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)
9. Exclusive or additional remedy	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties.	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. The warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. The warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	GS' determination	GS' determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 19, 20, 22, 23	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23
13. Wind coverage/exclusions	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. Warranty excludes winds exceeding Force 9 on the Beaufort Scale, hurricanes, and tornadoes.	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	A, B, G, J (also void when total value of all repairs furnished equal GS' then remaining maximum liability). Warranty also states that GS will be discharged of all further obligations upon occurrence of any event set forth as an exclusion from coverage (see Item No. 12 above).	A, B, C, J	A, B, C, J
15. Cost to obtain	GS references its published fee schedule.	GS references its published fee schedule.	GS references its published fee schedule.
15. Minimum charge	GS references its published fee schedule.	GS references its published fee schedule.	GS references its published fee schedule.
17. Ineligible structure or building use	Residential, cold-storage, storage silos, heated tanks, structures outside U.S., structures with conduit or piping installed above roof deck and under roof membrane, thermal insulation not approved by GS Roofing Products Company, Inc., lightweight insulating concrete unless venting is provided in accordance with GS Roofing Products Company specifications, reroofing over existing roof systems containing moisture and/or improperly prepared surfaces; plywood decks of less than 1/2 inch thickness without continuous solid end-blocking, structures with high interior-humidity conditions	Residential, condos, heated tanks, cold-storage facilities	Residential, condos, heated tanks, cold-storage facilities
18. Pre-construction notice and	None required.	Contractor must submit application for GS warranty prior to job start for	Contractor must submit application for GS warranty prior to job start for

approval requirements		review and approval. Contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.	review and approval. Contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections	GS personnel make on-site inspections prior, during, and after application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.	GS personnel make on-site inspections prior, during, and after application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.
21. Contractor's post-installation obligation	None; material-only warranty	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; GS indicates that it does not carry insurance covering its warranty obligations.	No; GS indicates that it does not carry insurance covering its warranty obligations.	No; GS indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	GS Roofing Products Company, Inc. manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	GS indicates warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.	GS indicates warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.
25. Assignability	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, the owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.
26. Special features/conditions	<p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure that the owner may incur in replacing or repairing the roof membrane that is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists that requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses that would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the roof membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof.</p>	<p>Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane.</p> <p>GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied.</p> <p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the roof membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.</p>	<p>Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane.</p> <p>GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied.</p> <p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the roof membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.</p>
27. Executed by owner	No; however, warranty states that by purchasing GS products, the owner accepts terms, conditions, limitations, and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.	No; however, warranty states that by purchasing GS products, the owner accepts terms, conditions, limitations, and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.	No; however, warranty states that by purchasing GS products, the owner accepts terms, conditions, limitations, and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.

1. Identity of issuing entity	GS Roofing Products Company, Inc.	GS Roofing Products Company, Inc.	GS Roofing Products Company, Inc.
	□Twelve Year Full Value Roof Membrane Warranty (A Limited	□Fifteen Year Full Value Roof Membrane Warranty (A Limited	□Twenty Year Full Value Roof Membrane Warranty (A Limited

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

2. Title, original publication date, and identifying symbol, if any	Warranty)[]; March 1996	Warranty)[]; March 1996	Warranty)[]; March 1996
3. Product, specification, or system covered	All GS Roofing BUR specifications.	All GS Roofing BUR specifications.	All GS Roofing BUR specifications.
4. Scope of coverage	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)	Material and workmanship; GS warrants that, should there be any leaks or manufacturing defects in the GS products used in the roof membrane caused solely by reason of ordinary wear and tear of the elements or workmanship on the part of the GS authorized roofing contractor and not caused, completely or partially, by any of the causes excluded from coverage, GS or its authorized agent will repair such leaks (exclusive of metal work and non-GS approved flashings) as necessary to retain the roof membrane in a watertight condition at GS's expense. The roof membrane is composed of a base sheet, optional interplies, bituminous asphaltic material between layers when required, and a capsheet and/or surfacing layer applied per GS published specifications and conditions. (See Special Features/Conditions.)
5. Length of coverage	12 years	15 years	20 years
6. Nature of remedy	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.	GS or its authorized agent will repair leaks as necessary to retain the roof membrane in a watertight condition at GS' expense.
7. Monetary limitations	None stated.	None stated.	None stated.
8. Notification requirements	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)	Written notification, together with proof of purchase, by certified mail to GS Roofing Products Company, Inc., 5525 MacArthur Blvd., Suite 900, Irving, TX 75038, Attn: Commercial Services Department within 30 days of discovery of alleged defect. Notice must include a general description of the alleged defect. (See Special Features/Conditions.)
9. Exclusive or additional remedy	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. The warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. The warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.	The warranty is in lieu of any other obligations, guarantees, and warranties and any other liability on the part of GS; excludes UCC warranties. The warranty states that GS does not warrant any review of construction or design plans or any inspection of the roof or the installation thereof.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	GS' determination	GS' determination	GS' determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23.	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23.	1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18 (including damages caused by solid or liquid deposits of any substance), 20, 22, 23.
13. Wind coverage/exclusions	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.	GS indicates that the warranty covers roof damage resulting from wind speeds up to 54 mph. The warranty excludes winds exceeding Force 9 on the Beaufort Scale and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	A, B, C, J	A, B, C, J	A, B, C, J
15. Cost to obtain	GS references its published fee schedule.	GS references its published fee schedule.	GS references its published fee schedule.
16. Minimum charge	GS references its published fee schedule.	GS references its published fee schedule.	GS references its published fee schedule.
17. Ineligible structure or building use	Residential, condos, heated tanks, cold storage facilities	Residential, condos, heated tanks, cold storage facilities	Residential, condos, heated tanks, cold storage facilities
18. Pre-construction notice and approval requirements	The contractor must submit application for GS warranty prior to job start for review and approval. The contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.	The contractor must submit application for GS warranty prior to job start for review and approval. The contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.	The contractor must submit application for GS warranty prior to job start for review and approval. The contractor must also notify local GS personnel at least three working days prior to job start to arrange for deck inspection and pre-job conference.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	GS personnel make on-site inspections prior, during, and after application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.	GS personnel make on-site inspections prior, during, and after application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.	GS personnel make on-site inspections prior, during, and after application, as well as two years after issuance of warranty; no charge. GS conducts a minimum of three inspections with additional inspections as necessary for quality assurance.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; GS indicates that it does not carry insurance covering its	No; GS indicates that it does not carry insurance covering its	No; GS indicates that it does not carry insurance covering its

	warranty obligations.	warranty obligations.	warranty obligations.
23. Issuing entity manufactures and/or sells products	GS Roofing Products Company, Inc. manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.	GS Roofing Products Company, Inc. manufactures and sells product.
24. Conditions for renewal or extension	GS indicates that warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.	GS indicates that warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.	GS indicates that warranty can be renewed for life of warranty. GS references it published schedule of renewal fees.
25. Assignability	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, the owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, the owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.	Subject to payment of applicable transfer fee to GS and proper documentation being delivered to GS within thirty days after building ownership transfer, the owner may transfer this warranty to a subsequent owner, provided the use to which the subsequent owner puts the structure is not one prohibited by GS in its published material. The owner shall contact GS for applicable transfer fee and notification documentation.
26. Special features/conditions	<p>Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane.</p> <p>GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied.</p> <p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the Roof Membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.</p>	<p>Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane.</p> <p>GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied.</p> <p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the Roof Membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.</p>	<p>Roof deck, insulation, vapor retarders, fasteners, metal work, drains, expansion joints, skylights, vents, flashings or reflective coating are not considered part of the roof membrane and are not included within the protection of the warranty. Bituminous flashings are not considered part of the roof membrane.</p> <p>GS is not responsible for any costs related to the removal or abatement of any asbestos present in the existing roof system to which the GS roof system is applied.</p> <p>The owner must allow taking of samples that adequately demonstrate the alleged problem for testing by GS. GS will not be liable for any expenditure owner may incur in replacing or repairing the roof membrane which is incurred prior to written acknowledgement from GS that it is responsible. In the event an emergency condition exists which requires immediate repair to avoid damage to the building or its contents, the owner may make essential temporary repairs performed by a qualified roofing individual. GS will reimburse owner for only those essential repair expenses which would have been the responsibility of GS under the warranty. All repairs must have prior written approval of GS' claims service department.</p> <p>No representative, employee, agent of GS, or any other person has the authority to assume for GS any additional or other liability or responsibility in connection with the roof. GS shall not be responsible for or liable if there is any change or amendment to the warranty or to the GS specification(s) in regard to the construction of the Roof Membrane, unless said change and/or amendment has been signed by an officer of GS.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any potential cause of action has accrued.</p> <p>All disputed claims or other disputes that may arise between the owner, contractor, architect and/or GS arising out of or relating to or in connection with warranty shall be submitted to and decided by arbitration in accordance with the Construction Industry Arbitration Rules. This agreement to arbitrate shall be specifically enforceable under the applicable state or federal arbitration laws. The award rendered by the arbitrator shall be final and judgment may be entered upon such award in accordance with applicable law in any court having jurisdiction thereof. GS does not practice engineering or architecture.</p>
27. Executed by owner	No; however, the warranty states that by purchasing GS products, owner accepts terms, conditions, limitations and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.	No; however, the warranty states that by purchasing GS products, owner accepts terms, conditions, limitations and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.	No; however, the warranty states that by purchasing GS products, owner accepts terms, conditions, limitations and exclusions in GS warranty. The warranty also states that the owner acknowledges that the effectiveness of this warranty is part of the consideration for the purchase of roof materials from GS.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Henry Company	Henry Company	Herbert Malarkey Roofing Company
2. Title, original publication date, and identifying symbol, if any	Henry Company [Ten and Ten Roof Membrane Warranty A Twenty Year Full Value Warranty With Maintenance Treatment During Tenth Anniversary Year]; February 1985	Henry Company [Roof Membrane Limited Warranty]; February 1985	[Malarkey Roofing System Warranty]
3. Product, specification, or system covered	Built-up roofing specifications HM107W, HM107C, HM107-IW, HM107-IC, HM107-5, HM107LWC, HM106W, HM106-IW	Built-up roofing specifications HM106W, HM106C, HCA80W HCG203W	All eligible built-up roofing specifications with a #502 mineral cap sheet; modified bitumen specifications #601 SBS mineral cap sheet, #625 Paragon SBS mineral cap sheet, #650 Panoply SBS mineral cap sheet, #917 SBS mineral cap sheet, #919 SBS smooth cap sheet
4. Scope of coverage	Material and workmanship: Henry Company warrants the roof membrane against leaks and will cause to be repaired at no cost to the building leaks occurring in the roof membrane that are due to ordinary wear of the elements.	Material and workmanship: Henry Company will cause to be repaired at no cost to the building owner leaks occurring in the roof membrane that are due to ordinary wear of the elements. Roof membrane does not include and warranty excludes roof insulation, vapor retarder, roof deck, drains, expansion joints, metal or plastic fittings, vents, skylights, and reflective coating.	Material and workmanship: Malarkey warrants that the roof system will remain in a watertight condition or Malarkey will initiate repairs at its own expense if required as a result of deterioration of the Malarkey roofing membrane or base flashing system resulting from ordinary wear and tear of the elements; workmanship on the part of the Malarkey approved roofing contractor in application of the Malarkey roofing membrane or base flashing system; blisters, bare spots, fish-mouths, wrinkles, or ridges in the roof system; splits in the Malarkey roofing membrane not caused by structural movement or failure or movement of any material underlying the roofing membrane or base flashing; or slippage of the roofing membrane or base flashing.
5. Length of coverage	20 years, provided owner pays for maintenance, repair, and coating determined by Henry after initial 10 years (See Conditions for Renewal or Extension.)	10 years	10, 12, 15, or 20 years
6. Nature of remedy	Henry will make or cause to be made repairs necessary to maintain the roof membrane in a watertight condition.	Henry will make or cause to be made any repairs necessary to maintain roof membrane in a watertight condition.	Malarkey will be liable only for the cost of repair of the existing roof membrane or installation of a replacement roof membrane; Malarkey's sole liability resulting from any failure of the roof system shall be cost of repair or replacement.
7. Monetary limitations	None stated	Henry Company shall be discharged of all further liability whenever the cost to Henry of all covered roof membrane repairs equals warranty amount.	Warranty includes space for Malarkey's maximum liability to be inserted. (Malarkey indicates that 10-year warranty can be purchased with a \$35/square or \$50/square maximum liability limitation or can be purchased without a maximum Malarkey liability limitation and that 12, 15, and 20 year warranties can be obtained without a maximum Malarkey liability limitation.)
8. Notification requirements	Written notice within 30 days of discovery of leak to Henry Company, 2911 Slauson Ave., Huntington Park, CA 90255	Written notice within 30 days of discovery of leak to Henry Company, 2911 Slauson Ave., Huntington Park, CA 90255	Written notification by registered or certified mail within 30 days after the leak is discovered or should, by reasonable diligence, have been discovered to Malarkey Roofing Company, P.O. Box 17217, Portland, OR 97217
9. Exclusive or additional remedy	Warranty shall be the only obligation of Henry Company, with respect to the roof membrane; excludes all other warranties; seeks to exclude UCC warranties.	Warranty shall be the only obligation of Henry Company, with respect to the roof membrane; excludes all other warranties; seeks to exclude UCC warranties.	Warranty is in lieu of and excludes all other warranties, guarantees or obligations; warranty seeks to exclude UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 16, 18, 20, 22, 23, 24. (Warranty also excludes construction inside the building, including the removal or addition of walls or ceiling structures, that affects the integrity of the roof membrane.)	1, 2, 3, 4, 5, 8, 9, 10, 11, 18, 22, 23. Warranty also excludes construction inside the building, in-cluding the removal or addition of walls, that influences the integrity of the roof membrane.	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 17, 23
13. Wind coverage/exclusions	Warranty covers roof damage resulting from wind speeds up to 46 miles per hour.	Warranty covers roof damage resulting from wind speeds up to 46 miles per hour.	Warranty excludes windstorms, hurricanes, and tornadoes. Malarkey indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, D, F, H	B, H, S	C
15. Cost to obtain	\$10.00/square	\$10.00/square	10 years (with \$35/square monetary limitation): \$4.00/square; 10 years (with \$50/square monetary limitation):

			\$4.50/square; 10 years (without monetary limitation): \$6.00/square; 12 years: \$8.00/square 15 years: \$10.00/square; 20 years: \$15.00/square
16. Minimum charge	\$1,000	\$1,000	10 years (with \$35/square monetary limitation): \$400; 10 years (with \$50/square monetary limitation): \$450; 10 years (without monetary limitation): \$600; 12 years: \$800; 15 years: \$1,000; 20 years: \$1,500
17. Ineligible structure or building use	Cold-storage facilities and most apartment buildings and condominiums. All structures and locations subject to approval by Henry Company.	Cold-storage and most apartment buildings and condominiums; all structures and locations subject to approval by Henry Company.	Cold storage, single family
18. Pre-construction notice and approval requirements	Prior approval issued by execution of warranty application form and preconstruction notice 72 hours in advance.	Prior approval issued by execution of warranty application form and preconstruction notice 72 hours in advance.	Warranty application must be filed with and approved by Malarkey prior to job start.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Henry inspector makes on-site inspections prior to, during (daily to periodical), and after application, as well as two years after issuance of warranty; \$1.00/square charge.	Henry inspector makes on-site inspections prior to and during application (daily to periodical) and after application, as well as two years after issuance of warranty; \$1.00/square charge.	Malarkey representative makes inspections prior, during, and after application depending upon size; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to all leaks and any defects for two years.
22. Backed by named insurance or surety	No; Henry Company indicates that it does not carry insurance covering its warranty obligations.	No; Henry Company indicates that it does not carry insurance covering its warranty obligations.	No; Malarkey indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Henry Company manufactures and sells product.	Henry Company manufactures and sells the product.	Malarkey manufactures and sells product
24. Conditions for renewal or extension	After 10 years, warranty can be extended for additional 10 years. During tenth year following installation, a Henry representative will inspect the roof and report any routine maintenance determined by Henry Company to be necessary to maintain integrity of the roof membrane and flashing for the remaining 10-year period of the warranty term. The cost of such repair and coating will be the responsibility of the building owner; no additional warranty fee.	No renewal provision	The owner has option to renew for ____ years by requesting inspection by Malarkey. Malarkey inspects and advises owner of necessary maintenance work to be performed by approved contractor at owner's expense. If work performed within 90 days of expiration and Malarkey, then accepts the roof, upon payment of charge not to exceed the current initial charge, the warranty will be renewed.
25. Assignability	Warranty may be transferred to a new building owner with prior written consent of Henry Company, which consent shall not be unreasonably withheld; consent shall not be determined to be unreasonably withheld if the use of the building by any owner is materially different from the use of the prior building owner.	Transferable to new building owner, provided the use to which the new owner puts the building is approved by Henry Company. Building owner shall notify Henry Company prior to making any transfer of ownership.	The warranty is transferable provided that Malarkey is notified by the original owner at least seven days prior to transfer. Malarkey schedules a roof inspection. Any repairs covered under the warranty will be paid for by Malarkey; the owner pays for maintenance items and/or incidental repairs found to be required. Once maintenance and/or repairs have been completed by a Malarkey approved roofing contractor, warranty transfer will be completed after payment of a \$500 transfer fee.
26. Special features/conditions	In the event an emergency condition exists requiring immediate repair to avoid significant damage to the building, the building owner may make such temporary repairs as may be necessary to repair such leaks and such action shall not void warranty. In the event the building owner fails to proceed with maintenance recommended by Henry Company after 10 years, Henry Company shall be discharged from all further obligation under warranty at the end of the 10th year of warranty.	In the event an emergency condition exists requiring immediate repair to avoid significant damage to owner, the owner may make temporary repairs as may be essential and such action shall not void warranty.	Warranty is only valid when Malarkey pre-approved asphalt, base flashing system, and roof insulation when the roof is insulated are used.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	W.P. Hickman Systems, Inc.	W.P. Hickman Systems, Inc.	Hyload, Inc.
2. Title, original publication date, and identifying symbol, if any	Hickman Roofing Systems [Membrane Assemblies Guarantee]; 1985; GOES 447	[Roof Assemblies Guarantee]; January 1, 1980; GOES 447	[High Performance Roofing Systems 10 Year Commercial Warranty]; July 1, 1996; HW070196-10YM
3. Product, specification, or system covered		Built-up Roofing Specifications; Modified Bitumen Specifications; Cold-Process BUR Specifications; Single-Ply Specifications	Hyload H150E, Hyload 250E, Hyload WS, Hyload SAM, ALPROOF, ALPROOF CP, ALPSAM WS, ALPSAM; minimum of one ply of Type IV felt must be installed prior to Hyload membrane.
4. Scope of coverage	Material and workmanship; Hickman guarantees that it will, at its expense, repair or cause to be repaired the roofing system to an extent to return the system to a watertight condition.	Material and workmanship; Hickman guarantees that it will repair or cause to be repaired leaks in the Hickman roof assembly.	Material only; Hyload warrants that the Hyload roofing membrane will not leak and cause water infiltration into the building as a result of any defect in the design and manufacture of the membrane.
5. Length of coverage	10 years	10 years	10 years
6. Nature of remedy	Hickman will take appropriate action to repair leaks that may occur due to ordinary wear that may be required because of deficiencies resulting from workmanship during the membrane and flashing installation. Hickman's sole responsibility is the cost of repairs to the membrane assembly.	Hickman will inspect the roof and, if leak is covered under the guarantee, Hickman with at its own expense make or cause to be made all necessary repairs to the Hickman Roof Assembly to put it into watertight condition.	Hyload will, via such methods as Hyload determines fit, effect the repair of leaks at its expense.
7. Monetary limitations	None stated	None stated.	Hyload's obligation over the lifetime of the warranty shall not exceed the retail price of the Hyload roofing materials used in the original installation of the roof.
8. Notification requirements	Written notification within 10 days after discovery of a leak on the roofing system or flashing assembly	Written notice to Hickman within 10 days after discovery of a leak on the roofing system or flashing assembly	Immediate notification by telephone to Hyload upon the discovery of any leak in the membrane and written confirmation of the leak within 15 days thereafter
9. Exclusive or additional remedy	Seeks to exclude and limit UCC implied warranties.	Seeks to exclude and limit UCC implied warranties.	Remedy in warranty is owner's sole and exclusive remedy so that Hyload's repair of leaks constitutes fulfillment of all its obligations; excludes other guarantees and warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral; Hickman inspects roof.	Hyload's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 8, 10, 13, 17, 18, 22	1, 2, 3, 4, 6, 8, 10, 13, 17, 18, 22	1, 3, 4, 5, 7, 9, 10, 12, 18, 19, 20
13. Wind coverage/exclusions	Warranty excludes hurricane-related winds. Warranty covers roof damage resulting from wind speeds up to 73 miles per hour.	Guarantee excludes hurricane-rated winds. Warranty covers roof damage resulting from wind speeds up to 73 miles per hour.	Hyload indicates that the warranty covers roof damage resulting from wind speeds up to 39 mph. Warranty excludes hurricanes, gales, and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	C	C	B, C, J, M, R, S. Warranty also becomes null and void if subsequent work is done at or through the Hyload membrane.
15. Cost to obtain	\$4.00/square		\$6.00/square
Minimum charge	\$500	\$500	\$600
17. Ineligible structure or building use	Cold-storage, freezer, and dry kiln buildings; Hickman reviews all structures to determine eligibility.	Cold-storage, freezer, and dry-kiln buildings.	Residential
18. Pre-construction notice and approval requirements	Contractor required to give verbal or written notice to schedule pre-job conference.	Contractor required to give verbal or written notice to schedule pre-job conference.	Contractor is required to pay warranty fee, complete warranty request form outlining membrane installation, and obtain approval from Hyload prior to beginning installation.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Hickman field representative makes on-site inspections prior		No on-site inspections

	to, during, and after application as well as two years after completion and makes yearly inspections; no charge.		
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years		Although this is a material-only warranty, contractor is obligated to make repairs to material and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No		No; Hyload indicates it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products		W. P. Hickman Systems, Inc. manufactures and sells the product.	Hyload manufactures and sells the product.
24. Conditions for renewal or extension		Guarantees applicable to reroofing, retrofit, and new construction projects can be renewed for 10 years; guarantees applicable to restoration projects can be renewed for five years. Owner must notify Hickman 60 days prior to guarantee expiration. Hickman representative makes inspection and notifies owner of all repairs required by Hickman. Owner pays for all repairs, which must be made with Hickman materials by an approved Hickman contractor. Upon completion and approval by Hickman of repairs and payment of guarantee charge, extended guarantee will be issued. Current cost for 5 or 10 year extension is \$5.00/square.	No renewal provision
25. Assignability	Transferable by the building owner to a subsequent purchaser of the property by giving not less than 10 days written notice to Hickman of proposed transfer; Hickman will inspect roofing system and make written report to building owner and proposed purchaser of findings.	Guarantee may be transferred by the building owner to a subsequent purchaser of the property by giving not less than ten days written notice to Hickman of proposed transfer; Hickman will inspect roof and make written report to building owner and proposed purchaser of findings.	The warranty is not assignable
26. Special features/conditions		To the extent any repairs to any part of the building other than the Hickman Roof Assembly are required, or the removal or replacement of any traffic surfaces or other appurtenances built over the roof are required in order to put the Hickman Roof Assembly in a watertight condition, the liability for or expense of any such repair, removal, or replacement shall be assumed and paid by the owner.	The warranty shall be governed by the laws of the state of Ohio, excluding principles of conflicts of law. All actions arising under the warranty shall be brought in the court of common pleas for Medina County, Ohio. If the owner does not make repairs that are not covered by the warranty within 30 days of notice from Hyload, warranty shall automatically terminate.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Hyload, Inc.	Hyload, Inc.	Hyload, Inc.
2. Title, original publication date, and identifying symbol, if any	High Performance Roofing Systems 15 Year Commercial Warranty; July 1, 1996; HW070196-15YM	High Performance Roof Systems 10 Year Commercial Warranty Material and Workmanship; July 1, 1996; HW070196-10LM	High Performance Roof Systems 15 Year Commercial Warranty, Material and Workmanship; October 1, 1996; HW100196-15LM
3. Product, specification, or system covered	Hyload H150E, Hyload 250E, Hyload WS, ALPROOF, ALPROOF CP, ALPSAM WS; minimum of two plies of Type IV felt must be installed prior to Hyload membrane.	Hyload H150E, Hyload 250E, Hyload WS, Hyload SAM, ALPROOF, ALPROOF CP, ALPSAM WS, ALPSAM; minimum of one ply of Type IV felt must be installed prior to Hyload membrane.	Hyload H150E, Hyload H250E, Hyload WS, ALPROOF, ALPROOF CP, ALPSAM WS; minimum of two plies of Type IV felt must be installed prior to Hyload membrane.
4. Scope of coverage	Material only; Hyload warrants that the Hyload roofing membrane will not leak and cause water infiltration into the building as a result of any defect in the design and manufacture of the membrane.	Material and workmanship; Hyload warrants that the Hyload roofing membrane will not leak and cause water infiltration into the building as a result of any defect in the design or manufacture of the membrane, or as a result of defective workmanship in the application of the membrane.	Hyload warrants that the Hyload roofing membrane will not leak and cause water infiltration into the building as a result of any defect in the design or manufacture of the membrane, or as a result of defective workmanship in the application of the membrane.
5. Length of coverage	15 years	10 years	15 years
6. Nature of remedy	Hyload will, via such methods as Hyload determines fit, effect the repair of leaks at its expense.	Hyload will, via such methods as Hyload determines fit, effect the repair of leaks at its expense.	Hyload will, via such methods as it determines fit, effect the repair of leaks at its expense.
7. Monetary limitations	Hyload's obligation over the lifetime of the warranty shall not exceed the retail price of the Hyload roofing materials used in the original installation of the roof.	Hyload's obligation over the lifetime of the warranty shall not exceed the retail price of the Hyload roofing materials used in the original installation of the roof.	Hyload's obligation over the lifetime of the warranty shall not exceed the retail price of the Hyload roofing materials used in the original installation of the roof.
8. Notification requirements	Immediate notification by telephone to Hyload upon the discovery of any leak in the membrane and written confirmation of the leak within 15 days thereafter	Immediate notification by telephone to Hyload upon the discovery of any leak in the membrane and written confirmation of the leak within 15 days thereafter	Immediate notification by telephone to Hyload upon the discovery of any leak in the membrane and written confirmation of the leak within 15 days thereafter
9. Exclusive or additional remedy	Remedy in warranty is owner's sole and exclusive remedy so that Hyload's repair of leaks constitutes fulfillment of all its obligations; excludes other guarantees and warranties; excludes UCC warranties.	Remedy in warranty is owner's sole and exclusive remedy so that Hyload's repair of leaks constitutes fulfillment of all its obligations; excludes other guarantees and warranties; excludes UCC warranties.	Remedy in warranty is the owner's sole and exclusive remedy so that Hyload's repair of leaks constitutes fulfillment of all its obligations; excludes other guarantees and warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Hyload's determination	Hyload's determination	Hyload's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 7, 9, 10, 12, 18, 19, 20	1, 3, 4, 5, 7, 9, 10, 12, 18	1, 3, 4, 5, 7, 9, 10, 12, 18
13. Wind coverage/exclusions	Hyload indicates that the warranty covers roof damage resulting from wind speeds up to 39 mph. Warranty excludes hurricanes, gales, and tornadoes.	Hyload indicates that the warranty covers roof damage resulting from wind speeds up to 39 mph. Warranty excludes hurricanes, gales, and tornadoes.	Hyload indicates that warranty covers roof damage resulting from wind speeds up to 39 mph. Warranty excludes hurricanes, gales, and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	B, C, J, M, R, S. Warranty also becomes null and void if subsequent work is done at or through the Hyload membrane.	B, C, J, M, R, S. Warranty also becomes null and void if subsequent work is done at or through the Hyload membrane.	B, C, J, M, R, S. The warranty also becomes null and void if subsequent work is done at or through the Hyload membrane.
15. Cost to obtain	\$8.00/square	\$9.00/square	\$12.00/square
16. Minimum charge	\$800	\$900	\$1000
17. Ineligible structure or building use	Residential	Residential	Residential
18. Pre-construction notice and approval requirements	Contractor is required to pay warranty fee, complete warranty request form outlining membrane installation, and obtain approval from Hyload prior to beginning installation.	Contractor is required to pay warranty fee, complete warranty request form outlining membrane installation, and obtain approval from Hyload prior to beginning installation.	The contractor is required to pay warranty fee, complete warranty request form outlining membrane installation, and obtain approval from Hyload prior to beginning installation.
20. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections	Hyload technical department representative makes on-	Hyload technical department representative makes on-

		site inspections after completion of installation prior to issuance of warranty and two years after issuance of warranty; no charge.	site inspections after completion of installation prior to issuance of warranty and two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	Although this is a material-only warranty, contractor is obligated to make repairs to material and workmanship deficiencies for two years.	The contractor is obligated to make repairs to material and workmanship deficiencies for two years.	Contractor is obligated to make repairs to material and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Hyload indicates it does not carry insurance covering its warranty obligations.	No; Hyload indicates that it does not carry insurance covering its warranty obligations.	No; Hyload indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Hyload manufactures and sells the product.	Hyload manufactures and sells the product.	Hyload manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	The warranty is not assignable	The warranty is not assignable.	The warranty is not assignable.
26. Special features/conditions	The warranty shall be governed by the laws of the state of Ohio, excluding principles of conflicts of law. All actions arising under the warranty shall be brought in the court of common pleas for Medina County, Ohio. If the owner does not make repairs that are not covered by the warranty within 30 days of notice from Hyload, warranty shall automatically terminate.	The warranty shall be governed by the laws of the state of Ohio, excluding principles of conflicts of law. All actions arising under the warranty shall be brought in the court of common pleas for Medina County, Ohio. If the owner does not make repairs that are not covered by the warranty within 30 days of notice from Hyload, warranty shall automatically terminate.	The warranty shall be governed by the laws of the state of Ohio, excluding principles of conflicts of law. All actions arising under the warranty shall be brought in the court of common pleas for Medina County, Ohio. If the owner does not make repairs which are not covered by the warranty within 30 days of notice from Hyload, warranty shall automatically terminate.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Imper Italia S.p.A.	Intec/Permaglas, a division of U.S. Intec, Inc.	International Diamond 105 Non-Penetrating Roofing Systems, Inc. (IDS)
2. Title, original publication date, and identifying symbol, if any	Imper Italia Roofing Membrane Guarantee	Roofing System Guarantee; September 1996	Limited Workmanship Warranty; Revised 12/95
3. Product, specification, or system covered	Paralon NT4, Arwenol ARD/S	Built-up roofing specifications: A: G-B4UP-M B: M-84UP=N M-4TP-RI C: ERA-84TP-N G-B5UP-N M-B5UP-N M-5TP-RI ERA-B5TP-N G-4UP-RI M-4UP-RI ERA-4TP-RI G-B4TP-N M-5UP-TI ERA-B4TP-N G-B5TP-N M-B4TP-N ERA-B5TP-N G-4TP-RI M-B5TP-N ERA-B5TP-RI	Diamond 105, Seal-A-Plate, FM Bar, Ballasted, Bonded Plate, 135 Totally Adhered, Reinforced
4. Scope of coverage	Material only. Imper Italia guarantee agrees to provide replacement material resulting from all manufacturing defects to restore roof to watertight condition.	Material and workmanship; Intec/Permaglas guarantees to the original building owner that it will repair or replace, at its sole discretion, the Intec/Permaglas roofing system or portion thereof as is necessary to correct leaks caused by (1) manufacturing defects, (2) deterioration as a result of ordinary wear and tear from exposure to the elements, (3) splits, fissures or tears not caused by structural or roof deck movement or failure, or (4) workmanship in installing the roofing membranes and base flashings. The components of Intec/Permaglas roofing system covered by the guarantee are the membrane, flashing, insulation and accessories specifically identified in the guarantee; all other components of the building, including any roofing components, are excluded. (See Special Features/Conditions.)	Material and workmanship; IDS warrants that it will repair improper workmanship of any installed IDS product in the original IDS roofing system. The IDS roofing system is limited to and includes only the IDS EPDM vulcanized roofing membrane, flashing, adhesives, and other IDS accessories purchased from IDS or its distributors, utilized in the installation and installed according to IDS installation instructions. (See Special Features/Conditions.)
5. Length of coverage	10 years	5, 10, 15, or 20 years (length of coverage depends upon number and type of plies as well as climate zone)	10 years workmanship, 15 years materials
6. Nature of remedy	Imper Italia will provide replacement material at its own expense.	Intec/Permaglas shall repair or replace the membrane and base flashings or any portion thereof to make the Intec/Permaglas roofing system watertight, unless the roofing contractor is obligated to do so for a claim brought during the first two years. (See Special Features/ Conditions.)	IDS will repair improper workmanship of any installed product in the original IDS roof system. The owner's sole remedy is limited to replacement of the defective IDS product; the method of repair is sole determination of IDS. The owner's sole remedies and IDS' liabilities and obligations shall be limited to replacement of the defective IDS product by repair or substitution of new material.
7. Monetary limitations	Imper Italia's total liability shall not exceed the original cost of its membrane roofing material.	Intec/Permaglas' maximum liability shall not exceed in the aggregate over the life of the guarantee more than the dollar amount inserted on an individual basis.	IDS' obligation to remedy defects shall not exceed the original cost of IDS materials as charged by IDS.
8. Notification requirements	Written notification to the approved roofing contractor and Rol-Ply, Inc. (representatives of Imper Italia) within 30 days of discovery of any leaks in Imper Italia Roofing Membrane.	Written notice to Intec/Permaglas within 15 days of discovery of the leak which is the basis of a claim, even if the discovery is within the first two years	Written notification within 30 days of discovery of any defect in the IDS roofing system by certified mail, return receipt requested, to IDS at 5110 Angola Road, Toledo, OH 43615
9. Exclusive or additional remedy	Owner's sole and exclusive remedy; excludes all other warranties; excludes UCC warranties.	Remedy in guarantee shall be the sole and exclusive remedy available to the owner. Guarantee is expressly in lieu of any other guarantees or warranties, and any other obligations or liability on the part of Intec, whether any claim is based upon strict liability, negligence, breach of warranty or any other theory or cause of action; excludes UCC warranties.	The warranty replaces and excludes all other warranties; remedy stated in warranty is the sole and exclusive remedy; excludes UCC warranties. The warranty states: "The building owners sole remedy is to file a claim against our product liability or completed operations for any underlying materials or any other damages whatsoever. The products must be proven defective scientifically by certified laboratories."
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Rol-Ply, Inc.'s determination	Intec/Permaglas' determination (See Special Features/Conditions.)	IDS' determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 7, 9, 10, 11, 22	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 17, 20, 22. Warranty also excludes damages to the roof system more than 15 days after discovery of a leak unless Intec/Permaglas was notified within 15 days	1, 2, 3, 4, 5, 6, 7, 10, 11, 12 (including those items contained in <i>IDS Roofing Care and Maintenance Guide</i>), 13, 16, 17, 18, 19, 24. (The warranty also excludes damage or loss caused by pests, insect infestation, ice storm or any windstorm or occurrence covered by fire and windstorm insurance, including subrogation claims.)
13. Wind coverage/exclusions	Warranty does not mention wind conditions specifically.	Intec/Permaglas indicates that there is no coverage for damage caused by wind. Guarantee excludes windstorms, hurricanes, and tornadoes.	The warranty excludes windstorms, wind gusts/gales, hurricanes, and tornadoes. IDS indicates that the warranty covers wind speeds up to Beaufort Scale 8, which starts at 39 mph. The plate bond system is not wind uplift rated. (See Special Features/Conditions.)
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, C, J, N	B, C, E, G, H, I, L, M, R (See Special Features/Conditions.)	C, M, N, S
15. Cost to obtain	None	5 years: \$6.00/square; 10 years: \$7.50/square; 12 years: \$8.00/square; 15 years: \$10.00/square; 20 years: \$15.00/square	\$8.00/square
16. Minimum charge	None	5 years: \$600; 10 years: \$750; 12 years: \$800; 15 years: \$1,000; 20 years: \$1,500	10 years: \$500, 15 years: \$600
17. Ineligible structure or building use	Cold-storage buildings; roofs with polystyrene insulation, uninsulated steel decks; areas subjected to oil caustic chemicals or roofs that retain water more than 24 hours	Any building where harmful emissions or chemicals may damage the roof and parking areas	The warranty states that IDS shall have no obligation if building is used for noncommercial purposes, such as residential, personal, family, or household purposes.
18. Pre-construction notice and approval	Imper Italia indicates that the contractor is required to give notice	The contractor shall submit notice to Intec/Permaglas ten days prior to	Prior to the job commencing, the contractor submits an application to

requirements	and obtain approval prior to commencing installation.	commencement of guaranteed job.	install IDS roofing systems. Upon completion, the contractor submits notice of completion and request for warranty.
19. Approved, authorized, or licensed applicator	Yes	Yes	
20. Job inspection policy	Imper Italia inspects job site prior to and after application prior to issuance of guarantee; there may be an inspection charge.	Intec/Permaglas technical roof inspectors make on-site inspections during application (every other week depending on job size) and after completion prior to issuance of guarantee (inspection done before surfacing), as well as two years after issuance of guarantee; no charge.	IDS field technical department will make on-site inspections prior to and during application upon request. IDS makes inspection after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge. If a second inspection is required, inspection charge is \$350/day plus \$0.26 per mile.
21. Contractor's post-installation obligation		The contractor is obligated to make all repairs due to workmanship for two years. The guarantee states that the owner and roofing contractor expressly agree that if the owner discovers or should have discovered, within the first two years after guarantee validation, leaks in the membrane or base flashings due to misapplication or the roofer's failure to install the membrane and base flashings in compliance with the Intec/Permaglas specification manual in effect at the time of roof installation, it is the roofing contractor's sole responsibility to repair those leaks and Intec/Permaglas shall have no obligation to repair any such leaks.	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No	No; Intec/Permaglas indicates that it does not carry insurance covering its guarantee obligations.	No; IDS indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Imper Italia S.p.A. manufactures product; product sold in United States by its representative, Rol-Ply, Inc.	Intec/Permaglas manufactures and sells product.	IDS manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	The guarantee may be renewed for 5 or 10 years at a cost of \$1,000 or more depending upon fees at the time. Request for renewal must be made 180 days prior to expiration; owner pays for cost of repairs to be performed prior to reinspection by manufacturer.	No renewal provision
25. Assignability	No restrictions stated.	The guarantee is assignable to another owner for the remaining term only if the following conditions are met: (1) the request is sent by certified mail to Intec/Permaglas, Attn: Technical Services Department, P.O. Box 2845, Port Arthur, TX 77643 within 30 days after ownership transfer; (2) the membrane is inspected by Intec/Permaglas and any required repairs are completed at the owner's expense; (3) the proposed assignment is approved in writing by an authorized Intec/Permaglas Technical Services Manager; and (4) an assignment fee of \$750 is paid to Intec/Permaglas. The guarantee is not otherwise transferable or assignable, directly or indirectly.	The warranty is not transferable.
26. Special features/conditions	In the event of a leak, Rol-Ply, Inc. will make inspection and determine what repairs are necessary and will advise Imper Italia, the owner, and the contractor in writing. Owner shall be liable for expense of any repair, removal or replacement of traffic surfaces or other appurtenances built over the roof necessary to restore the roof to a watertight condition and any repair to parts of the building other than the roof.	<p>The guarantee excludes workmanship coverage from Intec/Permaglas for first two years. (See Item #21 above.)</p> <p>In the event Intec/Permaglas determines that complaint is excluded by the guarantee, owner shall be responsible for reimbursing Intec/Permaglas for the reasonable costs associated with the inspection. Owner's failure to reimburse Intec/Permaglas within 30 days of receipt of invoice shall terminate Intec/Permaglas' obligations. If the inspection occurs during the first two years, the reimbursable expenses are the joint obligation of the owner and the roofing contractor.</p> <p>Intec/Permaglas may make inspection during the period between 23 and 25 months after validation of guarantee. An inspection report detailing any application related inadequacies or leaks will be provided to owner and roofing contractor. Owner and roofing contractor agree that all such application inadequacies or leaks will be repaired within 30 days, weather permitting.</p> <p>If Intec/Permaglas discovers conditions in or adjacent to the roofing system that are not covered by the guarantee but which affect the watertight integrity of the roof system, the owner agrees to completely remedy the condition within 30 days. Owner shall send an inspection report to Intec/Permaglas detailing such repair within 15 days of their completion. Intec/Permaglas representatives may be retained to furnish all necessary inspection services at owner's cost.</p> <p>In the event the owner discovers leaks or other conditions which create an emergency condition, the owner may make essential temporary repairs as necessary at the owner's expense.</p> <p>Owner shall perform routine inspections and maintenance. Regular inspections should be made at least once a year and as soon as possible after extreme weather conditions such as heavy winds, rain or hail, excessive snow or ice build-up and/or earthquakes. Any existing or potential problems discovered during an inspection must be reported to Intec Permaglas immediately.</p> <p>No representative, employee or agent of Intec/Permaglas or any other person has the authority to assume for Intec/Permaglas any additional or other liability or responsibility. Intec/Permaglas shall not be responsible for any change or amendment to the Intec/Permaglas roof specifications unless approved in writing by an authorized Intec/Permaglas Technical Services Manager.</p> <p>Absent reasonable access to the roof, owner shall be responsible for all additional expenses incurred by Intec/Permaglas. Failure of owner to reimburse Intec/Permaglas promptly for such additional expenses shall void the guarantee.</p>	<p>Although the warranty states that it covers workmanship of any installed IDS product, the warranty also states: [I]f the Owner's roofing applicator is responsible for workmanship for the first two (2) years of this warranty or any defective workmanship known or unknown for the life of this warranty. The buyer agrees to indemnify and save IDS harmless against any claims arising out of the sale or installation of defective workmanship.] In the limitations section, the warranty states: [IDS is under no obligation to issue a warranty on any job until an affidavit is signed by the building owner and the roofing contractor stating that the job was done with IDS material, specifications, and details. IDS warranty is clearly limited to the repair of IDS material if defective and the repair of the workmanship if it is made defective by the defective material.] Thus, the warranty is ambiguous as to whether it covers both material and workmanship of contractor.</p> <p>All legal actions against IDS must be noticed and venue in Toledo, Lucas County, Ohio and Ohio law shall apply.</p> <p>The warranty states: [I]f the building owner's sole remedies on the above conditions and limitation of recovery on any and all claims will be filed against IDS insurance carrier. Any dispute which cannot be settled within the terms and conditions of this warranty limits the building owners recovery to the realms of our insurance policy and/or our suppliers, and/or his agents.]</p> <p>If the courts find the warranty legally binding or non-binding between IDS and the owner, then the UCC statute of limitations applies in lieu of the warranty in its entirety.</p> <p>The warranty states: [All parties must except [sic] industry standards, state of the art technology, FM (Factory Mutual), UL (Underwriters Laboratories), and ASTM testing (as published by them) as the standard that is excepted [sic] by the industry and all parties with no deviations as tested by IDS.]</p> <p>The official weather report is the nearest airport or the national weather bureau. If there are damaging winds recorded at the airport and wind damage is found on the building, the owner's insurance will be responsible for the repair of the roofing system. If the owner's insurance denies coverage for the wind damage, the owner will hold IDS harmless, along with the other terms, conditions, and limitations of warranty. Note: Ground speed winds must be calculated and multiplied by three in order to determine the effect the wind has on a system.</p> <p>If a defect is not caused by workmanship, IDS will advise of the type and/or extent of repairs required to be made at owner's expense by a qualified applicator; all investigation and repair costs are the owner's responsibility.</p>
27. Executed by owner	No	Yes; contractor and owner must execute guarantee and forward to Intec/Permaglas within sixty days of receipt of guarantee after validation by Intec/Permaglas.	Yes; warranty must be signed, dated, and returned to IDS at its office in Toledo, Ohio not later than 30 days after receipt.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	International Diamond 105 Non-Penetrating Roofing Systems, Inc. (IDS)	Johns Manville International, Inc. (JM)	Johns Manville International, Inc. (JM)
2. Title, original publication date, and identifying symbol, if any	☐Limited Ten Year Membrane Only Warranty (Prorated)☐; Revised 12/95	"Gold Shield Roofing System Guarantee;" September 1997; JM-645-2 (9/97), RS-7082 11-97	"Gold Shield Roofing System Guarantee"; September 1997; JM-645-2 (9/97) RS-7082 11/97
3. Product, specification, or system covered	Diamond 105, Seal-A-Plate, FM Bar, Ballasted, Bonded Plate, 135 Totally Adhered, Reinforced	BUR Specifications: 4GIS, 4GIG, 5GNG, 5GLG, 5GIC, with GlasPly Premier Felts, installed over two layers of Fescoboard	BUR Specifications: 4GIS, 4GIG, 3GIS, 3GIG, 4GIC, 4GNC, 4GNS, with use of GlasPly Premier Felts; DynaKap Modified Bitumen Specifications: 2CID, 2CIG, 2CND, 2CNG, 3CID, 3CND (See Special Features/Conditions)
4. Scope of coverage	Material only. IDS warrants that the IDS EPDM vulcanized roofing membrane will not deteriorate to the point of causing leaks through the membrane due to normal weathering. Warranty applies only to the IDS EPDM vulcanized roofing membrane utilized in the installation and installed according to IDS' installation instructions and does not apply to labor, materials, or any other item.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.
5. Length of coverage	10 or 15 years	20 years for new construction or tear-off	5 years for re-roofing; 10 years for new construction or tear-off.
6. Nature of remedy	IDS will, at its option, either repair the membrane or issue a prorated credit against the purchase of a new roofing membrane from IDS. The owner's sole remedies and IDS' liabilities and obligations shall be limited to the replacement of defective IDS EPDM vulcanized roofing membrane by repair or substitution of new material.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.
7. Monetary limitations	IDS' obligation to remedy defects shall not exceed the original cost of IDS materials as charged by IDS.	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is \$100 per sq.; minimum coverage is \$10,000.)	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)
8. Notification requirements	Written notification within 30 days of discovery of any defect in the IDS roofing system by certified mail, return receipt requested, to IDS at 5110 Angola Road, Toledo, OH 43615	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.	Written notification to JM's Guarantee Services Department, 10100 W. Ute A e., Littleton, CO 80127 immediately upon discovery of leak and in no event later than 30 days after discovery of leak.
9. Exclusive or additional remedy	The warranty replaces and excludes all other warranties; remedy stated in warranty is the sole and exclusive remedy; excludes UCC warranties. The warranty states: ☐The building owners sole remedy is to file a claim against our product liability or completed operations for any underlying materials or any other damages whatsoever. The products must be proven defective scientifically by certified laboratories.☐	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision).	Neutral: JM arranges inspection	Neutral: JM arranges inspection
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 10, 11, 12 (including those items contained in <i>IDS Roofing Care and Maintenance Guide</i>), 13, 16, 17, 18, 19, 24. (Warranty also excludes damage or loss caused by pests, insect infestation, ice storm, or any windstorm or occurrence covered by fire and windstorm insurance, including subrogation claims.)	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18
13. Wind coverage/exclusions	The warranty excludes windstorms, wind gusts/gales, hurricanes, and tornadoes. IDS indicates that warranty covers wind speeds up to Beaufort Scale 8, which starts at 39 mph. The plate bond system is not wind uplift rated.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.
15. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	C, M, N, S	C, F, M (See Special Features/Conditions.)	C, F, M (See Special Features/Conditions.)
15. Cost to obtain	None	\$12.00/square	\$8.50/square
16. Minimum charge	None	\$1,200	\$850
17. Ineligible structure or building use	The warranty states that IDS shall have no obligation if building is used for noncommercial purposes, such as residential, personal, family, or household purposes.	Cold-storage buildings, private residences, storage silos, heated tanks	Cold-storage buildings, private residences, storage silos, heated tanks
18. Pre-construction notice and approval requirements	Prior to the job commencing, the contractor submits an application to install IDS roofing systems. Upon completion, the contractor submits notice of completion and request for warranty.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.

19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	IDS field technical department will make on-site inspections prior to and during application upon request. IDS makes inspection after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge. If a second inspection is required, inspection charge is \$350/day plus \$0.26 per mile.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; IDS indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	IDS manufactures and sells the product.	JM manufactures and sells product.	JM manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	The warranty is not transferable.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.
26. Special features/conditions	<p>The warranty states: [IDS is under no obligation to issue a warranty on any job until an affidavit is signed by the building owner and the roofing contractor stating that the job was done with IDS material, specifications, and details. IDS warranty is clearly limited to the repair of IDS material if defective and the repair of the workmanship if it is made defective by the defective material.] Thus, the warranty is ambiguous as to whether it covers both material and workmanship of contractor.</p> <p>All legal actions against IDS must be noticed and venued in Toledo, Lucas County, Ohio and Ohio law shall apply.</p> <p>The warranty states: [The building owners sole remedies on the above conditions and limitation of recovery on any and all claims will be filed against IDS insurance carrier. Any dispute which cannot be settled within the terms and conditions of this warranty limits the building owners recovery to the realms of our insurance policy and/or our suppliers, and/or his agents.]</p> <p>If the courts find the warranty legally binding or non-binding between IDS and the owner, then the UCC statute of limitations applies in lieu of the warranty in its entirety.</p> <p>The warranty states: [All parties must except [sic] industry standards, state of the art technology, FM (Factory Mutual), UL (Underwriters Laboratories), and ASTM testing (as published by them) as the standard that is excepted [sic] by the industry and all parties with no deviations as tested by IDS.]</p> <p>The official weather report is the nearest airport or the national weather bureau. If there are damaging winds recorded at the airport and wind damage is found on the building, the owner's insurance will be responsible for the repair of the roofing system. If the owner's insurance denies coverage for the wind damage, the owner will hold IDS harmless, along with the other terms, conditions, and limitations of warranty. Note: Ground speed winds must be calculated and multiplied by three in order to determine the effect the wind has on a system.</p> <p>If a defect is not caused by workmanship, IDS will advise of the type and/or extent of repairs required to be made at owner's expense by a qualified applicator; all investigation and repair costs are the owner's responsibility.</p>	<p>To be eligible for this 20-year guarantee, a four-ply specification with GlasPly Premier Felts must be installed over two layers of either JM Fesco or insulation; the project must be either new construction or tear-off.</p> <p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of the guarantee, including (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose, or poorly sealed metal flashing and valleys by an approved contractor; (f) repairing damaged masonry, poorly mounted counter-flashing, loose caulking, bad mortar joints, and any loose stone or tile coping that about the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs that are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate. All terms and conditions are to be construed under internal law of Colorado.</p>	<p>Specifications 4GIC, 4GNC, 4GNS and RGNG are eligible for this guarantee in JM's designated Region 3 only.</p> <p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of the guarantee, including (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose, or poorly sealed metal flashing and valleys by an approved contractor; (f) repairing damaged masonry, poorly mounted counter-flashing, loose caulking, bad mortar joints, and any loose stone or tile coping that about the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs that are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate.</p> <p>Parties agree that any controversy or claims relating to Guarantee shall be settled exclusively by arbitration in accordance with the construction Industry Arbitration Rules of the American Arbitration Association at the Denver, Colorado office. All terms and conditions are to be construed under internal law of Colorado.</p> <p>Because JM does not practice engineering or architecture, neither the issuance of the guarantee nor any review of building's construction or inspection of roof plans by JM representatives shall constitute any warranty by JM or in any way constitute an extension of the terms and conditions of the Guarantee.</p>
27. Executed by owner		Yes; Guarantee must be signed, dated, and returned to JM at its office in Littleton, CO.	Yes; Guarantee must be signed, dated, and returned to JM at its office in Littleton, CO.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Johns Manville International, Inc. (JM)	Johns Manville International, Inc. (JM)	Johns Manville International, Inc. (JM)
2. Title, original publication date, and identifying symbol, if any	"Gold Shield Roofing System Guarantee"; September 1997; JM-645-2 (9/97), RS-7082 11/97	"Gold Shield Roofing System Guarantee"; June 1997; JM-645-2 (6/97), RS-7082 11-97	"Gold Shield Roofing System Guarantee"; September 1997; JM-645-2 (9/97) RS-7082 11-97
3. Product, specification, or system covered	BUR Specifications: 4GIS, 4GIG, 5GIC, 4GNS, 4GNG, with use of GlasPly Premier Felts; DynaKap Modified Bitumen Specifications: 3CID, 3CIG, 3FID, (See Special Features/Conditions), APP Modified Bitumen Specification:s 3CIN-W, 3PIN-W.	BUR Specifications: 4GIS, 3GIS, 4GIG, 3GIG, 4GNS, 3GNS, 4GNG, 3GNG, 4GLG, 3GLG, 4GIC, 4GNC, 3GIC, 3GNC, 4GIG-CT, 4GNG-CT, 3GIG-CT, 3GNG-CT. Modified Bitumen Specifications: 2GID, 2GND, 2CID, 2CND, 3CID, 3CND, 3CIG, 3CNG, 2PIN-W, 2PIS-W, 2PFN-W, 3PIN-W	BUR Specifications: 4GIS, 4GIG, 5GIC, 5GNS, 5GNG, with use of GlasPly Premier Felts and one layer of Fescoboard; DynaKap Modified Bitumen Specifications: 3CID, 3CIG, 3CND, 3CNG (See Special Features/Conditions).
4. Scope of coverage	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.
5. Length of coverage	20 years for new construction or tear-off.	5 or 10 years	15 years for new construction or tear-off.
6. Nature of remedy	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.
7. Monetary limitations	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)
8. Notification requirements	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.
9. Exclusive or additional remedy	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral; JM arranges inspection	Neutral; JM arranges inspection	Neutral; JM arranges inspection
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18
13. Wind coverage/exclusions	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	C, F, M (See Special Features/Conditions.)	C, F, M (See Special Features/Conditions.)	C, F, M (See Special Features/Conditions.)
15. Cost to obtain	\$17.00/square	5 years: \$5.00/square; 10 years: \$6.00/square	\$12.50/square
16. Minimum charge	\$1,700	5 years: \$500; 10 years: \$600	\$1,250
17. Ineligible structure or building use	Cold-storage buildings, private residences, storage silos, heated tanks	Cold-storage buildings, private residences, storage silos, heated tanks	Cold-storage buildings, private residences, storage silos, heated tanks
18. Pre-construction notice and approval requirements	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes

20. Job inspection policy	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.
21. Contractor's post-installation obligation	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
21. Backed by named insurance or surety	No; JM indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	JM manufactures and sells product.	JM manufactures and sells product.	JM manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.
26. Special features/conditions	<p>To be eligible for this 20 year guarantee, a four-ply specification with GlasPly minimum Premier Felts must be installed over two layers of JM insulation with the top layer being JM Fesco Board. In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semi-annually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose or poorly sealed materials by an approved contractor; (f) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate.</p> <p>Parties agree that any controversy or claims relating to Guarantee shall be settled exclusively by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association at the Denver, Colorado office. All terms and conditions are to be construed under internal law of Colorado.</p> <p>Because JM does not practice engineering or architecture, neither the issuance of the guarantee nor any review of building's construction or inspection of roof plans by JM representatives shall constitute any warranty by JM or in any way constitute an extension of the terms and conditions of the Guarantee.</p>	<p>All listed specifications are eligible for either the 5- or 10-year guarantee.</p> <p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose, or poorly sealed metal flashing and valleys by an approved contractor; (f) repairing damaged masonry, poorly mounted counter-flashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate.</p> <p>Parties agree that any controversy or claims relating to Guarantee shall be settled exclusively by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association at the Denver, Colorado office. All terms and conditions are to be construed under internal law of Colorado.</p> <p>Because JM does not practice engineering or architecture, neither the issuance of the guarantee nor any review of building's construction or inspection of roof plans by JM representatives shall constitute any warranty by JM or in any way constitute an extension of the terms and conditions of the Guarantee.</p>	<p>Specifications 5GIC, 5GNC, 5GNS and 5GNG are eligible for this guarantee in JM's designated Region 3 only.</p> <p>JM's 15-year guarantee is limited to four-ply specifications installed over one layer of FesCore, used in new construction or tear-off projects.</p> <p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose or poorly sealed materials by an approved contractor; (f) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate. All terms and conditions are to be construed under internal laws of Colorado.</p>
27. Executed by owner	Yes; Guarantee must be signed, dated, and returned to JM at its office in Littleton, CO.	Yes; Guarantee must be signed, dated, and returned to JM at its office in Littleton, CO.	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Johns Manville International, Inc. (JM)	Johns Manville International, Inc. (JM)	Johns Manville International, Inc. (JM)
2. Title, original publication date, and identifying symbol, if any	"Gold Shield Roofing System Guarantee"; September; JM-645-2 (9/97), RS-7082 11-97	"Gold Shield Roofing System Guarantee"; September 1997; JM-645-2 (9/97), RS-7002 11-97	UltraGard Roofing System Guarantee; April 1998; RS-8048 (4/98)
3. Product, specification, or system covered	APP Modified Bitumen Products: APPEX Classic FR Premium, Classic FR, Classic M, Classic S, 5S, 4S, 4M, 4MFR, 4.5M, 200, Bicolor, Tricolor, Tricolor MFR, when applied over one or two plies	APP Modified Bitumen Products: Bicolor or Tricolor when installed over two APPEX base sheets, utilizing three plies of material.	EPDM: Ballasted, Mechanically Attached, Fully Adhered PVC: Mechanically Attached, Fully Adhered
4. Scope of coverage	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.	Material and workmanship; JM guarantees that it will pay for the materials and labor required to promptly repair the roofing system to return it to a watertight condition if leaks occur due to ordinary wear and tear or deficiencies in any or all of the component materials of the Roofing System or workmanship deficiencies in the application of the Roofing System. Roofing System components are JM membrane, flashing, insulation, and accessories; all other components of building are excluded.
5. Length of coverage	5 years: any APPEX modified bitumen membrane product installed over one ply of felt or any approved substrate; 10 years: any APPEX modified bitumen membrane product installed over one ply or base sheet over an approved substrate; 12 years: any APPEX modified bitumen membrane product installed over one base ply and an approved substrate.	20 years	5, 10 or 15 years
6. Nature of remedy	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.	JM will take prompt appropriate action to return the Roofing System to a watertight condition. Exclusive responsibility and liability of JM under guarantee is to make repairs that may be necessary to maintain the Roofing System in a water tight condition.
7. Monetary limitations	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)	Guarantee includes space for JM's maximum monetary obligation to be inserted. (JM indicates that for these specifications, JM's maximum liability is the original installed cost of the roof system.)
8. Notification requirements	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.	Written notification to JM's Guarantee Services Department, 10100 W. Ute Ave., Littleton, CO 80127, immediately upon discovery of leak and in no event later than 30 days after discovery of leak.
9. Exclusive or additional remedy	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.	Guarantee states that JM and its affiliates shall not be liable for any damages which are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in guarantee; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral; JM arranges inspection	Neutral; JM arranges inspection	Neutral; JM arranges inspection
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18
13. Wind coverage/exclusions	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 63 mph.	JM indicates that guarantee covers roof damage resulting from wind speeds up to 54 mph. Warranty excludes wind speeds in excess of a strong gale which the Baurfort Scale defines as winds between 47-54 mph.
14. Specific conditions to make warranty ineffective or null and void (See No. 14 in Introduction.)	C, F, M (See Special Features/Conditions.)	C, F, M (See Special Features/Conditions.)	C, F, M (See Special Features/Conditions.)
15. Cost to obtain	5 years: \$5.00/square; 10 years: \$6.00/square; 12 years: \$8.50/square.	\$17.00/square	PVC systems: 5 years \$ 4.00/square 10 years \$ 7.00/square 15 years \$10.00/square
16. Minimum charge	5 years: \$500; 10 years: \$600; 12 years: \$850	\$1,700	EPDM Systems: 5 years \$2.00/square 10 years \$4.00/square 15 years \$6.00/square When liquid adhesive is used, there is an additional \$1.00/square warranty charge.
17. Ineligible structure or building use	Cold-storage buildings, private residences, storage silos, heated tanks	Cold-storage buildings, private residences, storage silos, heated tanks	Cold-storage buildings, private residences, storage silos, heated tanks
18. Pre-construction notice and approval requirements	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.	Contractor is required to submit a guarantee application for approval 14 days prior to start of construction.

19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.	Inspections made by local JM field representatives prior, during, and after application as well as two years after issuance of guarantee; no charge.
21. Contractor's post-installation obligation	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; JM indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.	No; JM indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	JM manufactures and sells product.	JM manufactures and sells product.	JM manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.	Guarantee will be transferred by JM, in its sole discretion, only after receiving satisfactory information and payment of a transfer fee, which must be delivered to JM as soon as practical, but no later than 30 days after the date of building ownership transfer.
26. Special features/conditions	<p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose or poorly sealed materials by an approved contractor; (f) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate. All terms and conditions are to be construed under internal laws of Colorado.</p>	<p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose or poorly sealed materials by an approved contractor; (f) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate. All terms and conditions are to be construed under internal laws of Colorado.</p>	<p>In order to continue guarantee coverage, owner must implement a maintenance program prescribed by JM on the reverse side of guarantee, including: (a) maintaining a file showing all inspections and repairs; (b) inspecting roof at least semiannually; (c) removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing any damaged, loose or poorly sealed materials by an approved contractor; (f) repairing damaged masonry, poorly mounted counterflashing, loose caulking, bad mortar joints, and any loose stone or tile coping that abut the roof; (g) correcting materials at edges of the roof that have been lifted by wind by an approved contractor; (h) examining roof top equipment to determine if they move excessively or leak; (i) checking building exterior for settlement or movement; and (j) recoating any cracked, flaking, or blistered areas of protective coatings.</p> <p>In the event of an emergency condition that requires immediate repair to avoid substantial damage to building or its contents, JM will reimburse the owner for repair expenses for essential temporary repairs that would have been JM's responsibility.</p> <p>In the event JM pays for repairs, which are required due to acts or omissions of others, JM shall be subrogated to all rights of recovery of the building owner to the extent of the amount of the repairs. No one is authorized to change, alter, or modify the provisions of the guarantee other than the Manager, Marketing and Technical Services or authorized delegate.</p> <p>Parties agree that any controversy or claims relating to the Guarantee shall be settled exclusively by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association at the Denver, Colorado office. All terms and conditions are to be construed under internal laws of Colorado.</p> <p>Because JM does not practice engineering or architecture, neither the issuance of the guarantee nor any review of building's construction or inspection of roof plans by JM representatives shall constitute any warranty by JM or in any way constitute an extension of the terms and conditions of the Guarantee.</p>
27. Executed by owner	No	No	Yes; Guarantee must be signed, dated, and returned to JM at its office in Littleton, CO.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	JPS Elastomerics Corp.,	JPS Elastomerics Corp.,	JPS Elastomerics Corp.,
2. Title, original publication date, and identifying symbol, if any	□Limited Material Warranty for Commercial Building□; January 1995, RSD-FM-12	□Limited Warranty for Commercial Building - NDL□; January, 1995, RSD-FM-11	□Hi-Tuff Plus Total Systems Limited Warranty for Commercial Building - NDL□; January, 1995; RSD-FM-13A
3. Product, specification, or system covered	Hi-Tuff Roofing membrane wearing surface	Hi-Tuff Roofing System	Hi-Tuff Roofing System Total Roof System includes membrane, Hi-Tuff edge metal system, insulation, adhesives, fasteners, insulation plates, term bars, and other materials provided by JPS.
4. Scope of coverage	Material only; JPS warrants that the Hi-Tuff roofing membrane wearing surface will withstand the effects of the weather due to normal wear and tear of the elements when installed and used in strict compliance with JPS specifications. Warranty does not include the cost of installation of replacement material or removal of defective material.	Material and workmanship; JPS warrants to repair leaks in the Hi-Tuff roofing system caused by defects in JPS roofing material or workmanship of the JPS authorized roofing applicator. Warranty does not include insulation.	Material and workmanship; JPS warrants to repair leaks in the Hi-Tuff roofing system caused by material or workmanship of the JPS authorized roofing applicator. JPS does not warrant the thermal resistance of roof insulation.
5. Length of coverage	5 or 10 years	10 years	10 or 15 years
6. Nature of remedy	If the wearing surface fails due to the effects of weather and normal wear and tear of the elements and the material is installed and used in strict accordance with JPS specifications, JPS will be liable for the cost of the material at the time of claim, prorated for service to date of claim. JPS will furnish the owner Hi-Tuff roofing membrane to replace the affected area.	JPS will repair leaks in the roofing system using methods determined to be suitable at JPS' discretion.	JPS will repair leaks in the roofing system using methods determined to be suitable at JPS's discretion.
7. Monetary limitations	JPS' liability limited to the cost of the material at the time of claim, prorated for service to date of claim.	None stated.	None stated.
8. Notification requirements	Written notification to JPS Warranty Services Department, Holyoke, MA 01040-2800, within 30 days of the discovery of any wearing surface failure in the membrane	Written notification of leaks must be delivered to JPS Warranty Services Department, Holyoke, MA 01040-2800, within 30 days of discovery.	Written notification of leaks must be delivered to JPS Warranty Service Department at Holyoke, MA 01040-2800, within 30 days of discovery.
9. Exclusive or additional remedy	Warranty and remedies are exclusive and in lieu of any other remedy or warranty whether written, oral, implied, or statutory; excludes UCC warranties.	Warranty and remedies are exclusive and in lieu of any other remedy or warranty whether written, oral, implied or statutory; excludes UCC warranties.	Warranty and remedies are exclusive and in lieu of any other remedy or warranty whether written, oral, implied or statutory; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	JPS' determination; JPS' judgment whether specific exclusions and conditions that make warranty null and void occur.	JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur.	JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 16, 23	1, 3, 5, 7, 17. Warranty states that specific Condition M also makes the warranty inapplicable.	1, 3, 5, 7, 17. Warranty states that specific Condition M also makes the warranty inapplicable.
13. Wind coverage/exclusions	Warranty excludes gale-force winds.	Warranty excludes winds of peak gust speed of ____ mph measured 10 meters above the ground, hurricanes, and tornadoes.	Warranty excludes winds of peak gust speed of ____ mph measured 10 meters above the ground, hurricanes, and tornadoes.
13. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	B, C, F, G, I	B, C, F, G, H, I	B, C, F, G, H, I
14. Cost to obtain	5 years: \$150; 10 years: \$300	10 years: \$6.00/square	10 years: \$8.00 or \$11.00/square; 15 years: \$9.00 and \$12.00/square

16. Minimum charge	5 years: \$150; 10 years: \$300	10 years: \$450	10 years: \$600; 15 years: \$675
17. Ineligible structure or building use	Residential buildings	Residential buildings	Residential buildings
18. Pre-construction notice and approval requirements	None	Contractor submits request to JPS for approval of warranty form, along with diagram and details.	Contractor submits request to JPS for approval of warranty form, along with diagram and details.
20. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy		JPS technical representative makes on-site inspection after application prior to issuance of warranty; no charge.	JPS technical representative makes on-site inspection after application prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation		Contractor is normally obligated to make repairs to all leaks, any defects, and workmanship deficiencies for two years.	Contractor is normally obligated to make repairs to all leaks, any defects, and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No	No	No
23. Issuing entity manufactures and/or sells products	JPS manufactures and sells the product.	JPS manufactures and sells the product.	JPS manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty is transferable; consult JPS for conditions of transferability. Conditions are noted in JPS maintenance instructions.	Warranty is transferable; consult JPS for conditions of transferability. Conditions are noted in JPS maintenance instructions.	Warranty is transferable; consult JPS for conditions of transferability. Conditions are noted in JPS maintenance instructions.
26. Special features/conditions	Any controversy or claim arising out of or relating to warranty shall be settled by arbitration in accordance with the construction industry rules of the American Arbitration Association at the Boston, Mass. regional office, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. No representative of JPS has authority to make any representations or promises, except as stated in warranty.	Any controversy or claim arising out of or relating to warranty shall be settled by arbitration in accordance with the construction industry rules of the American Arbitration Association at the Boston, Mass. regional office, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. No representative of JPS has authority to make any representations or promises, except as stated in warranty.	Any controversy or claim arising out of or relating to warranty shall be settled by arbitration in accordance with the construction industry rules of the American Arbitration Association at the Boston, Mass. regional office, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. No representative of JPS has authority to make any representations or promises, except as stated in warranty.
27. Executed by owner	Yes	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Koppers Industries, Inc.	Koppers Industries, Inc.	Koppers Industries, Inc.								
2. Title, original publication date, and identifying symbol, if any	☐Koppers Built-Up Roofing Classic Warranty☐; CRD-04/95 C	☐Modified Bitumen Roof Membrane Warranty☐; CRD-04/95 D	☐Koppers IRMA Roof Warranty with Styrofoam Brand Insulation☐; June 1991; CRD-05/91 [Specimen copy has designation CRD-05/91SP.]								
3. Product, specification, or system covered	Built-Up roofing specifications: 200 Series, 300 Series, 400 Series, 500 Series. All Classic Warranties require two layers of insulation supplied and/or approved by Koppers.	Modified bitumen specifications	IRMA Built-upRoofing specifications: 263, 264, 273, 274, 463, 464, 473, 474								
4. Scope of coverage	Material and workmanship; Koppers agrees to provide roofing repairs to correct all roof water leaks that may occur from ordinary wear and tear of the elements, defects in built-up roofing, flashing, or insulation supplied by Koppers, and workmanship of the original roofing contractor in installing Koppers built-up roofing, flashing, and insulation. A roof water leak is defined as water passing through the roofing or flashing membrane and into the interior of the building. Warranty does not cover correction of any condition other than roof water leaks, including blisters, clogged drains, ridging, bitumen drippage, or migration.	Material and workmanship; Koppers agrees to provide roofing repairs to correct all roof water leaks that may occur from defects in modified bitumen material supplied by Koppers and workmanship of the original Koppers eligible roofing contractor in installing Koppers' modified bitumen products after the first two years of warranty. Warranty does not cover correction of any condition other than roof water leaks, including ridging or slippage.	Material and workmanship; warranty covers roof water leaks resulting from ordinary wear and tear of the elements; defects in Koppers built-up roofing and flashing or Styrofoam Brand Roofing Material Insulation manufactured by Dow Chemical Company; retention of at least 90 percent of Styrofoam Brand Insulation's published thermal resistance; Styrofoam Brand Insulation blow-off in roof level wind gusts of up to 70 miles per hour; and workmanship of the original roofing contractor in installing Koppers built-up roofing, flashing, and Styrofoam Brand Insulation.								
5. Length of coverage	5 or 10 years for BUR specifications Series 200, 300, 400, and 500; 15 or 20 years for BUR Specification Series 200, 400, and 500	5, 10, or 12 years. The only warranty available for a new roof over an existing roof is Koppers 5-year warranty; this requires prior inspection/approval and at least one layer of Koppers-approved insulation over the existing roof.	10 years: specifications 263 and 463 on lightweight insulating concrete or gypsum, 273 and 473 on precast concrete or steel; 15 years: specifications 263 and 463 on wood plank, 264 and 464 on lightweight insulating concrete or gypsum; 20 years: specifications 264 and 464 on wood plank, 274 and 474 on poured or precast concrete or steel, 273 and 473 on poured concrete; 20-year specifications are eligible for 15- and 10-year warranties; 15-year specifications are eligible for 10-year warranties.								
6. Nature of remedy	Koppers will undertake repairs so long as the repair is considered ☐prudent☐ (i.e., Koppers considers that the cost of the repair is less than the ☐remaining value☐ of the roof on the date the repair is required. ☐Remaining value" is the total cost of roof installation, reduced by 5 percent for each year or part of a year after the effective date, with no deduction for the cost of any previous warranty repair). If Koppers believes repair is not prudent, payment of remaining value will be owner's sole and exclusive remedy and shall relieve Koppers of all further liability under this warranty.	Koppers will schedule a roof inspection and arrange for any repairs that are covered by warranty.	Koppers will undertake repairs as long as the repair is ☐practicable,☐ i.e., the cost of the repair is less than the "remaining value" of the roof on the date the repair is required. ☐Remaining value☐ is the total cost of roof installation reduced by 5 percent for each year or part of a year after the effective date with no deduction for the cost of any previous warranty repair. If Koppers believes repair is not practicable, payment of remaining value will be owner's sole and exclusive remedy.								
7. Monetary limitations	Koppers is not liable to pay for a repair that Koppers believes will cost more than the total cost of the roof installation (BUR membrane, flashing, and insulation) reduced by 5 percent for each year or part thereof.	Koppers' liability is a minimum of \$1,000 and is limited based upon the length of the warranty, as follows: <table><tr><td><u>Length of Warranty</u></td><td><u>Liability Limit</u></td></tr><tr><td>5 years</td><td>\$100/square</td></tr><tr><td>10 years</td><td>\$50/square</td></tr><tr><td>12 years</td><td>\$100/square</td></tr></table>	<u>Length of Warranty</u>	<u>Liability Limit</u>	5 years	\$100/square	10 years	\$50/square	12 years	\$100/square	Koppers is not liable to pay for a repair that Koppers believes will cost more than the total cost of the roof installation (BUR membrane, flashing, and Styrofoam) reduced by 5 percent for each year or part thereof.
<u>Length of Warranty</u>	<u>Liability Limit</u>										
5 years	\$100/square										
10 years	\$50/square										
12 years	\$100/square										
8. Notification requirements	Call Koppers at 800/468-9626 within 72 hours of discovery of leak and provide written notice within 30 days to Koppers Industries, Inc. 436 Seventh Avenue, Pittsburgh, PA 15219, Attention: Roofing Warranty Department.	Call Koppers at 800/468-9629 within 72 hours of discovery of leak and provide written notice within 30 days to Koppers Industries, Inc. 436 Seventh Avenue, Pittsburgh, PA 15219, Attention: Roofing Warranty Department.	Call Koppers at 1-800-468-9629 within 72 hours of discovery of leak or insulation failure and provide written notice by registered mail to Koppers Industries, Inc., 436 Seventh Avenue, Pittsburgh, PA 15219, Attention: Roofing Customer Service Department.								
9. Exclusive or additional remedy	Remedy provided by warranty is sole and exclusive remedy at law or equity for defects in material supplied by Koppers and workmanship of the contractor. Koppers not liable for consequential, incidental, or other damages under any theory of law; excludes UCC warranties.	Remedy provided by warranty is sole and exclusive remedy at law or equity for defects in material supplied by Koppers and workmanship of the contractor. Koppers is not liable for consequential, incidental, or other damages under any theory of law; excludes UCC warranties.	Remedy provided in warranty is sole and exclusive remedy at law or in equity for defects in material supplied by Koppers or Dow and workmanship of the contractor. Koppers not liable for consequential, incidental, or other damages under any theory of law; excludes UCC warranties.								
10. Inclusion of consequential damages	No	No	No								
11. Determination of warranty applicability	Koppers' determination	Koppers' determination	Koppers determines whether repair is practical. Thermal resistance of insulation tested according to ASTM C518-85. (See Special Features/Conditions.)								
12. Specific exclusions from coverage	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 17, 22, 23	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 22, 23	1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 15, 16, 17, 18, 22, 23								

(See item no. 12 in Introduction.)			
13. Wind coverage/exclusions	Warranty excludes wind damage, hurricanes, and tornadoes. Koppers indicates that there is no coverage for damage caused by wind.	The warranty excludes wind damage, hurricanes, and tornadoes. Koppers indicates that there is no coverage for damage caused by wind.	The warranty covers roof damage resulting from wind speeds up to 70 miles per hour.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	H, M	H, M	B (except emergency repairs), G
15. Cost to obtain	5 years: \$8.00/square; 10 years: \$10.00/square; 15 years: \$12.00/square; 20 years: \$15.00/square	5 years: \$4.00/square; 10 years: \$5.00/square; 12 years: \$6.00/square	10 years: \$9.00/square; 15 years: \$10.50/square; 20 years: \$13.00/square
16. Minimum charge	5 years: \$700; 10 years: \$800; 15 years: \$900; 20 years: \$1,000	5 years: \$350; 10 years: \$550; 12 years: \$600	10 years: \$800; 15 years: \$900; 20 years: \$1,000
17. Ineligible structure or building use	Cooler/freezer buildings, private residences	Cold-storage or freezer/cooler units	Cooler/freezer buildings, private residences
18. Pre-construction notice and approval requirements	Contractor telephones application to Koppers 14 days prior to job start. If project is approved, contractor is sent application for warranty.	The contractor telephones application to Koppers 14 days prior to job start. If project is approved, contractor is sent application for warranty.	The contractor telephones application to Koppers 14 days prior to job start. If project is approved, contractor is sent application for warranty.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Koppers technical service personnel or designated representative will make on-site inspections prior to and during application periodically or as requested. Koppers makes inspection after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	Koppers technical service personnel or designated representative makes inspections prior to, and during application. A final inspection, prior to warranty issuance, is required. A two-year inspection is required. No charge for inspections.	Koppers technical service personnel or designated representative may make on-site inspections prior to and during application. Inspection of insulation installation and a final inspection prior to warranty issuance and a two-year inspection are required; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workman-ship deficiencies for two years.
22. Backed by named insurance or surety	No; Koppers indicates that it is self-insured.	No; Koppers indicates that it is self-insured.	No; Koppers indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Koppers manufactures and sells product.	Koppers sells product only.	Koppers manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty states that original named owner is covered and not any tenant, purchaser, or successor without prior written notice to and approval from Koppers.	Warranty states that original named owner is covered and not any tenant, purchaser, or successor without prior written notice to and approval from Koppers.	Warranty states that original named owner is covered and not any tenant, purchaser, or successor without prior written notice to and approval from Koppers.
26. Special features/conditions	<p>Workmanship coverage is contingent upon contractor's agreement to install Koppers' products in accordance with applicable specifications and details. Koppers does not certify that the work is actually free from defect. A roof sketch must be supplied to Koppers identifying the exact location of all additions, alterations, or repairs. This warranty will be governed by the laws of the commonwealth of Pennsylvania. Any action for breach of warranty must be commenced within one year after such breach occurs or is discovered.</p> <p>If Koppers' investigation of a reported problem reveals the problem to be outside the scope of warranty, investigation and repair costs shall be paid by owner. Annual roof inspections are the responsibility of the building owner. When necessary, roof maintenance must be performed. A complete recoating of the flashing systems, using a Koppers aluminum roof coating, is required every five years on flashing specifications 168, 172, and 180, and as needed on 174 and 182.</p>	<p>Workmanship coverage is contingent upon contractor's agreement to install Koppers' modified bitumen products in accordance with applicable specifications and details. Koppers does not certify that the work is actually free from defect. A roof sketch must be supplied to Koppers identifying exact location of all additions, alterations, or repairs.</p> <p>This warranty will be governed by the laws of the commonwealth of Pennsylvania. Any action or breach of this agreement must be commenced within one year after such breach occurs or is discovered.</p> <p>If Koppers' investigation of a reported problem reveals the problem to be outside the scope of warranty, investigation and repair costs shall be paid by owner. Annual roof inspections are the responsibility of the building owner. When necessary, roof maintenance must be performed. A complete recoating of the flashing system, using a Koppers aluminum roof coating, is required every five years on flashing specifications 168, 172, and 180, and as needed on 174 and 182.</p>	<p>Koppers does not certify that the work is actually free from defect. If Koppers' investigation of a reported problem reveals the problem to be outside the scope of the warranty, investigation and repair costs shall be paid by the owner. "Thermal resistance" of Styrofoam Brand insulation shall be tested, at owner's expense, according to ASTM C518-85. Should testing prove insulation to have lost greater than 10 percent of thermal resistance, owner will be reimbursed for test-ing cost and insulation replacement.</p> <p>Warranty will be governed by the laws of Pennsylvania. Any action or breach of this agreement must be commenced within one year after such breach occurs or is discovered.</p>
27. Executed by owner	No	No	

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

	Koppers Industries, Inc.	MBTechnology Corporation	MBTechnology Corporation										
1. Identity of issuing entity													
2. Title, original publication date, and identifying symbol, if any	☐Koppers Built-Up Roofing Standard Warranty☐; CRD-04/95 B	MBTechnology ☐Roof Membrane Guarantee (Form MBT-108) ____ Year Limited☐; April 1990; Form MBT-108A 4/90	☐12-Year Limited Material Warranty☐; 1990										
3. Product, specification, or system covered	Built-Up roofing specifications: 200 Series and 400 Series	All published FG90GWH, FG160CWH, SC75GWH, FGFT160CWH, MF160WAL systems. Cap sheet substitutes allowed for non☐fire-rated systems as outlined in current manual.	All published FG90GWH, FG160CWH, SC75GWH, FGFT160CWH, MF160WAL systems. Cap sheet substitutes allowed for non☐fire-rated systems as outlined in current manual.										
4. Scope of coverage	Material and workmanship; Koppers agrees to provide roofing repairs to correct all roof water leaks that may occur from ordinary wear and tear of the elements, defects in built-up roofing or flashing materials supplied by Koppers, and workmanship of the original roofing contractor in installing Koppers built-up roofing and flashing materials. A roof water leak is defined as water passing through the roofing or flashing membrane and into the interior of the building. Warranty does not cover correction of any condition other than roof water leaks, including blisters, clogged drains, ridging, bitumen drippage, or migration.	MBT guarantees that the roof membrane shall remain in a watertight condition or MBT shall repair roof membrane at its own expense.	Material only; MBT warrants that the MBT roofing membrane and base flashings will withstand ordinary wear and tear by the elements and will be free of manufacturing defects that affect the ability of the products to maintain the roof in a watertight con-dition when installed in accordance with current MBT specifications.										
5. Length of coverage	5 or 10 years for BUR specification Series 200, 400; 15 or 20 years for BUR specification Series 200, 400. The only warranty available for a new roof over an existing roof is Koppers 5-year standard warranty; this requires prior inspection/approval and at least one layer of Koppers approved insulation over the existing roof, and excludes certain specifications.	10, 12, 15, or 20 years (length and type of coverage depends upon specification used).	12 years										
6. Nature of remedy	Koppers will schedule a roof inspection and arrange for any repairs that are covered by warranty.	Warranty states, ☐[r]oofing contractors applying MBT materials guarantee all workmanship and assume all liability to repair or replace, at his sole cost and expense, any and all materials causing leaks wherein the materials were improperly installed from the date of warranty issue or until the repairs or replacement of the MBT materials are proven to provide for a reasonable two-year period or [s/c] watertight conditions.☐ Thereafter, MBT guarantees to repair or replace all defective materials to provide for a watertight condition of the roofing system. (See Special Features/Conditions.)	If manufacturing defects cause the membrane to lose its watertight integrity, MBT, at its sole discretion and option, will either refund to the owner a portion of the original purchase cost of the membrane or replace a portion of the membrane.										
7. Monetary limitations	Koppers' liability is a minimum of \$1,000 and is limited based upon the length of the warranty: <table><tr><td><u>Length of Warranty</u></td><td><u>Liability Limit</u></td></tr><tr><td>5 years</td><td>\$100/square</td></tr><tr><td>10 years</td><td>\$50/square</td></tr><tr><td>15 years</td><td>\$75/square</td></tr><tr><td>20 years</td><td>\$100/square</td></tr></table>	<u>Length of Warranty</u>	<u>Liability Limit</u>	5 years	\$100/square	10 years	\$50/square	15 years	\$75/square	20 years	\$100/square	MBT's liability for repair and/or replacement of defective MBT membrane shall be restricted to the amount of the original cost of MBT material.	MBT's liability limited to refunding to owner a portion of the membrane's original purchase cost, or replacing a portion of the membrane, including all materials and labor, according to a prorated schedule, reduced 10 percent per year, ranging from 100 percent in years 1 and 2 to 10 percent in year 12.
<u>Length of Warranty</u>	<u>Liability Limit</u>												
5 years	\$100/square												
10 years	\$50/square												
15 years	\$75/square												
20 years	\$100/square												
8. Notification requirements	Call Koppers at 800/468-9629 within 72 hours of discovery of leak and provide written notice within 30 days to Koppers Industries, Inc. 436 Seventh Avenue, Pittsburgh, PA 15219, Attention: Roofing Warranty Department.	Written notification by certified mail to MBT's office at 188 S. Teilman, Fresno, CA 93706, within 10 days of the date owner discovers material defect.	All repairs must be authorized in writing in advance by manager, technical services, MBTechnology, 188 S. Teilman St., Fresno, CA 93706-9956.										
9. Exclusive or additional remedy	Remedy provided by warranty is sole and exclusive remedy at law or equity for defects in material supplied by Koppers and workmanship of the contractor. Koppers not liable for consequential, incidental, or other damages under any theory of law; excludes UCC warranties.	Warranty and remedy provided are exclusive and in lieu of all other obligations, liabilities or express warranties; excludes UCC warranties. No warranties extending beyond warranty document, specifications, descriptive information, recommendations or test results provided by MBT do not constitute warranties. In no event shall MBT be liable to owner in tort, for negligence, strict liability, or otherwise for any loss or damage resulting from any material defect.	Warranty and remedy provided are exclusive and in lieu of all other obligations, liabilities, or express warranties, excludes UCC warranties. Specifications, descriptive information, recommendations, or test results provided by MBT do not constitute warranties. In no event shall MBT be liable to owner in tort, for negligence, strict liability, or otherwise for any loss or damage resulting from any material defect.										
10. Inclusion of consequential damages	No	No	No										
Determination of warranty applicability	Koppers' determination	MBT's sole and exclusive determination as to whether leaks in MBT material will be rectified by repair or replacement.	MBT's determination										
11. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 17, 18, 22, 23	1, 2, 3, 4, 6, 7, 9, 10, 11, 12, 13, 15, 16, 17, 19, 20, 22, 24, 25. Warranty also specifically excludes losses, damages, or leaks resulting from any animal or insect, willful misrepresentation or fraud by owner, and exposure to ionized radiation or contamination by radioactivity from nuclear fuel or nuclear waste.	1, 2, 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 19, 20, 22, 24, 25. Warranty also specifically excludes losses, damages, or leaks resulting from any animal or insect, willful misrepresentation or fraud by owner, and exposure to ionized radiation or contamination by radioactivity from nuclear fuel or nuclear waste.										
13. Wind coverage/exclusions	The warranty excludes wind damage, hurricanes and tornadoes. Koppers indicates that there is no coverage for damage caused by	Warranty excludes windstorms and hurricanes. [MBT indicates that there is no coverage for damage caused by wind.]	Warranty excludes windstorms and hurricanes. [MBT indicates that there is no coverage for damage caused by wind.]										

	wind.		
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	H, M	A, C, G, H, I, M, N, R. Warranty not applicable to losses, damages or leaks resulting from work performed by contractor or pursuant to contracts that were not approved in writing in advance from MBT. Warranty also shall be void if MBT materials are disposed in a manner that prevents MBT from prior inspection to establish causes of failure.	L
15. Cost to obtain	5 years: \$4.00/square; 10 years: \$6.00/square; 15 years: \$7.00/square; 20 years: \$8.00/square	10 or 12 years: \$6.00/square; 15 years: \$8.50/square; 20 years: \$13.50/square	None
16. Minimum charge	5 years: \$350; 10 years: \$550; 15 years: \$600; 20 years: \$650	10 or 12 years: \$600; 15 years: \$850; 20 years: \$1,350	None
17. Ineligible structure or building use	Cooler/freezer buildings, private residences	Cold-storage; coolers; freezer buildings; high-humidity structures, like swimming pools, laundry facilities; restaurants, storage silos, and heated tank structures must be reviewed before acceptability.	Coolers, cold-storage, or freezer buildings
18. Pre-construction notice and approval requirements	The contractor telephones application to Koppers 14 days prior to job start. If project is approved, contractor is sent application for warranty.	Fourteen days prior to start of construction, the contractor must complete and submit Form MBT-103 Warranted System Proposal and Survey for technical review before acceptance of roof system application.	None required.
19. Approved, authorized, or licensed applicator	Yes	Yes	No
20. Job inspection policy	Koppers technical service personnel or designated representative will make on-site inspections prior to and during application periodically or as requested. Koppers makes inspection after completion prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	MBT field technical staff makes on-site inspections prior, at least two times during application, and after application, as well as two years after issuance of warranty; no charge	No on-site inspections
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies and all leaks for two years.	None; material-only warranty
22. Backed by named insurance or surety	No; Koppers indicates that it is self-insured.	No	No; MBT indicates that it carries \$100 million general liability insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Koppers manufactures and sells product.	MBT manufactures and sells the product.	MBT manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	Renewal at MBT's discretion	No renewal provision
25. Assignability	Warranty states that original named owner is covered and not any tenant, purchaser, or successor without prior written notice to and approval from Koppers.	Not assignable; warranty accrues to original owner named in the warranty and shall not accrue to the benefit of, or be assignable to any tenant, successor, purchaser, or assignee of original owner.	Not assignable; warranty accrues to original owner named in warranty and shall not accrue to the benefit of or be assignable to any tenant, successor, purchaser, or assignee of original owner.
26. Special features/conditions	Workmanship coverage is contingent upon contractor's agreement to install Koppers' products in accordance with applicable specifications and details. Koppers does not certify that the work is actually free from defect. A roof sketch must be supplied to Koppers identifying exact location of all additions, alterations, or repairs. This warranty will be governed by the laws of the commonwealth of Pennsylvania. Any action for breach of warranty must be commenced within one year after such breach occurs or is discovered. If Koppers' investigation of a reported problem reveals the problem to be outside the scope of warranty, investigation and repair costs shall be paid by owner. Annual roof inspections are the responsibility of the building owner. When necessary, roof maintenance must be performed. A complete recoating of the flashing system, using a Koppers aluminum roof coating, is required every five years on flashing specifications 168, 172, and 180, and as needed on 174 and 182.	Upon receipt of claim, MBT technical department will make on-site inspection. If leak condition is found to be from causes other than manufacturing defects or workmanship, MBT charges \$250/day plus expenses for inspection; otherwise, no charge. MBT shall be entitled to replace or repair at MBT's sole and exclusive discretion any component of MBT materials as deemed necessary, whether or not a claim has been made. The cost of such repair or replacement shall be borne by MBT unless repair or replacement results from causes excluded from warranty coverage, in which case the owner shall reimburse MBT for such costs. Refusal of owner to allow MBT to inspect repairs or replace materials or pay costs for repairs not covered by warranty terminates the warranty and relieves MBT from any further liability.	Roofing contractor must complete warranty registration and mail promptly along with proof of purchase to MBT offices to validate warranty.
27. Executed by owner	No	Yes	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	MBTechnology Corporation	ModBit Corporation	ModBit Corporation
2. Title, original publication date, and identifying symbol, if any	10-Year Limited Material Warranty; 1990	Bitutak Mineral Twelve Year Limited Material Warranty; 1997	Bitutak Ten Year Limited Material Warranty; 1997
3. Product, specification, or system covered	All published FG90GWH, FG160CWH, SC75GWH, FGFT160CWH, MF160WAL systems. Cap sheet substitutes allowed for non-fire-rated systems as outlined in current manual.	Bitutak MB Mineral	Bututak MB
4. Scope of coverage	Material only; MBT warrants that the MBT roofing membrane and base flashings will withstand ordinary wear and tear by the elements and will be free of manufacturing defects that affect the ability of the products to maintain the roof in a watertight condition when installed in accordance with current MBT specifications.	Material only; Modbit Corp. warrants that the roofing material and flashing shall be manufactured to meet all published product specifications and will be free of any defect in manufacturing which would inhibit the material's ability to properly perform.	Material only; Modbit Corp. warrants that the roofing material and flashing shall be manufactured to meet all published product specifications and will be free of any defect in manufacturing which would inhibit the material's ability to properly perform.
5. Length of coverage	10 years	12 years	10 years
6. Nature of remedy	If manufacturing defects cause the membrane to lose its watertight integrity, MBT, at its sole discretion and option, will either refund to the owner a portion of the original purchase cost of the membrane or replace a portion of the membrane.	If the Modbit Corp. material does not properly perform because of a manufacturing defect, Modbit Corp. will replace the material found to be defective in accordance with a pro-rating schedule.	If the Modbit Corp. material does not properly perform because of a manufacturing defect, Modbit Corp. will replace the material found to be defective in accordance with a pro-rating schedule.
7. Monetary limitations	MBT's liability limited to refunding to owner a portion of the membrane's original purchase cost, or replacing a portion of the membrane according to a pro-rated schedule, reduced 10 percent per year, ranging from 100 percent in years 1 and 2 to 10 percent in year 10.	Material will be replaced in accordance with a prorating schedule which ranges from 100% during the first two years of roof service to 5% in year 12.	Material will be replaced in accordance with a prorating schedule ranging from 100% during the first two years of roof service to 10% in year 10.
8. Notification requirements	All repairs must be authorized in writing in advance by manager, technical services, MBTechnology, 188 S. Teilman St., Fresno, CA 93706-9956.	No notification requirements stated in warranty.	No notification requirements stated in warranty.
9. Exclusive or additional remedy	Warranty and remedy provided are exclusive and in lieu of all other obligations, liabilities, or express warranties, excludes UCC warranties. Specifications, descriptive information, recommendations, or test results provided by MBT do not constitute warranties. In no event shall MBT be liable to owner in tort, for negligence, strict liability, or otherwise for any loss or damage resulting from any material defect.	Modbit Corp. not liable for any damages based upon negligence, breach of warranty, strict liability or any other legal theory of liability other than exclusive liability set forth in warranty; excludes UCC warranties.	Modbit Corp. Not liable for any damages based upon negligence, breach of warranty, strict liability or any other legal theory of liability other than exclusive liability set forth in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No, but material must be properly handled and installed according to current Modbit application requirements.
11. Determination of warranty applicability	MBT's determination	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 9, 10, 12, 13, 15, 16, 19, 20, 22, 24, 25. Warranty also specifically excludes losses, damages, or leaks resulting from any animal or insect, willful misrepresentation or fraud by owner, and exposure to ionized radiation or contamination by radioactivity from nuclear fuel or nuclear waste.	None listed; material-only warranty	None listed; material-only warranty
13. Wind coverage/exclusions	Warranty excludes windstorms and hurricanes. [MBT indicates that there is no coverage for damage caused by wind.]	No coverage for damage caused by wind	No coverage for damage caused by wind
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	L	None	None listed material-only warranty
15. Cost to obtain	None	None	None

16. Minimum charge	None	None	None
17. Ineligible structure or building use	Coolers, cold-storage, or freezer buildings	None	None
18. Pre-construction notice and approval requirements	None required.	None required	None required
19. Approved, authorized, or licensed applicator	No	No, but material must be properly handled and installed according to current Modbit applicable recommendations.	No
20. Job inspection policy	No on-site inspections	No on-site inspections	No on-site inspections
21. Contractor's post-installation obligation	None; material-only warranty	None; material-only warranty	None; material-only warranty
22. Backed by named insurance or surety	No; MBT indicates that it carries \$100 million general liability insurance covering its warranty obligations.	No; Modbit indicates that it does not carry insurance covering its warranty obligations.	No; Modbit indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	MBT manufactures and sells product.	Modbit manufactures and sells products.	Modbit manufactures and sells products
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Not assignable; warranty accrues to original owner named in warranty and shall not accrue to the benefit of or be assignable to any tenant, successor, purchaser, or assignee of original owner.	No restrictions stated	No restrictions stated
26. Special features/conditions	Roofing contractor must complete warranty registration and mail promptly along with proof of purchase to MBT offices to validate warranty.	Pro-rating schedule	Pro-rating schedule
27. Executed by owner	No	Yes; Owner must sign and mail in warranty registration form to Modbit Corp. In Kansas City, Missouri.	Yes; Owner must sign and mail in warranty registration form to Modbit Corp. In Kansas City, Missouri

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Monsey Bakor	Monsey Bakor	Monsey Bakor
2. Title, original publication date, and identifying symbol, if any	Roofing Systems & Waterproofing Limited Warranty; 09/96	Limited Roofing & Waterproofing Product Warranty; 09/96	Gold Seal Roofing & Waterproofing Membrane Warranty; 09/96
3. Product, specification, or system covered	Modified Plus Modified Bitumen roofing products and systems	Modified Plus Modified Bitumen roofing products and systems	Modified Plus Modified Bitumen roofing products and systems
4. Scope of coverage	Material only; Monsey Bakor warrants that it will, at its option, repair or replace free of charge any Monsey Bakor products that are found to be materially defective. The warranty covers only material defects in Monsey Bakor products that cause water leakage.	Material only; Monsey Bakor warrants that the Monsey Bakor product, when prepared and applied in accordance with specifications and directions and used under normal service conditions, will not break down or disintegrate.	Material and workmanship; Monsey Bakor warrants that the membrane system, including field and flashing membranes, will remain in a watertight condition. Only water leakage through the membrane shall be considered a defect covered under the warranty.
5. Length of coverage	12 years	12 years	12, 15, or 20 years (Monsey Bakor indicates that warranty coverage depends upon specification and specific product used. Standard term is 12 years).
6. Nature of remedy	Monsey Bakor's liability limited to replacement of materials and the cost of labor necessary to maintain or restore the surface to which the Monsey Bakor product is applied in a watertight condition.	Monsey Bakor shall refund to the owner all or part of the original cost of the product based upon a prorating schedule.	Monsey Bakor's liability limited to replacement of materials and cost of labor necessary to maintain or restore the surface to which the membrane is applied in a watertight condition.
7. Monetary limitations	None stated.	Refund to the owner shall be determined by multiplying the original cost of the product times (by) the unexpired fraction of the warranty period.	None stated
8. Notification requirements	Written notice of any material defect of the Monsey Bakor products within 30 days of the defect to Monsey Bakor, Cold Stream Road, Kimberton, PA 19442.	Written notice of any failure of the Monsey Bakor product within 30 days of failure to Monsey Bakor, Cold Stream Road, Kimberton, PA 19442	Written notice of any defect of the membrane within 30 days of the defect to Monsey Bakor, Cold Stream Road, Kimberton, PA 19442
9. Exclusive or additional remedy	Remedy provided in the warranty is the sole and exclusive remedy provided by Monsey Bakor to the owner for any and all claims arising under, in connection with, or in any way related to the Monsey Bakor products; excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties.	The warranty is in lieu of and excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties.	Remedy provided in the warranty is the sole and exclusive remedy provided by Monsey Bakor to the owner for any and all claims arising under, in connection with, or in any way related to the membrane or its installation; excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 8, 9, 11, 17, 19; also excludes normal wear and tear and aesthetic diminution.	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 19, 21; also excludes deterioration of flashings where water has been allowed to enter behind the base flashing from sources other than through the membrane or base flashing.	1, 3, 4, 5, 6, 8, 11, 12, 17; also excludes normal wear and tear and aesthetic diminution.
13. Wind coverage/exclusions	Monsey Bakor indicates that the warranty covers winds up to fresh gales, which are defined on the Beaufort Scale as winds ranging from 39 to 46 mph. The warranty excludes roof damage from fresh gale force winds.	No coverage for damage caused by wind	Monsey Bakor indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. The warranty excludes damage caused by winds exceeding 55 mph as determined by the U.S. or Canadian Weather Bureau, depending on project location.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	B, C, H, I, R	B, C, H, I, R	B, C, H, I, R
15. Cost to obtain	None	None	12 years: \$6.00/square; 15 years: \$10.00/square; 20 years: \$15.00 square
16. Minimum charge	Minimum roof size of 50 squares	None	12 years: \$300; 15 years: \$500; 20 years: \$750
17. Ineligible structure or building use	None	None	Cold-storage facilities; all residential buildings other than multiple dwellings

18. Pre-construction notice and approval requirements	None	None	The contractor must submit details of project, including deck construction, vapor retarder, insulation materials, and all flashing details prior to installation and obtain approval.
19. Approved, authorized, or licensed applicator	No	No	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections	Monsey Bakor personnel make on-site inspections prior to, during (as often as required), and after application, as well as two years following completion; no charge.
21. Contractor's post-installation obligation	None; material-only warranty	None; material-only warranty	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Monsey Bakor indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million.	No; Monsey Bakor indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million.	No; Monsey Bakor indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million.
23. Issuing entity manufactures and/or sells products	Monsey Bakor manufactures and sells the product.	Monsey Bakor manufactures and sells the product.	Monsey Bakor manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	The warranty is not assignable without Monsey Bakor's prior written consent.	The warranty is not assignable without Monsey Bakor's prior written consent.	The warranty is not assignable without Monsey Bakor's prior written consent.
26. Special features/conditions	<p>Pursuant to the warranty, the owner authorizes Monsey Bakor to investigate or cause to be investigated the alleged material defect of the Monsey Bakor products on the owner's behalf. Should the alleged material defect or the remedy sought by the owner lie outside the scope of the warranty, the owner agrees to promptly reimburse Monsey Bakor for the cost of any such investigation, including repair costs.</p> <p>The owner shall bear any expense of removing and replacing traffic walkways or other structures to allow repairs to be made when necessary.</p>	<p>Pursuant to the warranty, the owner authorizes Monsey Bakor to investigate or cause to be investigated the alleged material defect of the Monsey Bakor products on the owner's behalf. Should the alleged material defect or the remedy sought by the owner lie outside the scope of the warranty, the owner agrees to promptly reimburse Monsey Bakor for the cost of any such investigation, including repair costs.</p> <p>Monsey Bakor does not authorize any person, including its representatives, to make any representation or to offer any warranty, condition or guarantee in respect to the product other than this warranty.</p>	<p>Pursuant to the warranty, the owner authorizes Monsey Bakor to investigate or cause to be investigated the alleged material defect of the Monsey Bakor products on the owner's behalf. Should the alleged material defect or the remedy sought by the owner lie outside the scope of the warranty, the owner agrees to promptly reimburse Monsey Bakor for the cost of any such investigation, including repair costs.</p> <p>The owner shall bear any expense of removing and replacing traffic walkways or other structures to allow repairs to be made when necessary.</p>
27. Executed by owner	Yes; the warranty does not come into force until receipt of a signed copy by Monsey Bakor and owner.	Yes; the warranty does not come into force until receipt of a signed copy by Monsey Bakor and owner.	Yes; the warranty does not come into force until receipt of a signed copy by Monsey Bakor and owner.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Mule-Hide Products	Mule-Hide Products	Mule-Hide Products
2. Title, original publication date, and identifying symbol, if any	□Mule-Hide Membrane Material Warranty□; May 1, 1994	□Mule-Hide Products Co., Inc. Premium System Warranty for Commercial Buildings□; May 1, 1994	□Mule-Hide Products Co., Inc. Standard System Warranty for Commercial Buildings□; May 1, 1994
3. Product, specification, or system covered	EPDM Membranes, Hypalon Membranes, Thermoplastic (PVC) Membranes	EPDM systems: ballasted, mechanically attached, fully adhered; Hypalon systems: ballasted, mechanically attached, fully adhered; Thermoplastic (PVC) systems: mechanically attached, fully adhered	EPDM systems: ballasted, mechanically attached, fully adhered; Hypalon systems: ballasted, mechanically attached, fully adhered; Thermoplastic (PVC) systems: mechanically attached, fully adhered
4. Scope of coverage	Material only; Mule-Hide warrants that the Mule-Hide roofing membrane is free of manufacturing defects at the time of delivery, that the membrane will not prematurely deteriorate due to weathering to the extent that it becomes incapable of maintaining a watertight condition as a single-ply roofing membrane, and that the membrane is manufactured in accordance with the manufacturer's specifications.	Material and workmanship; Mule-Hide warrants that it will be responsible for the repair of leaks in the Mule-Hide Standard System. For purposes of this warranty, System means only the membrane, other components supplied by Mule-Hide, and will exclude the roof insulation, deck, support system, and metal flashings.	Material and workmanship; Mule-Hide warrants that it will be responsible for the repair of leaks in the Mule-Hide Standard System. For purposes of this warranty, System means only the membrane, other components supplied by Mule-Hide, and will exclude the roof insulation, deck, support system, and metal flashings.
5. Length of coverage	EPDM Membrane: 5, 10, 15, 20 years (black only); Hypalon membrane: 5, 10, 15 years; PVC Membrane: 5, 10, 15 years	10 or 15 years	10 or 15 years
6. Nature of remedy	If the membrane prematurely fails due to weathering or manufacturing defects, Mule-Hide will be liable for the cost of the material affected at the time of the claim, prorated for service to date of the claim. Mule-Hide will furnish owner repair material for the affected area or credit to be applied toward the purchase of a new membrane. Warranty does not cover the cost of installation of the repair material. Labor and accessories, including but not limited to flashings, adhesives and caulking are not covered.	The owner's remedies and Mule-Hide's liability shall be limited to Mule-Hide's repair of the system using methods determined to be suitable at Mule-Hide's discretion.	The owner's remedies and Mule-Hide's liability shall be limited to Mule-Hide's repair of the system using methods determined to be suitable at Mule-Hide's discretion.
7. Monetary limitations	The maximum prorated value allowed for repair or credit shall not exceed the original purchase price of the membrane.	None stated.	None stated.
8. Notification requirements	Written notification within 30 days of a failure in the membrane or purported defect by certified mail to Mule-Hide Products Co., Inc., P.O. Box 1057, Beloit, WI 53512-1057, Attention: Warranty Department	Written notice to Mule-Hide and contractor within ten days after owner or any of its agents discover or a reasonable person in owner's or agent's position would have discovered any leak.	Written notice to Mule-Hide and contractor within ten days after owner or any of its agents discover or a reasonable person in owner's or agent's position would have discovered any leak.
9. Exclusive or additional remedy	Warranty and remedies provided are exclusive and in lieu of any other remedy or warranty, whether written, oral, implied or statutory; excludes UCC warranties.	Warranty is the owner's sole and exclusive remedy for failure of the Mule-Hide Standard System; warranty supersedes any and all other express warranties; Mule-Hide shall not be liable under any circumstance or theory of action, including contract, tort, products liability, or otherwise for any incidental or consequential damages, including loss of profit or damage to building, merchandise and loss or damage caused or contributed to by Mule-Hide's approval of the contractor or inspection of, or omission to inspect, the building roof; excludes UCC warranties.	Warranty is the owner's sole and exclusive remedy for failure of the Mule-Hide Standard System; warranty supersedes any and all other express warranties; Mule-Hide shall not be liable under any circumstance or theory of action, including contract, tort, products liability, or otherwise for any incidental or consequential damages, including loss of profit or damage to building, merchandise and loss or damage caused or contributed to by Mule-Hide's approval of the contractor or inspection of, or omission to inspect, the building roof; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Mule-Hide's determination	Mule-Hide's determination (See Special Features/ Conditions.)	Mule-Hide's determination (See Special Features/ Conditions.)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 12, 16, 23	1, 3, 4, 5, 7, 10, 11, 13, 16, 22, 23, 24. (Warranty also excludes the infestation or presence of insects or an animal.)	1, 3, 4, 5, 7, 10, 11, 13, 16, 22, 23, 24. (Warranty also excludes the infestation or presence of insects or an animal.)
13. Wind coverage/exclusions	Warranty excludes wind, hurricanes, and tornadoes. Mule-Hide indicates that there is no coverage for damage caused by wind.	Warranty excludes wind speeds in excess of 55 mph, hurricanes, and tornadoes. Mule-Hide indicates that warranty covers roof damage resulting from wind speeds up to 55 mph.	Warranty excludes wind speeds in excess of 55 mph, hurricanes, and tornadoes. Mule-Hide indicates that warranty covers roof damage resulting from wind speeds up to 55 mph.
14. Specific conditions to make	C	B, C, F (warranty references owner's care and maintenance information), G, K. Warranty also is cancelled if there is an	B, C, F (warranty references owner's care and maintenance information), G, K. Warranty also is cancelled if there is an

warranty ineffective or null and void (See item 14 in Introduction.)		internal positive pressure condition that causes or contributes to a partial or total failure of the roof.	internal positive pressure condition that causes or contributes to a partial or total failure of the roof.
15. Cost to obtain	10 years: \$25.00; 20 years: \$2.00/square (EPDM black only)	10 years: \$8.00/square; 15 years: \$14.00/square	10 years:\$5.00/square for Hypalon, thermoplastics; \$6.00/square for EPDM
16. Minimum charge	10 years: \$25.00	10 years: \$800; 15 years: \$1,250	10 years: \$500; 15 years: \$900
17. Ineligible structure or building use	None	Residences	Residences
18. Pre-construction notice and approval requirements	Submit pre-job survey form and warranty application to Mule-Hide Products Co. prior to job commencement.	Submit pre-job survey form and warranty application to Mule-Hide Products Co. for approval prior to job commencement.	Submit pre-job survey form and warranty application to Mule-Hide Products Co. for approval prior to job commencement.
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections	Mule-Hide field representative makes on site inspections prior to, during, and after completion and two years after issuance of warranty; no charge.	Mule-Hide field representative makes on site inspections prior to, during, and after completion and two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	None; material-only warranty	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations.	No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations.	No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Mule-Hide sells the product only.	Mule-Hide sells the product only.	Mule-Hide sells the product only.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated.	Warranty is not assignable by owner; however, Mule-Hide may authorize a new warranty if a written request for a new warranty is submitted to Mule-Hide by the owner and the owner is in good standing under warranty, the roof is inspected by Mule-Hide within a 30-day period prior to the proposed effective date of the new warranty and the condition of the roof is approved by Mule-Hide and an administration and reinspection fee in an amount determined by Mule-Hide is paid to Mule-Hide. A new warranty will then be issued to and executed by the new owner for the remaining term of warranty containing the terms and conditions required by Mule-Hide.	Warranty is not assignable by owner; however, Mule-Hide may authorize a new warranty if a written request for a new warranty is submitted to Mule-Hide by the owner and the owner is in good standing under warranty, the roof is inspected by Mule-Hide within a 30-day period prior to the proposed effective date of the new warranty and the condition of the roof is approved by Mule-Hide and an administration and reinspection fee in an amount determined by Mule-Hide is paid to Mule-Hide. A new warranty will then be issued to and executed by the new owner for the remaining term of warranty containing the terms and conditions required by Mule-Hide.
26. Special features/conditions	No representative has the authority to make any representations or promises except as stated in warranty.	Any dispute, controversy, or claim between owner and Mule-Hide arising out of or related to warranty or the building shall be settled by final and binding arbitration in accordance with the rules of the American Arbitration Association for the Construction Industry. A reinspection fee (in accordance with Mule-Hide's standard charges) shall be paid by Owner to Mule-Hide in the event the cause of the leak is not covered by the warranty. Mule-Hide is not liable for any promise, representation or other responsibility of the contractor. Warranty is not binding upon Mule-Hide unless executed by an executive officer of Mule-Hide. No representative or employee of Mule-Hide may vary this warranty without the prior written consent of the board of directors of Mule-Hide. The owner acknowledges that owner had a duty to exercise reasonable care in the selection of a contractor.	Any dispute, controversy, or claim between owner and Mule-Hide arising out of or related to warranty or the building shall be settled by final and binding arbitration in accordance with the rules of the American Arbitration Association for the Construction Industry. A reinspection fee (in accordance with Mule-Hide's standard charges) shall be paid by Owner to Mule-Hide in the event the cause of the leak is not covered by the warranty. Mule-Hide is not liable for any promise, representation or other responsibility of the contractor. Warranty is not binding upon Mule-Hide unless executed by an executive officer of Mule-Hide. No representative or employee of Mule-Hide may vary this warranty without the prior written consent of the board of directors of Mule-Hide. The owner acknowledges that owner had a duty to exercise reasonable care in the selection of a contractor.
27. Executed by owner	No	Yes; owner expressly accepts Mule-Hide's terms, conditions, and limitations.	Yes; owner expressly accepts Mule-Hide's terms, conditions, and limitations.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Olympic Rubber Roofing Systems	Performance Roof Systems, Inc. (PRS)	Performance Roof Systems, Inc. (PRS)
2. Title, original publication date, and identifying symbol, if any	"Watershield & Waterguard System Warranty"; December 1, 1996	Derbigum Ten Year Limited Material Warranty; October 1, 1993	Derbigum Roof Service Contract; October 1, 1993
3. Product, specification, or system covered	Olympic EPDM Rubber Roofing System: Watershield, Waterguard, Waterguard MR	Derbigum XPS, Derbigum XPS/FR, Derbicolor XPS, Derbicolor XPS/FR, Derbigum GP, Derbicolor GP, Derbigum GP/FR, Derbicolor GP/FR, Derbibase	Derbigum XPS, Derbigum XPS/FR, Derbicolor XPS, Derbicolor XPS/FR, Derbigum GP, Derbicolor GP, Derbigum GP/FR, Derbicolor GP/FR, Derbibase
4. Scope of coverage	Material and workmanship; Olympic warrants that Olympic will provide, at its expense, all materials and all labor necessary to render the installed roofing system watertight.	Material only; PRS warrants that the roofing material and flashing, if properly handled and installed according to current PRS specifications, shall be manufactured to meet all published product specifications and will be free of any defect which would inhibit such material's ability to properly perform.	Material and workmanship; PRS guarantees that it will under-take all actions necessary to keep the PRS roof system in a watertight condition and will promptly repair deficiencies in the system's condition that could endanger the membrane's ability to remain watertight provided that such actions and repairs are a result of improper installation of the system, membrane performance, or ordinary wear and tear by the elements. The roof system only covers materials PRS sells or approves, other than metal. Building owner is responsible for any costs to repair any building component other than the system if leaks occur. The system consists of all roof components from the roof membrane to the roof deck, including approved base and ply sheets; all adhesives, insulations, and fasteners; but excluding roof decks and coatings or surfacing not factory applied.
5. Length of coverage	10 years. (Warranty form allows for different warranty periods to be inserted for Olympic to supply materials versus labor necessary to make roof watertight.)	10 years	10 years
6. Nature of remedy	Olympic will provide, at its expense, all materials and all labor necessary to render the installed roofing system watertight.	Should the PRS material not properly perform, PRS shall either refund the original purchase price of the material or replace the material found to be defective.	PRS' exclusive responsibility and liability is to make repairs that may be necessary to maintain the roofing system in a watertight condition. PRS' liability is limited to the repair or replacement of any portion of the system damaged by leaks that are a result of covered causes (see Special Features-/Conditions).
7. Monetary limitations	Expenses incurred by Olympic are cumulative and are limited to the owner's original cost of the Olympic roofing system installed.	PRS' exclusive responsibility and liability will be to replace the material or to give a full refund for the full amount of the purchase price.	No limit to PRS' expenditures for damages covered by this guaranty.
8. Notification requirements	Written notification within 30 days following discovery of any failure or possible failure of the installed roofing system.	None stated.	Contact PRS immediately at (800) 727-9872 if roof leaks.
9. Exclusive or additional remedy	Warranty supersedes and is in lieu of all other expressed warranties that are in conflict.	Warranty is in lieu of all other warranties; PRS not liable for any damages based upon negligence, breach of warranty, strict liability, or any other legal theory of liability other than exclusive liability set forth in warranty; excludes UCC warranties.	PRS disclaims any warranty other than what is specifically described in this guaranty. PRS shall not be liable for damages that are based upon negligence, breach of warranty, strict liability, or any other legal theory of liability other than the exclusive liability set forth in the guaranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (See Special Features/Conditions.)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 6, 12 (including care and maintenance guidelines printed on reverse side of warranty), 15, 16, 18	None listed; material-only warranty	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 17, 22, 24; also excludes damages resulting from vermin, etc.
13. Wind coverage/exclusions	Olympic indicates warranty covers roof damage resulting from wind speeds up to 40 mph. Warranty excludes gale force winds, hurricanes and tornadoes.	No coverage for damage caused by wind.	No coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	A, B, C, D, H, R	None listed.	B, F, N; warranty indicates that lack of regular and routine maintenance may void contract.
15. Cost to obtain	\$3.00/square	None	\$12.50/square
16. Minimum charge	\$250	None	\$1,250
17. Ineligible structure or building use	Private residences	None	Condominiums or residential dwellings without prior PRS approval; patios, promenades, parking roofs; partial roof applications, phase construction, heated tanks, silo facilities, freezer, and cold-storage facilities
18. Pre-construction notice and approval requirements	The contractor is to submit pre-job survey, including drawing and scope of work.	None required.	PRS requires a 14-day guaranty application notification in order to verify specifications and to assign a roof auditor.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Olympic authorized representative makes on-site inspections after	No on-site inspections.	PRS employee or an approved roof auditor performs on-site

	application and prior to issuance of warranty; [spot check] inspections are made after two years; no charge.		inspections during application (depending on job size), after completion, prior to issuance of guaranty, as well as two years after issuance of guaranty; no charge.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years	None; material-only warranty	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No	No; PRS indicates that it does not carry insurance covering its warranty obligations.	No; PRS indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Olympic Rubber Roofing Systems manufactures and sells the product.	PRS manufactures and sells product.	PRS manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	No restrictions stated; warranty requires that Olympic be notified in writing within 30 days upon transfer of ownership.	No restrictions stated.	No restrictions stated.
26. Special features/conditions			<p>Owner shall be invoiced for reasonable repair costs for re-pairs and a nominal inspection charge if leaks reported to PRS are a result of causes not covered by guaranty.</p> <p>In the event an emergency situation exists, owner may make necessary temporary repairs, either directly or by contacting the original roofing contractor. Upon investigation by a PRS representative, owner shall be reimbursed for reasonable emergency repair costs if the leak is the responsibility of PRS.</p> <p>In the event PRS must make repairs, owner is responsible for providing a clean roof surface such that repairs can be made. This shall include, but not be limited to, the removal of water, ice, snow, dirt, and debris, as well as pavers on in-verted roof membrane systems, prior to permanent repairs being made.</p> <p>PRS' specifications and all details must be properly selected by an architect or an engineer to meet specific needs and the applicable design loads for each project. The issuance of this guaranty by PRS, the inspection of the system application (or any other parts of the roofing assembly), or any review of project specifications or plans, does not extend the terms and conditions of the guaranty and shall not constitute any substitution of professional judgment required in connection with the design of this project by the building owner or its design professional.</p> <p>Contract is not a maintenance agreement or an insurance policy; routine inspections and maintenance of the system must be completed by the building owner on a regular basis and is owner's responsibility.</p> <p>In the event PRS, the roofing contractor, and the owner cannot agree as to responsibilities under the guaranty, the parties agree to submit any such disagreement to arbitration as an exclusive remedy for resolution of such disagreement. All parties specifically waive any litigation alternative for resolution of any such dispute. (a) Any arbitration shall proceed in accordance with the directions of a professional roofing consultant mutually selected by the parties. In the event the parties cannot agree on an arbitrator, each shall select an independent professional roofing consultant as their representative and these consultants shall, in turn, select another, unaffiliated professional roofing consultant who will serve as the arbitrator. (b) All costs of any arbitrator(s) shall be included in the final judgment of the arbitrator. (c) Once a decision is reached by any arbitrator, the prevailing party can pursue whatever judicial action would be appropriate to enforce such decision.</p>
27. Executed by owner	No	Yes; owner must execute and return to PRS the [Ten Year Limited Material Warranty] notification card.	Yes; owner and roofing contractor must acknowledge and accept the guaranty by signing.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Performance Roof Systems, Inc. (PRS)	Performance Roof Systems, Inc. (PRS)	Premium Polymers, Incorporated
2. Title, original publication date, and identifying symbol, if any	Derbigum Roof System Guaranty; October 1, 1993	Derbigum Roof Membrane Guaranty; October 1, 1993	Premium Polymers Premium-Ply Roofing System Warranty; January 1992
3. Product, specification, or system covered	Derbigum XPS, Derbigum XPS/FR, Derbicolor XPS, Derbicolor XPS/FR, Derbigum GP, Derbicolor GP, Derbigum GP/FR, Derbicolor GP/FR, Derbibase	Derbigum XPS, Derbigum XPS/FR, Derbicolor XPS, Derbicolor XPS/FR, Derbigum GP, Derbicolor GP, Derbigum GP/FR, Derbicolor GP/FR, Derbibase	EPDM Premium .045, Premium .060, Premium .045 Reinforced, Premium-Ply.
4. Scope of coverage	Material and workmanship; PRS guarantees that it will undertake all actions necessary to keep the PRS roof system in a watertight condition and will promptly repair deficiencies in the system's condition that could endanger the membrane's ability to remain watertight provided that such actions and repairs are a result of improper installation of the system, membrane performance, or ordinary wear and tear by the elements. The roof system only covers materials PRS sells or approves, other than metal. Building owner is responsible for any costs to repair any building component other than the system if leaks occur. The system consists of all roof components from the roof membrane to the roof deck, including approved base and ply sheets; all adhesives, insulations, and fasteners; but excluding roof decks and coatings or surfacing not factory applied.	Material and workmanship; PRS guarantees that it will undertake all actions necessary to keep the Derbigum roofing and flashing membrane in a watertight condition and will promptly repair deficiencies in the membrane's condition that could endanger the membrane's ability to remain watertight provided that such actions and repairs are a result of improper installation of the membrane, membrane performance, or ordinary wear and tear by the elements. The roof system only covers materials PRS sells or approves, other than metal. Building owner is responsible for any costs to repair any building component other than the membrane if leaks occur.	Material and workmanship; Premium warrants to repair leaks in the Premium Polymers Roofing System caused by defects in the Premium Roofing System's materials or workmanship of the Premium authorized contractor.
5. Length of coverage	10 years	10 years	5 or 10 years from date of acceptance, but not to extend beyond 5 or 10 years from date of substantial completion of roofing system.
6. Nature of remedy	PRS' exclusive responsibility and liability is to make repairs that may be necessary to maintain the roofing system in a watertight condition. PRS' liability is limited to the repair or replacement of any portion of the system damaged by leaks that are a result of covered causes (see Special Features/Conditions).	PRS' exclusive responsibility and liability is to make repairs that may be necessary to maintain the roofing system in a watertight condition. PRS' liability is limited to the repair or replacement of any portion of the membrane damaged by leaks that are a result of covered causes (see Special Features/Conditions).	Premium will repair leaks in the Premium roofing system.
7. Monetary limitations	No limit to PRS' expenditures for damages covered by this guaranty.	No limit to PRS' expenditures for damages covered by this guaranty.	None stated.
8. Notification requirements	Contact PRS immediately at (800) 727-9872 if roof leaks.	Contact PRS immediately at (800) 727-9872 if roof leaks.	Written notice within 30 days of discovery of any leaks in the Premium Roofing System to Premium's Warranty Administration Department
9. Exclusive or additional remedy	PRS disclaims any warranty other than what is specifically described in this guaranty. PRS shall not be liable for damages that are based upon negligence, breach of warranty, strict liability, or any other legal theory of liability other than the exclusive liability set forth in the guaranty; excludes UCC warranties.	PRS disclaims any warranty other than what is specifically described in this guaranty. PRS shall not be liable for damages that are based upon negligence, breach of warranty, strict liability, or any other legal theory of liability other than the exclusive liability set forth in the guaranty; excludes UCC warranties.	Remedies stated in warranty are the sole and exclusive remedies for failure of the Premium Roofing system; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (See Special Features/Conditions.)	Neutral (See Special Features/Conditions.)	Premium's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 17, 22, 24; also excludes damages resulting from vermin, etc.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 17, 22, 24; also excludes damages resulting from vermin, etc.	1, 3, 5, 7, 13, 16, 17, 18
13. Wind coverage/exclusions	No coverage for damage caused by wind.	No coverage for damage caused by wind.	Warranty excludes winds of peak gust speed of 55 mph or higher measured at 10 meters above ground, hurricanes and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	B, F, N; warranty indicates that lack of regular and routine maintenance may void contract.	B, F, N; warranty indicates that lack of regular and routine maintenance may void contract.	B, C, F (see Special Features/Conditions), G
15. Cost to obtain	\$7.50/square	\$6.00/square	5 years: \$4.00/square; 10 years: \$6.00/square
16. Minimum charge	\$1,000	\$750	5 years: \$350; 10 years: \$600
17. Ineligible structure or building use	Condominiums or residential dwellings without prior PRS approval; patios, promenades, parking roofs; partial roof applications, phase construction, heated tanks, silo facilities, freezer, and cold-storage facilities	Condominiums or residential dwellings without prior PRS approval; patios, promenades, parking roofs; partial roof applications, phase construction, heated tanks, silo facilities, freezer, and cold-storage facilities	Residential structures; however, warranty is available for apartment houses, co-ops, condominiums and the like.
18. Pre-construction notice and	PRS requires a 14-day guaranty application notification in order to	PRS requires a 14-day guaranty application notification in order to	None

approval requirements	verify specifications and to assign a roof auditor.	verify specifications and to assign a roof auditor.	
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	PRS employee or an approved roof auditor performs on-site inspections during application (depending on job size), after completion, prior to issuance of guaranty, as well as two years after issuance of guaranty; no charge.	PRS employee or an approved roof auditor performs on-site inspections during application (depending on job size), after completion, prior to issuance of guaranty, as well as two years after issuance of guaranty; no charge.	Premium technical representative or consultant makes one on-site inspection prior to, during and after application, prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs due to materials and workmanship for two years.
22. Backed by named insurance or surety	No; PRS indicates that it does not carry insurance covering its warranty obligations.	No; PRS indicates that it does not carry insurance covering its warranty obligations.	No; Premium indicates that it does not carry insurance cover-ing its warranty obligations.
23. Issuing entity manufactures and/or sells products	PRS manufactures and sells product.	PRS manufactures and sells product.	Premium sells product only.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision.
25. Assignability	No restrictions stated.	No restrictions stated.	No restrictions stated.
26. Special features/conditions	<p>Owner shall be invoiced for reasonable repair costs for repairs and a nominal inspection charge if leaks reported to PRS are a result of causes not covered by guaranty.</p> <p>In the event an emergency situation exists, owner may make necessary temporary repairs, either directly or by contacting the original roofing contractor. Upon investigation by a PRS representative, owner shall be reimbursed for reasonable emergency repair costs if the leak is the responsibility of PRS.</p> <p>In the event PRS must make repairs, owner is responsible for providing a clean roof surface such that repairs can be made. This shall include, but not be limited to, the removal of water, ice, snow, dirt, and debris, as well as pavers on inverted roof membrane systems, prior to permanent repairs being made.</p> <p>PRS' specifications and all details must be properly selected by an architect or an engineer to meet specific needs and the applicable design loads for each project. The issuance of this guaranty by PRS, the inspection of the system application (or any other parts of the roofing assembly), or any review of pro-ject specifications or plans, does not extend the terms and con-ditions of the guaranty and shall not constitute any substitution of professional judgment required in connection with the design of this project by the building owner or its design professional.</p> <p>Guaranty is not a maintenance agreement or an insurance policy; routine inspections and maintenance of the system must be completed by the building owner on a regular basis and is owner's responsibility.</p> <p>In the event PRS, the roofing contractor, and the owner cannot agree as to responsibilities under the guaranty, the parties agree to submit any such disagreement to arbitration as an exclusive remedy for resolution of such disagreement. All parties specifically waive any litigation alternative for resolution of any such dispute. (a) Any arbitration shall proceed in accor-dance with the directions of a professional roofing consultant mutually selected by the parties. In the event the parties can-not agree on an arbitrator, each shall select an independent professional roofing consultant as their representative and these consultants shall, in turn, select another, unaffiliated professional roofing consultant who will serve as the arbitrator. (b) All costs of any arbitrator(s) shall be included in the final judgment of the arbitrator. (c) Once a decision is reached by any arbitrator, the prevailing party can pursue whatever judicial action would be appropriate to enforce such decision.</p>	<p>Owner shall be invoiced for reasonable repair costs for repairs and a nominal inspection charge if leaks reported to PRS are a result of causes not covered by guaranty.</p> <p>In the event an emergency situation exists, owner may make necessary temporary repairs, either directly or by contacting the original roofing contractor. Upon investigation by a PRS re-presentative, owner shall be reimbursed for reasonable emer-gency repair costs if the leak is the responsibility of PRS.</p> <p>In the event PRS must make repairs, owner is responsible for providing a clean roof surface such that repairs can be made. This shall include, but not be limited to, the removal of water, ice, snow, dirt, and debris, as well as pavers on inverted roof membrane systems, prior to permanent repairs being made.</p> <p>PRS' specifications and all details must be properly selected by an architect or an engineer to meet specific needs and the applicable design loads for each project. The issuance of this guaranty by PRS, the inspection of the system application (or any other parts of the roofing assembly), or any review of pro-ject specifications or plans, does not extend the terms and con-ditions of the guaranty and shall not constitute any substitution of professional judgment required in connection with the design of this project by the building owner or its design professional.</p> <p>Guaranty is not a maintenance agreement or an insurance policy; routine inspections and maintenance of the system must be completed by the building owner on a regular basis and is owner's responsibility.</p> <p>In the event PRS, the roofing contractor, and the owner cannot agree as to responsibilities under the guaranty, the par-ties agree to submit any such disagreement to arbitration as an exclusive remedy for resolution of such disagreement. All par-ties specifically waive any litigation alternative for resolution of any such dispute. (a) Any arbitration shall proceed in accordance with the directions of a professional roofing consultant mutually selected by the parties. In the event the parties can-not agree on an arbitrator, each shall select an independent professional roofing consultant as their representative and these consultants shall, in turn, select another, unaffiliated pro-fessional roofing consultant who will serve as the arbitrator. (b) All costs of any arbitrator(s) shall be included in the final judgment of the arbitrator. (c) Once a decision is reached by any arbitrator, the prevailing party can pursue whatever judicial action would be appropriate to enforce such decision.</p>	Warranty states that it will be null and void if owner or lessee fails to use reasonable care in maintaining the roof, including the maintenance listed on the Premium care and maintenance guidelines provided with the warranty.
27. Executed by owner	Yes; owner and roofing contractor must acknowledge and accept the guaranty by signing.	Yes; owner and roofing contractor must acknowledge and ac-cept the guaranty by signing.	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Protective Coatings, Inc.	Republic Powdered Metals, Inc. (RPM)	Republic Powdered Metals, Inc. (RPM)
2. Title, original publication date, and identifying symbol, if any	"Protective Coatings, Inc. EPDM Roofing Limited Year Warranty"	"Republic Single Ply Systems Warranty"; September 1997; W001 9/97	"Republic Single Ply Systems Total System Warranty"; September 1997; W003 9/97
3. Product, specification, or system covered	ProShield-Black, ProShield-White, ProShield-White Fire Retardant, Black Fire Retardant Totally Adhered, Plate Bonded, NP Mechanically Attached, Ballasted	Geoflex PIB (Polyisobutylene) and Cooley C3 Single Ply Systems	Geoflex PIB (Polyisobutylene) and Cooley C3 Single Ply Systems
4. Scope of coverage	Material and Workmanship; Protective Coatings warrants that the roofing membrane will be free from defects in workmanship and materials and, when properly installed, will remain watertight.	Material and workmanship; RPM warrants that the Republic Single Ply System will remain free from leaks resulting from defects in the manufacture of the materials or the improper installation thereof and that, should a leak occur in any area of the Republic Single Ply System, RPM will promptly correct such leak at its own expense. Republic Single Ply System shall mean all integral field sheet and accessory materials manufactured and/or supplied by Republic.	Material and workmanship; RPM warrants that the Republic Single Ply System will remain free from leaks resulting from defects in the manufacture of any materials and components as accepted by Republic and utilized in connection with the installation of the Republic Single Ply System or the improper installation and that, should a leak occur in any area of the Republic Single Ply System, RPM warrants that it will promptly correct such leak at its own expense. Republic Single Ply System shall mean all integral field sheet, accessory materials and components manufactured, supplied and/or accepted by Republic.
5. Length of coverage	5 or 10 years	10, 15 or 20 years	10, 15 or 20 years
6. Nature of remedy	Protective Coatings will repair or replace roofing system and pay transportation costs and all other costs necessary to remedy roof failure.	RPM warrants that it will promptly correct leaks in any area of the Republic Single Ply System at its own expense.	RPM warrants that it will promptly correct leaks in any area of the Republic Single Ply System at its own expense.
7. Monetary limitations	Protective Coatings' obligation over the life of the warranty shall not exceed owner's original cost of the installed roof.	None stated.	None stated.
8. Notification requirements	Written notice by registered mail to Protective Coatings' Fort Wayne, IN, office within 30 days of discovery of any defect or leak.	Building owner must notify RPM immediately upon the discovery of any leaks in the Republic Single Ply System and confirm notification in writing within seven days after such discovery.	Building owner must notify RPM immediately upon the discovery of any leaks in the Republic Single Ply System and confirm notification in writing within seven days after such discovery.
9. Exclusive or additional remedy	Owner's sole and exclusive remedy; no other warranties; excludes UCC warranties.	Remedy in the warranty is the sole and exclusive remedy available to the building owner so that RPM's repair constitutes fulfillment of all obligations. Warranty is in lieu of any other guarantees or warranties, express or implied; no representative, employee, or agent of RPM or any other person has any authority to modify or enlarge the scope of the warranty or to assume for RPM any additional or other liability in connection with Republic Single Ply System; excludes UCC warranties.	Remedy in the warranty is the sole and exclusive remedy available to the building owner so that RPM's repair constitutes fulfillment of all obligations. Warranty is in lieu of any other guarantees or warranties, express or implied; no representative, employee, or agent of RPM or any other person has any authority to modify or enlarge the scope of the warranty or to assume for RPM any additional or other liability in connection with the Republic Single Ply System; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 9, 10, 12, 13	1, 3, 5, 6, 7, 10, 11, 12, 15, 16, 17, 22, 23	1, 3, 5, 6, 7, 10, 11, 12, 15, 16, 17, 22, 23
13. Wind coverage/exclusions	Warranty excludes damage caused by wind.	Warranty excludes hurricanes and tornadoes. RPM indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.	Warranty excludes hurricanes and tornadoes. RPM indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	C	A, B, C, F, G, H, I, J, L, M (See Special Features/Conditions)	A, B, C, F, G, H, I, J, L, M (See Special Features/Conditions)
15. Cost to obtain	5 year: none; 10 year: \$3.00/square	10 years: \$5.00/square; 15 years: \$10.00/square; 20 years: \$20.00/square	10 years: \$5.00/square; 15 years: \$10.00/square; 20 years: \$20.00/square
16. Minimum charge	5 year: none; 10 year: \$300	10 years: \$500; 15 years: \$1,000; 20 years: \$2,000	10 years: \$500; 15 years: \$1,000; 20 years: \$2,000
17. Ineligible structure or building use	Noncommercial installations	None	None

18. Pre-construction notice and approval requirements	A pre-installation notice form must be submitted and approved in writing 14 days prior to start.	Notice of award from contractor detailing job requirements must be approved by RPM prior to construction.	Notice of award from contractor detailing job requirements must be approved by RPM prior to construction.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Protective Coatings' representative makes on-site inspection upon completion of application; no charge.	RPM technical service representative makes on-site inspections prior to, during application and upon completion, prior to issuance of warranty; no charge.	RPM technical service representative makes on-site inspections prior to, during application and upon completion, prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs due to workmanship deficiencies for two years.	Contractor obligated to make repairs to leaks and workmanship deficiencies for two years.	Contractor obligated to make repairs to leaks and workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Protective Coatings indicates that it carries \$500,000 general liability insurance.	No; RPM indicates that it does not carry insurance covering its warranty obligations.	No; RPM indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Protective Coatings, Inc. manufactures and sells product.	RPM manufactures and sells the materials.	RPM manufactures and sells the materials.
24. Conditions for renewal or extension	No renewal provision.	No renewal extension.	No renewal extension.
25. Assignability	Not assignable, but if the original owner is the developer or builder of the building, he may, within one year of completion of construction, request Protective Coatings, Inc. permit an assignment of the warranty to the purchase of the building from owner.	Warranty is non-transferable.	Warranty is non-transferable.
26. Special features/conditions	No representative has authority to make any representations other than stated in the warranty.	<p>Owner agrees to accept RPM warranty as part of its purchase of the Republic Single Ply System and understands that the liability of RPM relating to the Republic Single Ply System and its installation is limited to the obligation to address warranty concerns.</p> <p>Owner understands and agrees that the construction and interpretation of the warranty shall be governed by the laws of the State of Ohio, excluding principles of conflicts of law.</p> <p>Owner agrees to follow and be bound by all terms and conditions stated in the Republic Care and Maintenance Guide which is incorporated into the warranty by reference.</p>	<p>Owner agrees to accept RPM warranty as part of its purchase of the Republic Single Ply System and understands that the liability of RPM relating to the Republic Single Ply System and its installation is limited to the obligation to address warranty concerns.</p> <p>Owner understands and agrees that the construction and interpretation of the warranty shall be governed by the laws of the State of Ohio, excluding principles of conflicts of law.</p> <p>Owner agrees to follow and be bound by all terms and conditions stated in the Republic Care and Maintenance Guide which is incorporated into the warranty by reference.</p>
27. Executed by owner	Yes	See Special Features above.	See Special Features above.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Republic Powdered Metals, Inc. (RPM)	Roof Design systems, Inc. (RDS)	Roof Design systems, Inc. (RDS)
2. Title, original publication date, and identifying symbol, if any	"Manufacturer's Limited Warranty Material Only"; September 1997; W004 9/97	ProSeal Labor & Material Warranty; 1998	ProSeal Material Warranty; 1998
3. Product, specification, or system covered	Geoflex, Cooley C3, HyShield	ProSeal MF, ProSeal FA	ProSeal MF, ProSeal FA
4. Scope of coverage	Material only; RPM warrants that the Republic product(s) were manufactured in accordance with RPM's specifications and, when applied to smooth, dry compatible surfaces in accordance with RPM's application instructions and specifications, will remain free of voids, cracking and/or crazing as a result of defects in the material.	Material and workmanship; RDS grants a warranty that it will investigate and repair leaks in the ProSeal roofing membrane caused by manufacturing defects supplied by RDS or in workmanship deficiencies in the installation of the ProSeal roofing membrane and flashing membrane.	Material only; RDS grants a warranty that it will investigate and supply ProSeal roofing membrane to replace the roofing membrane and flashing that leaks due to manufacturing defects. Warranty applies only to leaks caused by manufacturing defects in ProSeal Membrane.
5. Length of coverage	5, 10 or 15 years (RPM indicates that warranty coverage depends upon specification and substrate used.)	5 , 10 , 15 or 20 years	5 , 10 , 15 years
6. Nature of remedy	Should RPM's product(s) fail to conform to warranty, RPM shall, at its option, supply a sufficient quantity of materials necessary to remedy the defects, or the cash equivalent of same.	RDS shall be liable for the cost of investigating and repairing leaks in the ProSeal roof membrane and flashing membrane.	RDS will investigate and supply new ProSeal roofing membrane in sufficient quantities to replace the roofing membrane.
7. Monetary limitations	RPM's total obligation over the life of the warranty shall not exceed the building owner's original cost of the RPM supplied product(s).	None stated	None stated
8. Notification requirements	None	Written notification to RDS within 30 days of discovery of claim.	Written notification to RDS within 30 days of discovery of claim.
9. Exclusive or additional remedy	Remedy in warranty is the sole and exclusive remedy available to the building owner so that RPM's compliance constitutes fulfillment of all obligations. Warranty is in lieu of all other warranties, express or implied. No representative, employee, or agent of RPM or any other person has any authority to modify or enlarge the scope of the warranty or to assume for RPM any additional or other liability in connection with the product; excludes UCC warranties.	Warranty is in lieu of all other warranties, whether expressed or implied and whether statutory or otherwise; seeks to exclude UCC warranties. No representative, officer, agent or employee of RDS is authorized to give any warranty or guarantee other than as expressly stated in this document	Warranty is in lieu of all other warranties, whether expressed or implied and whether statutory or otherwise; seeks to exclude UCC warranties. No representative, officer, agent or employee of RDS is authorized to give any warranty or guarantee other than as expressly stated in this document.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision).	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 6, 7, 10, 11, 12, 16, 17, 19, 20, 23	1, 2, 3, 4, 6, 8, 12, 13, 16, 17, 23 (Warranty also specifically excludes mechanical damage and Specific Conditions A and H.)	1, 2, 3, 4, 6, 8, 12, 13, 16, 17, 23 (Warranty also specifically excludes mechanical damage and Specific Conditions A and H.)
13. Wind coverage/exclusions	Warranty excludes gales, hurricanes and tornadoes.	Warranty excludes windstorms in excess of 55 mph, hurricanes and tornadoes.	Warranty excludes windstorms in excess of 55 mph, hurricanes and tornadoes
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	C, R	C, G	C, G
15. Cost to obtain	None	5 years: \$3.00/square; 10 years: \$5.00/square; 15 years: \$8.00/square; 20 years: \$12.00/square	5 and 10 years: no charge 15 years: \$3.00/square
16. Minimum charge	None	5 years: \$200; 10 years: \$400; 15 years: \$600 20 years: \$900	5 and 10 years: no charge 15 years: \$200
17. Ineligible structure or building use	None	None	None

18. Pre-construction notice and approval requirements	RPM requires a Notice of Award on all projects showing pertinent information.	Contractor to submit a "Project Award Notification" to RDS technical department for review and acceptance prior to project commencement.	Contractor to submit a "Project Award Notification" to RDS technical department for review and acceptance prior to project commencement.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	No on-site inspections.	RDS makes random on-site inspections.	RDS makes random on-site inspections.
21. Contractor's post-installation obligation	None; material-only warranty.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Although this is a material-only warranty, contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; RPM indicates that it does not carry insurance covering its warranty obligations.	No; RDS indicates that it does not carry insurance covering its warranty obligations.	No; RDS indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	RPM manufactures and sells the product.	RDS manufactures and sells product.	RDS manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision.	No renewal provision	No renewal provision
25. Assignability	Warranty is non-transferable.	No restrictions stated	No restrictions stated
26. Special features/conditions	The owner understands and agrees that the construction and interpretation of the warranty shall be governed by the laws of the State of Ohio, excluding principles of conflicts of law.	Owner shall reimburse RDS for all costs reasonably incurred by RDS in locating, identifying and repairing the cause of an apparent leak in the roof membrane and flashing membrane if the leak is determined not to have been caused by a manufacturing defect or workmanship deficiency. All ProSeal roofing membrane overburdens that need to be removed to investigate the roof or flashing membrane are to be removed at the owner's cost. Any controversy or claim arising out of or relating to the warranty shall be settled by arbitration in Las Vegas, Nevada by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules.	Owner shall reimburse RDS for all costs reasonably incurred by RDS in locating, identifying and repairing the cause of an apparent leak in the roof membrane and flashing membrane if the leak is determined not to have been caused by a manufacturing defect or workmanship deficiency. All ProSeal roofing membrane overburdens that need to be removed to investigate the roof or flashing membrane are to be removed at the owner's cost. Any controversy or claim arising out of or relating to the warranty shall be settled by arbitration in Las Vegas, Nevada by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules.
27. Executed by owner	No	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Roof Design Systems, Inc. (RDS)	Roofing Products International Inc. (RPI)	Roofing Products International Inc. (RPI)
2. Title, original publication date, and identifying symbol, if any	ProSeal System Warranty, 1998	Limited Membrane Only Warranty; RPI-54-692-5C	Limited Warranty Form; Form RPI-91-31-1M
3. Product, specification, or system covered	ProSeal MF, ProSeal FA	RPI EPDM .045 Black, .060 Black, .045 White, .060 White, RPI FR (Fire Retardant) EPDM .045 Black, .060 Black, .045 White, .060 White.	RPI EPDM .045 Black, .060 Black, .045 White, .060 White, RPI FR (Fire Retardant) EPDM .045 Black, .060 Black, .045 White.
4. Scope of coverage	Material and workmanship; RDS grants a warranty that it will investigate and repair leaks caused by manufacturing defects in the roofing system supplied by RDS or in workmanship deficiencies in the installation of the roofing system by the RDS authorized roofing contractor. RDS roofing system is defined as all of the components in the roofing assembly supplied by RDS, including, as applicable, ProVap vapor retarder, Protherm insulations, ProFix adhesives, ProFasteners, ProPlates, ProDiscs and all other related accessory items supplied by RDS.	Material only; RPI warrants that the non-reinforced rubber membrane sold as "First Grade" will be free from defects in material and workmanship at time of installation and will not prematurely deteriorate to the point of failure because of weathering if properly installed, maintained, and used for purpose seller intended. This warranty refers to the membrane material only. Flashings, adhesives, and other accessories contained in a membrane system are not covered by warranty.	Material and workmanship; RPI warrants to repair any leaks due to defects in the RPI Roofing System materials or in workmanship of the RPI-authorized roofing applicator.
5. Length of coverage	5, 10, 15 or 20 years	10 or 20 years	5, 10, or 15 years
6. Nature of remedy	RDS shall be liable for the cost of investigating and repairing leaks in the ProSeal roof membrane and flashing membrane.	If membrane proves to be defective in materials or workmanship, seller's liability and buyer's remedies limited to repair and replacement of the defective membrane at the FOB point in the original contract. If membrane shows premature deterioration because of weathering, seller's liability and buyer's remedies are limited, at seller's option, to providing repair material for the original membrane or credit to be applied toward purchase of new membrane.	RPI will repair leaks in the RPI Rubber Roofing System.
7. Monetary limitations	None stated	Value of remedy to be determined by seller based on number of remaining months of the unexpired warranty, prorated at the current prices for the membrane. Maximum prorated value allowed for repair or credit not to exceed original membrane purchase price.	RPI's obligation to remedy defects shall not exceed owner's original cost of materials and labor for installation of the RPI roofing system.
8. Notification requirements	Written notification to RDS within 30 days of discovery of claim.	Notification of breach of warranty within 30 days of discovery of premature deterioration of membrane	Written notification within 30 days of discovery of any leaks, by certified mail, return receipt requested, to RPI at 29542 Manchester Drive, Elkhart, IN 46514, or other such address RPI notifies owner
9. Exclusive or additional remedy	Warranty is in lieu of all other warranties, whether expressed or implied and whether statutory or otherwise; seeks to exclude UCC warranties. No representative, officer, agent or employee of RDS is authorized to give any warranty or guarantee other than as expressly stated in this document.	No warranties that extend beyond what is stated on warranty document; excludes UCC warranties.	Warranty is in lieu of any and all other express warranties that are in conflict; no warranties that extend beyond what is stated on warranty document.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral (no provision)	Unclear; warranty states, "If upon inspection by the Seller, the Membrane proves to be defective..."	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 8, 12, 13, 16, 17, 23 (Warranty also specifically excludes mechanical damage and Specific Conditions A and H.)	12, 19	1, 3, 4, 6, 7, 11, 12, 16, 17, 18, 22. Warranty also states that RPI shall have no obligation if leaks or damages are caused by failure of owner to comply with every condition, exclusion, or limitation in the warranty document.
13. Wind coverage/exclusions	Warranty excludes windstorms in excess of 55 mph, hurricanes and tornadoes.	RPI indicates that there is no coverage for damage caused by wind.	RPI indicates that warranty covers roof damage resulting from wind speeds up to 39 mph. Warranty excludes gales, hurricanes, and tornadoes.
14. Specific conditions to make	C, G	None listed.	C

warranty ineffective or null and void (See item 14 in Introduction.)			
15. Cost to obtain	5 years: \$8.00/square; 10 years: \$10.00/square; 15 years: \$12.00/square; 20 years: \$15.00/square	None	Ballasted systems: 5 years: \$5.00/square, 10 years: 8.00/square, 15 years: \$11.00/square; all other systems: 5 years: \$2.00/square; 10 years: \$4.00/square, 15 years: \$8.00/square
16. Minimum charge	5 years: \$800; 10 years: \$1,000; 15 years: \$1,200 20 years:	None	Ballasted systems: 5 years: \$500, 10 years: \$750, 15 years: \$1,150; all other systems: 5 years: \$350, 10 years: \$500, 15 years: \$850
17. Ineligible structure or building use	None	None	Buildings not used for commercial purposes, including buildings used for residential, personal, family or household purposes; cold-storage buildings not approved prior to application; mechanically attached roofs on buildings more than four stories high
18. Pre-construction notice and approval requirements	Contractor to submit a "Project Award Notification" to RDS technical department for review and acceptance prior to project commencement.	None	Submittal of job start notification form, RPI-91 or RPI-50, to RPI headquarters office for review by technical representative
19. Approved, authorized, or licensed applicator	Yes	No	Yes
20. Job inspection policy	RDS makes random on-site inspections.	No on-site inspections	RPI technical representative makes on-site inspection after application, prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two year/	None; material-only warranty	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; RDS indicates that it does not carry insurance covering its warrant obligations.	No; RPI indicates that it does not carry insurance covering its warranty obligations.	No; RPI does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	RDS manufactures and sells products.	RPI sells product only.	RPI sells product only.
24. Conditions for renewal or extension	No renewal provision.	No renewal provision	No renewal provision
25. Assignability	No restrictions stated.	No restrictions stated.	No restrictions stated.
26. Special features/conditions	Owner shall reimburse RDS for all costs reasonably incurred by RDS in locating, identifying and repairing the cause of an apparent leak in the roof membrane and flashing membrane if the leak is determined not to have been caused by a manufacturing defect or workmanship deficiency. All ProSeal roofing membrane overburdens that need to be removed to investigate the roof or flashing membrane are to be removed at the owner's cost. Any controversy or claim arising out of or relating to the warranty shall be settled by arbitration in Las Vegas, Nevada by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules.	Warranty states that no representative of RPI has authority to make any representations or promises except as stated in the warranty document itself.	No representative of RPI or any other person or entity has the authority to make any representations or promises except as stated in warranty document.
27. Executed by owner	Yes	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Sarnafil, Inc.	Sarnafil, Inc.	Seal-Dry/USA, inc.
2. Title, original publication date, and identifying symbol, if any	10 Year System Warranty - Sarnafil Roofing Warranty for Commercial Building; March 1995	10 Year Standard Warranty - Sarnafil Roofing Warranty for Commercial Building; March 1995	"5 Year Limited Warranty (Membrane Only);" revised 9/94
3. Product, specification, or system covered	Sarnafil G410, S327, G476	Sarnafil G410, S327, G476	Systems 3000, 5000
4. Scope of coverage	Material and workmanship; Sarnafil warrants that it will repair leaks originating from the Sarnafil roofing membrane, Sarnatherm insulation, Sarnafil roofing accessories, or a defect in the Sarnafil authorized applicator's workmanship applied to the Sarnafil membrane.	Material and workmanship; Sarnafil warrants that it will repair leaks originating from the Sarnafil roofing membrane or Sarnafil roofing accessories or a defect in the Sarnafil authorized applicator's workmanship applied to the Sarnafil membrane.	Seal-Dry warrants that the Seal-Dry roofing membrane is free from defects at the time it was supplied. Seal-Dry further warrants that the Seal-Dry roofing membrane, installed to Seal-Dry specifications, will remain free from defects.
5. Length of coverage	10 years	10 years	5 years
6. Nature of remedy	Sarnafil's liability is limited to repair of Sarnafil's roofing membrane, Sarnatherm insulation, or accessory.	Sarnafil's liability limited to Sarnafil's repair of roofing membrane or accessory.	Owner's sole remedy to a defect in the materials is replacement of the membrane.
7. Monetary limitations	None stated.	None stated.	Seal-Dry's total liability shall not exceed the original cost of the Seal-Dry membrane.
8. Notification requirements	Written notification to Sarnafil, Canton Commerce Center, Canton, MA, within 30 days of discovery of each leak in the roofing system.	Written notification to Sarnafil, Canton Commerce Center, Canton, MA, within 30 days of discovery of each leak in the roofing system.	Written notice to Seal-Dry of any defect in the membrane within fifteen days of discovery.
9. Exclusive or additional remedy	Warranty is given in lieu of all other warranties; remedies stated in warranty are exclusive; seeks to exclude UCC warranties.	Warranty is given in lieu of all other warranties; remedies stated in warranty are exclusive; seeks to exclude UCC.	Owner's sole remedy to a defect in the materials is replacement of the membrane; warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Sarnafil's determination	Sarnafil's determination	Seal-Dry's determination (See Special Features/Conditions).
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 6, 7, 8, 12, 17, 23. Roofing damage by wind-blown objects is also specifically excluded.	1, 2, 3, 6, 7, 8, 12, 17, 23. Roofing damage by wind-blown objects is also specifically excluded.	1, 2, 3, 4, 5, 7, 12, 16. Warranty also excludes animals and atomic radiation.
13. Wind coverage/exclusions	Sarnafil indicates that warranty covers roof damage resulting from wind speeds up to 60 mph. Warranty excludes windstorms in excess of 60 mph, hurricanes, and tornadoes.	Sarnafil indicates that warranty covers roof damage resulting from wind speeds up to 60 mph. Warranty excludes windstorms in excess of 60 mph, hurricanes, and tornadoes.	Warranty excludes damage from winds with peak gusts in excess of strong gales (defined as 47-54 mph on the Beaufort Scale), tornadoes and hurricanes. Seal-Dry indicates there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	C, G	C, G	B, C, F, G, I, J, M, N; warranty also states that Seal-Dry has no obligation under warranty unless Seal-Dry agents or authorized installers are allowed access to roof to make inspections and repairs during regular working hours.
15. Cost to obtain	\$6.00/square	\$6.00/square	None
16. Minimum charge	\$800	\$800	None
17. Ineligible structure or building use	Private residences	Private residences	None
18. Pre-construction notice and approval requirements	Contractor is to submit a Sarnafil Notice of award form to Sarnafil's technical department for review and acceptance prior to shipment of Sarnafil membrane and accessories.	Contractor is to submit a Sarnafil Notice of award form to Sarnafil's technical department for review and acceptance prior to shipment of Sarnafil membrane and accessories.	Contractor to obtain approval prior to beginning installation.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Sarnafil field technical representatives make on-site inspections during application (determined by field	Sarnafil field technical representatives make on-site inspections during application (determined by field	No on-site inspections.

	representative schedule) and after completion, as well as two years after issuance of warranty; no charge.	representative schedule) and after completion, as well as two years after issuance of warranty; no charge.	
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.	None
22. Backed by named insurance or surety	No; Sarnafil indicates that it does not carry insurance covering its warranty obligations.	No; Sarnafil indicates that it does not carry insurance covering its warranty obligations.	No; Seal-Dry indicates it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Sarnafil manufactures and sells the product.	Sarnafil manufactures and sells the product.	Seal-Dry manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision.	No renewal provision.	No renewal provision.
25. Assignability	The warranty is extended solely and exclusively to the owner of the building at the time the roofing membrane is installed and is not assignable or transferable unless approved in advance and in writing by Sarnafil and the costs to process the transfer and to inspect and repair the roof, if necessary, are paid for by the original owner.	The warranty is extended solely and exclusively to the owner of the building at the time the roofing membrane is installed and is not assignable or transferable unless approved in advance and in writing by Sarnafil and the costs to process the transfer and to inspect and repair the roof, if necessary, are paid for by the original owner.	Warranty may be reissued to a subsequent purchaser for the remainder of the term following an inspection and after indicated repairs have been made at owner's expense. An inspection fee and a warranty issuance fee will be charged. Warranty shall not extend beyond warranty period.
26. Special features/conditions	Should the roofing membrane be concealed, the cost of exposure of the roofing membrane for purposes of Sarnafil's investigation and/or repair, such as removal and replacement of any paving or overburden, shall be the owner's responsibility. Any controversy or claim arising out of or relating to the warranty shall be settled by arbitration in Boston, Mass. by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules, and judgment upon the arbitration award may be entered in any court having jurisdiction thereof. No representative of Sarnafil has authority to make any representations or promises except as stated in the warranty.	Should the roofing membrane be concealed, the cost of exposure of the roofing membrane for purposes of Sarnafil's investigation and/or repair, such as removal and replacement of any paving or overburden, shall be the owner's responsibility. Any controversy or claim arising out of or relating to the warranty shall be settled by arbitration in Boston, Mass. by the American Arbitration Association in accordance with the Construction Industry Arbitration Rules, and judgment upon the arbitration award may be entered in any court having jurisdiction thereof. No representative of Sarnafil has authority to make any representations or promises except as stated in the warranty.	If Seal-Dry's investigation reveals that defects were caused by something other than is covered by this warranty, owner shall be responsible for the cost of investigation and any repairs made by Seal-Dry. Seal-Dry has no warranty obligation when Owner has exercised reasonable care and maintenance in accordance with "Care and Maintenance Guide" on the reverse side of the warranty. Warranty is governed by Arkansas law. No representative of Seal-Dry has any authority to bind Seal-Dry with any representation or warranty other than stated in warranty.
27. Executed by owner	Yes	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Seal-Dry/USA, inc.	Seal-Dry/USA, inc.	Seaman Corporation
2. Title, original publication date, and identifying symbol, if any	15 Year Limited Warranty; revised 9/94	15 Year Warranty; revised 9/94	Warranty for Commercial Roofing
3. Product, specification, or system covered	Systems 3000, 5000	Systems 3000, 5000	FiberTite Roofing Systems
4. Scope of coverage	Material and workmanship; Seal-Dry warrants that the Seal-Dry roofing materials, if installed to Seal-Dry specifications, will provide watertight protection. Leaks in the Seal-Dry roof materials, which are the result of defects in material and/or workmanship, are covered. The warranty does not cover any other components of the roof or building. Caulking materials and sealants such as pitch pan fillers are considered maintenance items and are not covered by warranty.	Material and workmanship; Seal-Dry warrants that the Seal-Dry roofing materials, if installed to Seal-Dry specifications, will provide watertight protection. Leaks in the Seal-Dry roof materials, which are the result of defects in material and/or workmanship, are covered. The warranty does not cover any other components of the roof or building. Caulking materials and sealants such as pitch pan fillers are considered maintenance items and are not covered by warranty.	Material and workmanship; Seaman warrants that it will repair leaks in the FiberTite roofing system and/or defective workmanship provided by Seaman or its authorized FiberTite single-ply roof applicator.
5. Length of coverage	15 years	15 years	5 or 10 years
6. Nature of remedy	Seal-Dry will repair, or cause to be repaired (using Seal-Dry materials), leaks in the Seal-Dry materials, installed to Seal-Dry specifications, that are the result of defects in material and/or workmanship.	Seal-Dry will repair, or cause to be repaired (using Seal-Dry materials), leaks in the Seal-Dry materials, installed to Seal-Dry specifications, that are the result of defects in material and/or workmanship.	Seaman will repair leaks at its expense.
7. Monetary limitations	Seal-Dry's total liability shall not exceed the original cost of the Seal-Dry materials and the labor to install them.	None stated.	Seaman's obligation over the lifetime of warranty shall not exceed the original cost of the installed roof.
8. Notification requirements	Written notice of any defect or leak in the roof within fifteen days of discovery.	Written notice of any defect or leak in the roof within fifteen days of discovery.	Written notice to Seaman Corporation, 1000 Venture Blvd., Wooster, OH 44691, within 30 days after discovery of any leaks in the roofing system.
9. Exclusive or additional remedy	The owner's sole remedy to a defect in the materials and/or workmanship is Seal-Dry's repair of the leak; the warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	The owner's sole remedy to a defect in the materials and/or workmanship is Seal-Dry's repair of the leak; the warranty supersedes and is in lieu of all other warranties or guarantees; excludes UCC warranties.	The owner's sole and exclusive remedy for failure of the roofing system; no employee or representative has authority to make any representations other than those stated in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Seal-Dry's determination (See Special Features/Conditions.)	Seal-Dry's determination (See Special Features/Conditions.)	Seaman's good faith determination.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 12, 16, 18. The warranty also excludes animals and atomic radiation.	1, 2, 3, 4, 5, 12, 16, 18. The warranty also excludes animals and atomic radiation.	1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24
13. Wind coverage/exclusions	The warranty covers roof damage resulting from wind speeds up to 47 mph; warranty excludes winds with peak gusts in excess of strong gales (defined as 47-54 mph on the Beaufort Scale), tornadoes, and hurricanes.	The warranty covers roof damage resulting from wind speeds up to 47 mph; warranty excludes winds with peak gusts in excess of strong gales (defined as 47-54 mph on the Beaufort Scale), tornadoes, and hurricanes.	Warranty excludes hurricanes and tornadoes. Seaman indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	B, C, F, G, I, J, M, N; the warranty also states that Seal-Dry has no obligation under warranty unless Seal-Dry agents or authorized installers are allowed access to roof to make inspections and repairs during regular working hours.	B, C, F, G, I, J, M, N; the warranty also states that Seal-Dry has no obligation under warranty unless Seal-Dry agents or authorized installers are allowed access to roof to make inspections and repairs during regular working hours.	B, C
15. Cost to obtain	\$6.00/square	\$8.00/square	5 years: no charge; 10 years: \$4.00/square
16. Minimum charge	\$650	\$850	5 years: none; 10 years: \$400
17. Ineligible structure or building use	Residential single-dwelling homes eligible for membrane only warranty.	Residential single-dwelling homes eligible for membrane only warranty.	Roofing installations for personal, family, or household purposes.
18. Pre-construction notice and approval requirements	The contractor to provide pre-installation notice with building and job requirements and obtain approval prior to	The contractor to provide pre-installation notice with building and job requirements and obtain approval prior to	Contractor must submit FiberTite request for warranty form/roof award information material submittal data and

	beginning installation.	to beginning installation.	obtain approval before material can be shipped.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Seal-Dry technical representative makes on-site inspections prior to, during (when necessary), and after application prior to issuance of warranty; two inspections no charge.	Seal-Dry technical representative makes on-site inspections prior to, during (when necessary), and after application prior to issuance of warranty; two inspections no charge.	Seaman technical service representatives make on-site inspections prior to, during (interim inspections coordinated with representative's travel schedule), and after completion, prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	No	The contractor obligated to make repairs to workmanship deficiencies for three years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Seal-Dry indicates that it does not carry insurance covering its warranty obligations.	No; Seal-Dry indicates that it does not carry insurance covering its warranty obligations.	No; Seaman indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	Seal-Dry manufactures and sells the product.	Seal-Dry manufactures and sells the product.	Seaman manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	The warranty may be reissued to a subsequent purchaser for the remainder of the term following an inspection and after indicated repairs have been made at the owner's expense. An inspection fee and a warranty issuance fee will be charged. The warranty shall not extend beyond the warranty period.	The warranty may be reissued to a subsequent purchaser for the remainder of the term following an inspection and after indicated repairs have been made at the owner's expense. An inspection fee and a warranty issuance fee will be charged. The warranty shall not extend beyond the warranty period.	Warranty may be assignable to a subsequent owner, only if the original owner requests in writing that Seaman Corporation consent to an assignment to the purchaser of the building, which consent will not be unreasonably withheld.
26. Special features/conditions	If Seal-Dry's investigation reveals that leaks are not covered under warranty, the owner shall be responsible for the cost of investigation and any repairs made by Seal-Dry. The warranty is governed by Arkansas law. No representative of Seal-Dry has any authority to bind Seal-Dry with any representation or warranty other than stated in warranty.	If Seal-Dry's investigation reveals that leaks are not covered under warranty, the owner shall be responsible for the cost of investigation and any repairs made by Seal-Dry. The warranty is governed by Arkansas law. No representative of Seal-Dry has any authority to bind Seal-Dry with any representation or warranty other than stated in warranty.	The owner will be responsible for the cost of investigation if any leak is determined not to be covered by warranty.
27. Executed by owner	Yes	Yes	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Seaman Corporation	Seaman Corporation	Seaman Corporation
2. Title, original publication date, and identifying symbol, if any	□Warranty for Commercial Roofing□	□Materials Warranty for FiberTite Roofing Membrane□	□Warranty for Commercial Roofing□
3. Product, specification, or system covered	FiberTite Single-Ply Roof	FiberTite Single-Ply Roof	FiberTite Single-Ply Roof
4. Scope of coverage	Material and workmanship; Seaman warrants that it will repair leaks in the FiberTite roofing system and/or defective workmanship provided by Seaman or its authorized FiberTite single-ply roof applicator.	Seaman warrants its FiberTite membrane materials to be in accordance with its published specifications and free from material defects in components and workmanship that would affect performance.	Material and workmanship; Seaman warrants that it will repair leaks in the FiberTite roofing system and/or defective workmanship provided by Seaman or its authorized FiberTite single-ply roof applicator.
5. Length of coverage	15 years	10 years	15 years
6. Nature of remedy	Seaman will repair leaks at its expense.	Seaman's obligation is limited to, at its option, allowance for credit, repair, or replacement of any material that may prove defective under normal use and service. Seaman's liability is prorated such that Seaman's liability ranges from 100 percent if the defect occurs in the first year to 8 percent if the defect occurs in the tenth year.	Seaman will repair leaks at its expense.
7. Monetary limitations	Seaman's obligation over the lifetime of warranty shall not exceed the original cost of the installed roof.	Seaman's prorated liability is based upon the original sales price.	None stated.
8. Notification requirements	Written notice to Seaman Corporation, 1000 Venture Blvd., Wooster, OH 44691, within 30 days after discovery of any leaks in the roofing system.	Written notification within 30 days of discovery of the alleged defect to Seaman Corporation.	Written notice to Seaman Corporation, 1000 Venture Blvd., Wooster, OH 44691, within 30 days after discovery of any leaks in the roofing system.
9. Exclusive or additional remedy	The owner's sole and exclusive remedy for failure of the roofing system; no employee or representative has authority to make any representations other than those stated in warranty; excludes UCC warranties.	No other warranties applicable to material; corrections to non-conformities and defects as provided for in the warranty shall constitute fulfillment of all liabilities of Seaman to the customer, whether based on contract, negligence, or otherwise. Should the fabric prove defective to the extent that it precludes the remedying of warranted defects by repair or replacement, customer's sole and exclusive remedy shall be the refund of the purchase price of the fabric or the part thereof that is defective, upon its return to Seaman Corporation. No warranties or representations at any time by any sales representative, dealer, agent, or any person shall be effective to vary or expand the warranty; excludes UCC warranties.	The owner's sole and exclusive remedy for failure of the roofing system; no employee or representative has authority to make any representations other than those stated in warranty; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Seaman's good faith determination.	Seaman's determination.	Seaman's good faith determination.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24	1, 3, 13, 16, 18, 20, 21, 23	1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24
13. Wind coverage/exclusions	Warranty excludes hurricanes and tornadoes. Seaman indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.	Warranty excludes hurricanes and tornadoes. Seaman indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.	Warranty excludes hurricanes and tornadoes. Seaman indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	B, C	A, H. Warranty will also be void if any of the specific exclusions listed above occur or if material is exposed to □excessive pressures or sources,□ external forces, radiation, harmful fumes or foreign substances in the atmosphere, or any use not specifically for roofing application.	B, C
15. Cost to obtain	\$7.00/square	None	\$9.00/square
16. Minimum charge	\$750	None	\$900
17. Ineligible structure or building use	Roofing installations for personal, family, or household purposes.	Roofing installations for personal, family, or household purposes.	Roofing installations for personal, family, or household purposes.

18. Pre-construction notice and approval requirements	Contractor must submit FiberTite [request for warranty form/roof award information material submittal data] and obtain approval before material can be shipped.	Contractor must submit FiberTite [request for warranty form/roof award information material submittal data] and obtain approval before material can be shipped.	Contractor must submit FiberTite [request for warranty form/roof award information material submittal data] and obtain approval before material can be shipped.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Seaman technical service representatives make on-site inspections prior to, during (interim inspections coordinated with representative's travel schedule), and after completion, prior to issuance of warranty; no charge.	Seaman technical service representatives make on-site inspections prior to, during (interim inspections coordinated with representative's travel schedule), and after completion, prior to issuance of warranty; no charge.	Seaman technical service representatives make on-site inspections prior to, during (interim inspections coordinated with representative's travel schedule), and after completion, prior to issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Seaman indicates that it is self-insured.	No; Seaman indicates that it is self-insured.	No; Seaman indicates that it is self-insured.
23. Issuing entity manufactures and/or sells products	Seaman manufactures and sells the product.	Seaman manufactures and sells the product.	Seaman manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty may be assignable to a subsequent owner, only if the original owner requests in writing that Seaman Corporation consent to an assignment to the purchaser of the building, which consent will not be unreasonably withheld.	No restrictions stated.	Warranty may be assignable to a subsequent owner, only if the original owner requests in writing that Seaman Corporation consent to an assignment to the purchaser of the building, which consent will not be unreasonably withheld.
26. Special features/conditions	The owner will be responsible for the cost of investigation if any leak is determined not to be covered by warranty.	All purchase orders for FiberTite Membrane will be deemed submitted subject to and in accordance with Seaman Corporation standard terms and conditions of sale.	The owner will be responsible for the cost of investigation if any leak is determined not to be covered by warranty.
27. Executed by owner	Yes	No	Yes

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Seaman Corporation	Siplast, Inc.	Siplast, Inc.
2. Title, original publication date, and identifying symbol, if any	Materials Warranty for FiberTite Roofing Membrane	Siplast, Inc. Roof Membrane Limited Warranty; October 15, 1987	Siplast, Inc. Roof Membrane Guarantee; March 1, 1982
3. Product, specification, or system covered	FiberTite Roofing Systems	Paratech	Paradiene 20/30, Veral, Paradiene 40, Parafor 50 LT
4. Scope of coverage	Seaman warrants its FiberTite membrane materials to be in accordance with its published specifications and free from material defects in components and workmanship that would affect performance.	Siplast warrants that the roof membrane shall remain in watertight condition if roof membrane is installed according to Siplast specifications by an approved roofing contractor and the use of Siplast materials has been approved in advance; unclear from the document itself whether warranty covers workmanship. [Siplast indicates that the workmanship of the contractor is covered.]	Siplast guarantees roof membrane shall remain in watertight condition if roof membrane is installed according to Siplast specifications by an approved roofing contractor and the use of Siplast materials has been approved in advance; unclear from the document itself whether guarantee covers workmanship. [Siplast indicates that the workmanship of the contractor is covered.]
5. Length of coverage	15 years	5 or 10 years	10 years, with additional 5-year and 10-year extension options available
6. Nature of remedy	Seaman's obligation is limited to, at its option, allowance for credit, repair, or replacement of any material that may prove defective under normal use and service. Seaman's liability is prorated such that Seaman's liability ranges from 100 percent if the defect occurs in the first year to 5 percent if the defect occurs in the fifteenth year.	Siplast shall repair the roof membrane at its own expense. (See Special Features/Conditions.)	Siplast shall repair the roof membrane at its own expense. (See Special Features/Conditions.)
7. Monetary limitations	Seaman's prorated liability is based upon the original sales price.	Siplast's liability for the cost of repairs shall not exceed in the aggregate over the life of the warranty a sum greater than the owner's original cost of the Siplast-supplied materials and the labor used to install such materials.	None stated.
8. Notification requirements	Written notification within 30 days of discovery of the alleged defect to Seaman Corporation.	Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered.	Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered.
9. Exclusive or additional remedy	No other warranties applicable to material; corrections to non-conformities and defects as provided for in the warranty shall constitute fulfillment of all liabilities of Seaman to the customer, whether based on contract, negligence, or otherwise. Should the fabric prove defective to the extent that it precludes the remedying of warranted defects by repair or replacement, customer's sole and exclusive remedy shall be the refund of the purchase price of the fabric or the part thereof that is defective, upon its return to Seaman Corporation. No warranties or representations at any time by any sales representative, dealer, agent, or any person shall be effective to vary or expand the warranty; excludes UCC warranties.	Owner's exclusive remedy against Siplast regarding the roof membrane; excludes all other warranties; excludes UCC warranties.	Excludes other warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Seaman's determination	Neutral (no provision)	Neutral (no provision)
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 13, 16, 18, 20, 21, 23	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 23	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 15, 23
13. Wind coverage/exclusions	Warranty excludes hurricanes and tornadoes. Seaman indicates that warranty covers roof damage resulting from wind speeds up to 73 mph.	Warranty excludes windstorms, hurricanes and tornadoes.	Warranty excludes windstorms, hurricanes, and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	A, H. Warranty will also be void if any of the specific exclusions listed above occur or if material is exposed to "excessive pressures or sources," external forces, radiation, harmful fumes or foreign substances in the atmosphere, or any use not specifically for roofing application.	C, H, R	C, H, R
15. Cost to obtain	\$2.00/square	5 years, \$4.00/square; 10 years, \$5.00/square	None, if over 50 squares

16. Minimum charge	\$250	\$300 if less than 50 squares	\$300 if less than 50 squares
17. Ineligible structure or building use	Roofing installations for personal, family, or household purposes.	Cold-storage buildings and buildings with high-interior--humidity problems.	Cold-storage buildings and buildings with high-interior-humidity problems.
18. Pre-construction notice and approval requirements	Contractor must submit FiberTite [request for warranty form/roof award information material submittal data] and obtain approval before material can be shipped.	A guarantee application form listing job conditions and requirements must be submitted and approved by Siplast technical department prior to shipment of materials.	A guarantee application form listing job conditions and requirements must be submitted and approved by Siplast technical department prior to shipment of materials.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Seaman technical service representatives make on-site inspections prior to, during (interim inspections coordinated with representative's travel schedule), and after completion, prior to issuance of warranty; no charge.	Inspections by Siplast field technical staff made prior and during application periodically or as needed and after application; no charge.	Inspections by field technical staff prior to and during application as needed, after application and two years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Seaman indicates that it is self-insured.	No; Siplast does not carry insurance covering its warranty obligations.	No; Siplast does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Seaman manufactures and sells the product.	Siplast manufactures and sells product.	Siplast manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	Siplast offers 5-year and 10-year addendum options to extend the roof membrane guarantee. In order to obtain either the 5-year or 10-year extension, the owner must properly execute and return the Siplast Addendum to Roof Membrane Guarantee to Siplast prior to issuance of the original guarantee. In order for the option to become effective, within six months prior to expiration of the original guarantee, the owner shall notify the Siplast technical department, in writing, to arrange for a free job inspection that will be made within 30 days by Siplast. The owner is to have a Siplast-approved contractor effect properly all maintenance and non-roof membrane-related repairs deemed necessary by Siplast in accordance with Siplast's instructions and is to provide written verification that all such maintenance and repairs have been completed. Siplast will then invoice the owner for the guarantee extension charge in effect at time of extension. Current charges to extend the guarantee are \$4.00/square for a 5-year extension and \$10.00/square for a 10-year extension. Owner shall promptly pay to Siplast the renewal charges, after inspection and written verification that all main-tenance and repairs have been completed in accordance with Siplast's instructions and specifications.
25. Assignability	No restrictions stated.	No restrictions stated.	No restrictions stated.
26. Special features/conditions	All purchase orders for FiberTite Membrane will be deemed submitted subject to and in accordance with Seaman Corporation standard terms and conditions of sale.	Warranty provides that the expense of removing and replacing traffic surfaces built over the roof shall be borne by the owner.	Guarantee provides that the expense of removing and replacing traffic surfaces built over the roof shall be borne by the owner.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Siplast, Inc.	Soprema, Inc.	Southwestern Petroleum Corporation (SWEPCO)
2. Title, original publication date, and identifying symbol, if any	Roof System Guarantee; September 1996	Soprema, Inc. Limited Warranty For Roofing System; Jan. 1, 1997	SWEPCO Brand Roofing Products Limited Warranty; October 1989; J-7433-08-90-BP
3. Product, specification, or system covered	Siplast roof membrane, Siplast Zonolite, Insulperm, NVS, Insulcel and Zonocel roof insulation, and Zono-tite and NVS fasteners	Sopralene; 180, Flam 180, 180 Granules, Flam 180 Granules, 250, Flam 250, 250 Granules, Flam 250 Granules, 350, 350 Granules, Flam Stick, Flam 250 Alu, Flam 250 Copper, Jardin, Flam Antirock, Sopraseal; Elastophene; Flam, Granules, Flam Granules, PS, 180, 180 PS, Flam Granules FR, Granules FR, Flam Stick, Colphene Granules; Sopralast; Aluminum, Copper, Stainless, Mammoth Aluminum.	Uni+Shield Single-Ply Roof System 302; Heavy Duty Cold Process BUR System 301; Uni+Shield II Cold Process BUR System 303
4. Scope of coverage	Material and workmanship; Siplast warrants that the roof system, comprised solely of the Siplast roof membrane, Siplast roof insulation, and Zono-tite or NVS fasteners, will remain in a watertight condition. Siplast warrants that the actual resistance to heat flow through the roof insulation will be at least 80% of design thermal resistance provided that the roofing membrane is maintained free of leaks; if leaks occur, the insulating performance of the roof insulation will be at least 80% of design thermal resistance within a two-year period following repair of the leak; the roof insulation will remain in a reroofable condition should the roof membrane require replacement. Damage to the roof insulation caused by a fastener pull-out during removal of the old membrane is excluded; the roof insulation will not cause structural damage to the building as a result of its expansion from thermal or chemical action. (See Special Features/Conditions.)	Material and workmanship; Soprema warrants that the roofing membrane and flashing materials sold by Soprema will remain in a watertight condition and that the roofing system is free from defects in material and installation at the time of application and that the materials in the roofing system conform to Soprema's specifications.	Material only; SWEPCO warrants that it will furnish sufficient roofing material to correct any roof leaks that occur in warranted applications solely as a result of a proven product defect. SWEPCO does not warrant that products will resist the effects of normal aging for the entire warranty period.
5. Length of coverage	10 years: all systems; 15 and 20 years available for Paradiene 20/30 and Veral systems	10, 15, or 20 years	Uni+Shield: 5 years without extended-life coating option; Uni+Shield: 12 years with extended-life coating option; Poly-Shield: 8 years without extended life coating option; PolyShield: 12 years with extended-life coating option
6. Nature of remedy	If the roof systems does not remain in a watertight condition, Siplast will repair the roof system at its own expense. If the roof insulation fails to perform as guaranteed, Siplast shall, at its own expense, make or cause to be made repair or modifications to the roof insulation as Siplast deems appropriate so as to enable the roof insulation to perform as guaranteed. Siplast will be liable only for the cost of repair of the roof system by a Siplast approved contractor. The expense of removing and replacing traffic surfaces built over the roof shall be borne by owner.	Soprema will make repairs necessary to correct leaks in the roof membrane and flashing at its own expense, including all labor and materials, resulting from defects in material and faulty or improper installation in the roofing system or the failure of materials to meet Soprema specifications.	Replacement material only; SWEPCO will furnish materials required to repair leaks. Value of materials calculated at list prices current at the time of claim; under no circumstances are cash payments made.
7. Monetary limitations	None stated.	None stated.	Maximum aggregate value of replacement SWEPCO-brand roofing products recoverable over the life of the warranty shall not exceed the original invoiced price for warranted SWEPCO-brand roofing products.
8. Notification requirements	Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered.	Written notification within 30 days after any defect or leak is discovered or in the exercise of ordinary care should have been discovered to Soprema, Inc. at 310 Quadral Drive, Wadsworth, OH 44281.	Owner shall notify SWEPCO promptly and provide written confirmation by registered mail to SWEPCO at P.O. Box 961005, Ft. Worth, TX 76161-0005, within 14 days of discovery of any leaks.
9. Exclusive or additional remedy	The owner's exclusive remedy against Siplast with respect to the roof system; owner waives any and all other claims, actions, and demands relating to roof system; excludes all other guarantees; excludes UCC warranties.	Warranty is sole and exclusive remedy against Soprema; excludes all other warranties; Soprema not liable for special, incidental or consequential damages of any kind, whether arising from breach of contract, negligence, breach of warranty or any other legal theory including loss of use of building or equipment, cost of capital, cost of substitute equipment, facilities or services, lost profits, downtime costs, or claims of customers.	Owner accepts warranty as its sole and exclusive remedy; owner expressly waives any and all other claims; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral	Neutral (no provision)	SWEPCO's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 15, 23. Guarantee also specifically excludes chemical or organic deposits or other unusual occurrences.	1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 13 (including exposure to chloro-fluorocarbons, solvents, hydrocarbons, gasoline, acids, corrosives, salts, turpentine, oil, fat, grease, smoke, or fumes), 16, 17, 20, 23. Warranty also excludes damage due to insect infestation, rodents, and vermin.	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19, 20, 22, 23
13. Wind coverage/exclusions	Siplast indicates guarantee covers roof damage resulting from winds, but does not indicate covered wind speed. Guarantee excludes windstorms, hurricanes, and tornadoes. (Beaufort scale defines storm as winds between 55 and 63 mph.)	Warranty excludes windstorms in excess of Beaufort Number 8 of the Beaufort Scale, hurricanes, and tornadoes. Warranty covers roof damage resulting from wind speeds up to 46 mph.	Warranty excludes windstorms, gales, hurricanes, and tornadoes. [SWEPCO indicates that it does not have a definition of windstorm based upon wind speed.]

14. Specific conditions to make warranty ineffective or null and void (See no. 14 in Introduction.)	C, H, R	A, B, C, F (including keeping all drains unclogged and properly working at all times, preventing excessive traffic across the roof and maintaining pitch pans and flashings in a watertight condition), H, N, R	A, B, C, G, H, M. Also failure to promptly apply replacement products provided under warranty or provide written verification of application will automatically terminate warranty.
15. Cost to obtain	10 years: no charge; 15 years: \$7.50/square; 20 years: \$12.50/square	10 years: no charge; 15 years: \$7.50/square; 20 years: \$12.50/square	None
16. Minimum charge	\$300 if less than 50 squares, plus normal per-square charge	None	None
17. Ineligible structure or building use	Cold-storage buildings and buildings with high humidity problems	None	None
18. Pre-construction notice and approval requirements	A guarantee application form listing job conditions and requirements must be submitted and approved by Siplast technical department prior to shipment of materials.	Soprema requires a pre-bid approval from the specifier and contractor. Once received and approved, the respective parties receive approval notification. (All approvals are registered with the home office).	None
19. Approved, authorized, or licensed applicator	Yes; the roofing contractor and lightweight concrete applicator must be approved and licensed by Siplast.	Yes	No
20. Job inspection policy	Siplast field technical staff makes inspections prior to, during, and after application prior to issuance of guarantee as well as two years after issuance of guarantee; no charge.	Soprema-authorized representative makes on-site inspections prior, during (depending on the circumstances), and after application prior to issuance of warranty, as well as two years after issuance of warranty; no charge.	No on-site inspections
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	None; material-only warranty
22. Backed by named insurance or surety	No; Siplast does not carry insurance covering its warranty obligations.	No; Soprema indicates that it does not carry insurance covering its warranty obligations.	No
23. Issuing entity manufactures and/or sells products	Siplast manufactures and sells the products.	Soprema manufactures and sells product.	SWEPCO manufactures and sells PolyShield product; SWEPCO sells Uni+Shield product only.
24. Conditions for renewal or extension	Siplast offers 5- and 10-year options to extend the roof system guarantee. In order to obtain either the 5- or 10-year extension, the owner must properly execute and return the Siplast addendum to roof system guarantee to Siplast prior to issuance of the original guarantee. In order for the option to become effective, within six months prior to expiration of the original guarantee, the owner shall notify the Siplast technical department, in writing, to arrange for a free job inspection that will be made within 30 days by Siplast. The owner is to have a Siplast-approved contractor effect properly all maintenance and non-roof membrane-related repairs deemed necessary by Siplast in accordance with Siplast's instructions and is to provide written verification that all such maintenance and repairs have been completed. Siplast will then invoice the owner for the guarantee extension charge in effect at time of extension. Current charges to extend the guarantee are \$4.00/square for a 5-year extension and \$10.00/square for a 10-year extension. The owner shall promptly pay Siplast the renewal charges, after inspection and written verification that all maintenance and repairs have been completed in accordance with Siplast's instructions and specifications.	No renewal provision	Uni+Shield 12-year warranty (with extended-life coating option) may be extended to 20 years. Extension is contingent upon satisfactory inspection and recoating with the original coating at the end of the 12-year term.
25. Assignability	The guarantee is assignable if Siplast is given at least 30 days written notice prior to transfer and the intended building use is stated; an inspection of the roof/roof insulation system is made by Siplast; any repairs to the roof/roof insulation system that may be deemed necessary by Siplast are made at the owner's expense; and, the inspection and processing fee (\$300) is paid to Siplast.	Warranty extends only to original owner and is not transferable or assignable without prior written consent of Soprema. If repairs are required, expense of removing and replacing traffic surfaces or other structures built over the roof shall be borne by owner.	Any transfer of warranty to subsequent owners, purchasers, or tenants must be approved in writing by SWEPCO vice president of customer service.
26. Special features/conditions	No claim may be made with respect to thermal performance of Siplast roof insulation unless based on tests carried out at owner's expense by a qualified laboratory using tests and procedures satisfactory to Siplast. Siplast reserves the right to perform thermal testing of the roof insulation to be carried out at Siplast's direction and expense.	Any product sold by Soprema and not manufactured by Soprema is sold "as is" and without any warranty. Soprema dis-claims any liability or responsibility for specifications, design, or construction of any portion of the building, including the roofing system, except as stated in warranty. Warranty shall be construed according to laws of Ohio.	Any replacement products due under warranty will be made FOB SWEPCO's principal place of business or nearest warehouse.
27. Executed by owner	No	No	No; however, SWEPCO's order form, incorporating the warranty, requires buyer's signature

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Tamko Roofing Products, Inc.	Tamko Roofing Products, Inc.	Tamko Roofing Products, Inc.
2. Title, original publication date, and identifying symbol, if any	☐Tam-Ply IV Guarantee (A Limited Warranty); 12/97 997296, JP21925	☐Versa-Cap FR Labor and Material Guarantee (A Limited Warranty)☐; Jan. 15, 1994; 997297	☐Premium Roofing System NDL Guarantee (A Limited Warranty)☐; February 1995; JP22255 997226
3. Product, specification, or system covered	Tam-Ply IV	Specification Series 700	BUR specifications 503, 507; modified bitumen specifications 103, 108, 109, 103 HW, 108 HW, 109 HW, 103 FR, 108 FR, 109 FR. Base flashings must use Premium Grade Awaplan.
4. Scope of coverage	Material only; Tamko warrants that the Tam-Ply IV is free from manufacturing defects which result in leaks	Material only; Tamko warrants that the Versa-Cap FR is free from manufacturing defects that result in leaks.	Material and workmanship; Tamko agrees to provide roof repair services for leaks in the roofing system (exclusive of metal work and non-Tamko-approved flashings) attributable to ordinary wear and tear of the roofing system or workmanship deficiencies in application to the extent necessary to return the roofing system to a watertight condition.
5. Length of coverage	10 years	10 years	20 years
6. Nature of remedy	If manufacturing defects result in leaks, Tamko shall have 90 days after receipt of notification to pay the reasonable cost for labor and material necessary to make or cause to be made repairs or replacement of the Tamko product or to pay the reasonable cost thereof (exclusive of non-Tamko flashing and metal work and materials used as a roof base over which the Tam-Ply IV is applied and repairs required by defects therein) as required to prevent leaks in the roof resulting from manufacturing defects.	If manufacturing defects result in leaks, Tamko shall have 90 days after receipt of notification to make repairs or cause repairs or replacement of the Versa-Cap FR to be made, (exclusive of non-Tamko flashing and metal work and materials used as a roof base over which the Versa-Cap FR is applied and repairs required by defects therein) as required to prevent leaks in the roof resulting from manufacturing defects.	Tamko will arrange for repair to the roofing membrane and base flashing. Tamko shall have no more than 90 days after receipt of notification of leaks to make or cause to be made repairs or replacement unless otherwise prevented by acts of God. Prior to the expiration of such 90-day period, Tamko will not be liable for any cost of repair or replacement unless Tamko has given its written approval.
7. Monetary limitations	Tamko's maximum liability shall be limited to repair and replacement of Tamko materials up to a maximum liability over the term of the warranty of \$60 for each installed roofing square for the first five years. Tamko's liability is reduced by 20% each year following the initial five years of that portion of the Tam-Ply IV containing a manufacturing defect which has resulted in leaks.	Tamko's maximum liability shall be limited to repair and replacement of Tamko materials up to a maximum liability over the term of the warranty of \$100 per square for the first five years, reduced by 20 percent for each year following the initial five years of the warranty of that portion of the Versa-Cap FR containing a manufacturing defect which has resulted in leaks.	None stated.
8. Notification requirements	Written notification by certified mail to Tamko at P. O. Box 1404, Joplin, MO 64802, within 30 days following discovery of any leaks alleged to result directly from manufacturing defects	Written notification by certified mail to Tamko at P. O. Box 1404, Joplin, MO 64802 within 30 days following discovery of any leaks alleged to result directly from manufacturing defects.	Written notice to Tamko no later than 30 days after discovery of any leaks.
9. Exclusive or additional remedy	Guarantee is in lieu of any other obligations, guarantees, warranties, or liabilities on the part of Tamko; excludes UCC warranties. No representative, employee, agent of Tamko, or any person other than the President of Tamko, has any authority to assume for Tamko any additional or other liability or responsibility.	Guarantee is in lieu of any other obligations, guarantees, warranties, or liabilities on the part of Tamko; excludes UCC warranties.	The guarantee is in lieu of any other obligations, guarantees, warranties, or liability on the part of Tamko; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Tamko's determination.	Tamko's determination	Tamko will solely determine the condition of watertightness.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including exposure from a aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials, and exposure to ionized radiation or contamination by radioactivity from any nuclear source), 15, 19, 20, 22, 23	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials, and exposure to ionized radiation or contamination by radioactivity from any nuclear source), 15, 19, 20, 22, 23	1, 2, 3, 4, 6, 7, 8, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils or organic or inorganic polar materials, and exposure to ionized radiation or contamination by radio-activity from any nuclear source), 15, 18, 20, 23
13. Wind coverage/exclusions	Tamko indicates warranty covers roof damage resulting from wind speeds up to strong gales. Warranty excludes strong gales, windstorms, violent storms, hurricanes, and tornadoes. (Strong gales are defined on the Beaufort Scale as winds between 47-54 mph).	Warranty excludes strong gales, windstorms, violent storms, hurricanes and tornadoes. [Tamko does not indicate that wind speeds are covered by guarantee.]	The warranty excludes strong gales, windstorms, violent storms, hurricanes, and tornadoes. (Tamko does not indicate what wind speeds are covered by guarantee. Strong gales are defined on the Beaufort Scale as storms with winds between 55-63 mph and storms as having winds between 47 and 54 mph.)

14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	K	K	B, C, F, K
15. Cost to obtain	None	None	\$17.50/square
16. Minimum charge	None	None	\$1,200
17. Ineligible structure or building use	None	Individual residences, condominiums, cooperative apartments, heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, other structures with high-humidity conditions.	Individual residences, condominiums, cooperative apartments, heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions.
18. Pre-construction notice and approval requirements	None	None	The contractor is required to submit a request for issuance of guarantee describing the job at least two weeks prior to the commencement of the job. Job specifications must be in accordance with Tamko's published specifications and recommendations unless changes are approved in writing by Tamko's manager of technical services.
19. Approved, authorized, or licensed applicator	No	No	Yes
20. Job inspection policy	No on-site inspections	No on-site inspections	Tamko representative makes inspection after completion prior to issuance of guarantee and two years after issuing of guarantee. Tamko representative makes on-site inspection during application of specification 243 only; no charge.
21. Contractor's post-installation obligation	None; material-only warranty	None; material-only warranty	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Tamko indicates that it does not carry insurance covering its warranty obligations.	No; Tamko indicates that it does not carry insurance covering its warranty obligations.	No; Tamko indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Tamko manufacturers and sells the products	Tamko Asphalt Products, Inc. manufactures and sells the product.	Tamko Roofing Products, Inc. manufactures and sells the products.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Guarantee cannot be assigned, sold or transferred in any manner whatsoever. Warranty inures only to the benefit of the building owner of the Tamko product.	Not transferable or assignable in any manner.	The guarantee cannot be assigned, sold, or transferred in any manner whatsoever. The warranty inures only to the benefit of the first consumer, purchaser, or owner of the Tamko product.
26. Special features/conditions	Tamko requires that the owner initiate and follow a preventative maintenance program substantially in accordance with recommendations found on the reverse side of warranty. Specific maintenance items listed on reverse of guarantee must be performed at least semiannually to maintain guarantee coverage. Coatings over smooth surfaced products must be maintained to provide surface protection. Tamko is not responsible for any cost related to the removal or abatement of any asbestos present in the existing roof to which the Tam-Ply IV is applied. No action for breach of warranty shall be brought later than one year after any cause of action has accrued. Warranty is not valid in Hawaii, Alaska and California. A separate limited warranty is available for products used in California. Products are sold [AS IS] and [WITH ALL FAULTS] when used outside of the 48 contiguous United States.	Tamko is not responsible for any cost related to the removal or abatement of any asbestos present in the existing roof to which the Versa-Cap FR is applied. Tamko requires that the owner initiate and follow a preventive maintenance program substantially in accordance with the preventive recommendations found on the reverse side of warranty. Specific maintenance items listed on reverse of guarantee must be performed at least semiannually to maintain guarantee coverage. Coatings over smooth surfaced products must be maintained to provide surface protection. No action for breach of guarantee shall be brought later than one year after any cause of action has occurred.	Tamko is not responsible for cost related to the removal or abatement of any asbestos present in the existing roof system to which Tamko roof system is applied. No action for breach of warranty shall be brought later than one year after any cause of action has occurred. Nothing contained in the guarantee shall be construed to be a waiver of Tamko's right for contribution or indemnity. No representative, employee, agent of Tamko, or any other person has any authority to assume for Tamko any additional or other liability or responsibility.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Tamko Roofing Products, Inc.	Tamko Roofing Products, Inc.	Tamko Roofing Products, Inc.
2. Title, original publication date, and identifying symbol, if any	Roofing Systems Guarantee (A Limited Warranty); February 1995; 997225	Commercial Roofing Guarantee (A Limited Warranty); 7/98 997295, JP1926	Twelve Year Limited Material Warranty (A Limited Warranty); January 1996; JP32995 997572
3. Product, specification, or system covered	BUR specification 500 series, 600 series; modified bitumen specification 100, 100 FR, 100 HW, 100C, 200, 200 FR, 200C, 700 series. This guarantee is intended for recover systems over existing roofs and certain other Tamko specifications.	Awaplan Premium FR, Awaplan Premium, Awaplan Heat Welding, Awaplan 170 FR, Awaplan 170, Awaplan Versa-Smooth, Awaflex FR, Awaflex, Awaplan Versa Flex, Versa-Flash 160, Tam-Glass Premium, Vapor-Chan, Glass-Base Sheet, Base-N-Ply, Versa-Base	Speedweld APP
4. Scope of coverage	Material and workmanship; Tamko agrees to provide roof repair services for leaks in the roof system (exclusive of metal work and non-Tamko-approved flashings) attributable to ordinary wear and tear of the roofing system or workmanship deficiencies in application to the extent necessary to return the roofing system to a watertight condition.	Material only; Tamko warrants that its product is free from manufacturing defects that result in leaks.	Material only; Tamko warrants to the first consumer purchaser or owner that the Tamko product will, at the time of purchase, be free from manufacturing defects that result in leaks.
5. Length of coverage	5, 10, 12, or 15 years	5 years: Versa-Base, Base-N-Ply, Glass-Base Sheet, Vapor-Chan 10 years: Tam-Glass Premium, Versa-Flash 160, Awaplan Versa Flex, Awaflex, Awaflex FR 12 years: Awaplan Versa-Smooth, Awaplan 170, Awaplan 170 FR 15 years: Awaplan Heat Welding, Awaplan Premium, Awaplan Premium FR	12 years
6. Nature of remedy	Tamko will arrange for repair to the roofing membrane and base flashing. Tamko shall have no more than 90 days after receipt of notification of leaks to make or cause to be made repairs or replacement unless otherwise prevented by acts of God. Prior to the expiration of such 90-day period, Tamko will not be liable for any cost of repair or replacement unless Tamko has given its written approval.	If manufacturing defects result in leaks, Tamko shall have 90 days after receipt of notification to pay the reasonable cost for labor and material necessary to make repairs or to replace the Tamko product (exclusive of non-Tamko flashing and metal work and materials used as a roof base over which the Tamko product is applied and repairs required by defects therein) as required to prevent leaks in the roof resulting from manufacturing defects.	If Tamko determines there are manufacturing defects covered by the warranty, Tamko shall have 90 days after receipt of notification to either (1) refund the lesser of: (a) the cost of repairs to the roofing membrane to restore its watertight integrity, or (b) the prorated portion of the purchase price of the product; or (2) replace a portion of the product, based upon a prorating schedule ranging from 100% in years one and two to 10% in year ten. Prior to the expiration of such 90-day period, Tamko shall not be liable for any cost of repair or replacement unless Tamko has given its written approval of the repair or replacement of defective product and the cost thereof.
7. Monetary limitations	Tamko inserts maximum total liability in guarantee form prior to issuance. Tamko indicates \$100/square is the usual limitation inserted by Tamko at the time of issuance of guarantee.	Tamko's maximum liability shall be limited to repair and replacement or to pay the reasonable costs thereof of that portion of the Tamko product containing a manufacturing defect that has resulted in leaks.	For first and second year, Tamko's liability limited to the amount of original purchase price; 90% in year three; 70% in year four; 60% in year five; 50% in year six; 40% in year seven; 30% in year eight; 20% in year nine; and 10% in year ten.
8. Notification requirements	Written notice to Tamko no later than 30 days after discovery of any leaks.	Written notice by certified mail to Tamko at P.O. Box 1404, Joplin, MO 64802, within 30 days following discovery of any leaks alleged to result directly from manufacturing defects.	Written notice by certified mail of any leaks alleged to result directly from manufacturing defects within 30 days following discovery to Tamko, P.O. Box 1404, Joplin, MO 64802
9. Exclusive or additional remedy	The guarantee is in lieu of any other obligations, guarantees, warranties, or liability on the part of Tamko; excludes UCC warranties.	Guarantee is in lieu of any other obligations, guarantees, warranties, or liability on the part of Tamko; excludes UCC warranties. Warranty may not be modified except in a writing signed by Tamko's President. No representative, employee, agent of Tamko, or any person other than the President of Tamko, has any authority to assume for Tamko any additional or other liability or responsibility.	The warranty is expressly in lieu of any and all other obligations, guarantees and warranties; Tamko's obligation to refund the cost of repair, a portion of the product's original purchase cost or to replace a portion of the product, in accordance with the prorating schedule, shall be the sole and exclusive remedy against Tamko under the warranty or otherwise; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Tamko will solely determine the condition of watertightness.	Tamko's determination	Tamko's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 8, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils or organic or inorganic polar materials, and exposure to ionized radiation or contamination by radio-activity from any nuclear source), 15, 18, 20, 23.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials, and exposure to ionized radiation or contamination by radioactivity from any nuclear source), 15, 19, 20, 22, 23.	1, 2, 3, 4, 6, 7, 8, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials, and exposure to ionized radiation or contamination by radioactivity from any nuclear source), 15, 19, 23. The warranty excludes damage due to splitting, cracking, blistering, delamination, or separation due to underlying materials.
13. Wind coverage/exclusions	The warranty excludes strong gales, windstorms, violent storms, hurricanes and tornadoes. Tamko does not indicate wind speeds covered by guarantee.	Tamko indicates warranty covers roof damage resulting from wind speeds up to strong gales. Warranty excludes strong gales, windstorms, violent storms, hurricanes, and tornadoes. (Strong gales are defined on the Beaufort Scale as winds between 47 and 54 mph.)	The warranty excludes strong gales, windstorms, violent storms, hurricanes, and tornadoes. (Tamko does not indicate what wind speeds are covered by the warranty; the Beaufort Scale defines a strong gale as winds between 47 and 54 mph.)
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B (Tamko may, at its option, cancel the guarantee), C	K	C, G, K, R, (The warranty states that Tamko's obligations under the warranty shall terminate if (1) Tamko is not reimbursed for all reasonable expenses, including, but not limited to, transportation, meals and lodging, associated with the inspection of a complaint, within 30 days of receipt of invoice from Tamko when Tamko has determined that the complaint is expressly excluded by the terms of the warranty; or (2) the owner fails to reimburse Tamko for any additional costs incurred by Tamko attributable to the lack of reasonable access to the roof within 30 days of receipt of invoice from Tamko.
15. Cost to obtain	5 years: \$4.00/square; 10 years: \$8.50/square; 12 years: \$9.00/square; 15 years: \$12.50/square	None	None
16. Minimum charge	5 years: \$400; 10 years: \$850; 12 years: \$850; 15 years: \$1,000	None	None
17. Ineligible structure or building use	Individual residences, condominiums, cooperative apartments, heated	None	Individual residences, condominiums, cooperative apartments,

	tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions.		heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions.
18. Pre-construction notice and approval requirements	The contractor is required to submit a request for issuance of guarantee describing the job at least two weeks prior to the commencement of the job. Job specifications must be in accordance with Tamko's published specifications and recommendations unless changes are approved in writing by Tamko's manager of technical services.	No	None required.
19. Approved, authorized, or licensed applicator	Yes	No	No
20. Job inspection policy	Tamko built-up roofing representative makes inspection after completion prior to issuance of guarantee and two years after issuing of guarantee. Tamko representative makes on-site inspection during application for specification 243 only; no charge.	No on-site inspections.	No on-site inspections
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two years.	None; material-only warranty	None; material-only warranty
22. Backed by named insurance or surety	No; Tamko indicates that it does not carry insurance covering its warranty obligations.	No; Tamko indicates that it does not carry insurance covering its warranty obligations	No; Tamko indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Tamko Roofing Products, Inc. manufactures and sells product.	Tamko manufactures and sells the products.	Tamko manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Not transferable in any manner.	Guarantee cannot be assigned, sold or transferred in any manner whatsoever. Warranty insures only to the benefit of the building owner of the Tamko product.	The warranty shall accrue and inure only to the benefit of the first consumer purchaser or owner of the Tamko product and shall not be assigned, sold, or transferred in any manner whatsoever. Any assignment, sale or transfer of the warranty or of the building to which the product is applied shall void all warranties.
26. Special features/conditions	<p>Tamko is not responsible for cost related to the removal or abatement of any asbestos present in the existing roof system to which Tamko roof system is applied.</p> <p>No action for breach of warranty shall be brought later than one year after any cause of action has occurred. Nothing contained in the guarantee shall be construed to be a waiver of Tamko's right for contribution or indemnity.</p> <p>No representative, employee, agent of Tamko, or any other person has any authority to assume for Tamko any additional or other liability or responsibility.</p>	<p>Tamko requires that the owner initiate and follow a preventive maintenance program substantially in accordance with the recommendations found on the reverse side of warranty. Specific maintenance items listed on reverse of guarantee must be performed at least semiannually to maintain guarantee coverage. Coatings over smooth-surfaced products must be maintained to provide surface protection. Tamko is not responsible for any cost related to the removal or abatement of any asbestos present in the existing roof to which the Tamko product is applied.</p> <p>No action for breach of warranty shall be brought later than one year after any cause of action has accrued.</p> <p>Warranty is not valid in Hawaii, Alaska and California. A separate limited warranty is available for products used in California. Products are sold "AS IS" and "WITH ALL FAULTS" when used outside of the 48 contiguous United States.</p>	<p>Claims under warranty will require proof of purchase by first consumer purchaser or owner. Tamko shall not be responsible for any claims without such proof of purchase.</p> <p>The warranty states that owner acknowledges that it is the owner's sole responsibility to determine that the product has been installed in compliance with (i) any contract specifications provided by the owner to the contractor and (ii) the terms and conditions of warranty.</p> <p>The warranty may not be modified except in a writing signed by Tamko's president. No representative, employee, agent of Tamko or any person, other than the president of Tamko, has any authority to assume for Tamko any additional or other liability or responsibility.</p> <p>Warranty is not valid in Hawaii, Alaska and California. A separate limited warranty is available for products used in California. Products are sold "as is" and "with all faults" when used outside of the 48 contiguous United States.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any cause of action has accrued.</p> <p>See item 14 above.</p>
27. Executed by owner	No	No	Yes; owner is to sign and retain warranty with the contractor's receipt for future reference.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Tamko Roofing Products, Inc	Tamko Roofing Products, Inc	Tamko Roofing Products, Inc.
2. Title, original publication date, and identifying symbol, if any	Ten Year Limited Material Warranty (A Limited Warranty) ; January 1996; JP32996 997574	Roofing System ND L Guarantee (A Limited Warranty) ; February 1995; JP22254 997228	Total System Coverage Guarantee (A Limited Warranty) ; February 1995; JP22287 997227
3. Product, specification, or system covered	Speedweld (Smooth)	Built-up roofing specifications: 400 Series, 500 Series, 600 Series; modified bitumen specifications: 100, 100 FR, 100 HW, 100 C, 200, 200 FR, 200 C, 700 and 1000 Series	Built-up roofing specifications: All insulated specifications in 400, 500 and 600 series; modified bitumen specifications: All insulated specifications in series 100, 200, 700 and 1000
4. Scope of coverage	Material only; Tamko warrants to the first consumer purchaser or owner that the Tamko product will, at the time of purchase, be free from manufacturing defects that result in leaks.	Material and workmanship; Tamko agrees to provide roof repair services for leaks in the roofing system (e.g., membrane exclusive of metal work and non-Tamko approved flashings) attributable to ordinary wear and tear of the roofing system or workmanship deficiencies in application to the extent necessary to return the roofing system to a watertight condition.	Material and workmanship; Tamko agrees to provide roof repair services for leaks in the roofing system (e.g., membrane exclusive of metal work and non-Tamko approved flashings) attributable to ordinary wear and tear of the roofing system or workmanship deficiencies in application to the extent necessary to return the roofing system to a watertight condition.
5. Length of coverage	10 years	5, 10, 12, or 15 years	5, 10, 12, 15, or 20 years
6. Nature of remedy	If Tamko determines there are manufacturing defects covered by the warranty, Tamko shall have 90 days after receipt of notification to either (1) refund the lesser of: (a) the cost of repairs to the roofing membrane to restore its watertight integrity, or (b) the prorated portion of the purchase price of the product; or (2) replace a portion of the product, based upon a prorating schedule ranging from 100% in years one and two to 10% in year ten. Prior to the expiration of such 90-day period, Tamko shall not be liable for any cost of repair or replacement unless Tamko has given its written approval of the repair or replacement of defective product and the cost thereof.	Tamko will arrange for repairs to the roofing membrane and base flashing and shall have no more than 90 days after receipt of notification of leaks to make or cause to be made repairs or replacements unless prevented by acts of God.	Tamko will arrange for repairs to the roofing membrane and base flashing and shall have no more than 90 days after receipt of notification of leaks to make or cause to be made repairs or replacements unless prevented by acts of God.
7. Monetary limitations	For first and second year, Tamko's liability limited to the amount of original purchase price; 90% in year three; 70% in year four; 60% in year five; 50% in year six; 40% in year seven; 30% in year eight; 20% in year nine; and 10% in year ten.	None stated.	None stated.
8. Notification requirements	Written notice by certified mail of any leaks alleged to result directly from manufacturing defects within 30 days following discovery to Tamko, P.O. Box 1404, Joplin, MO 64802.	Written notice to Tamko, P.O. Box 1404, Joplin, Missouri, 64802, no later than 30 days after discovery of a leak from any cause.	Written notice to Tamko, P.O. Box 1404, Joplin, Missouri, 64802, no later than 30 days after discovery of a leak from any cause.
9. Exclusive or additional remedy	The warranty is expressly in lieu of any and all other obligations, guarantees and warranties; Tamko's obligation to refund the cost of repair, a portion of the product's original purchase cost or to replace a portion of the product, in accordance with the prorating schedule, shall be the sole and exclusive remedy against Tamko under the warranty or otherwise; excludes UCC warranties.	The obligation contained in guarantee is expressly in lieu of any other guarantees, warranties, obligations, or liability on the part of Tamko; excludes UCC warranties.	The obligation contained in guarantee is expressly in lieu of any other guarantees, obligations or liability on the part of Tamko; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Tamko's determination.	Solely Tamko will determine the condition of watertightness.	Solely Tamko will determine the condition of watertightness.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 6, 7, 8, 11, 12, 13 (including exposure from aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials, and exposure to ionized radiation or contamination by radioactivity from any nuclear source), 15, 19, 23. The warranty excludes damage due to splitting, cracking, blistering, delamination, or separation due to underlying materials.	1, 2, 3, 4, 6, 7, 8, 11, 12, 13, 15, 23, 24; exposure to ionized radiation or contamination by radioactivity from any nuclear source.	1, 2, 3, 4, 6, 7, 8, 11, 12, 13, 15, 23, 24; exposure to ionized radiation or contamination by radioactivity from any nuclear source
13. Wind coverage/exclusions	The warranty excludes strong gales, windstorms, violent storms, hurricanes, and tornadoes. (Tamko does not indicate what wind speeds are covered by the warranty; the Beaufort Scale defines a strong gale as winds between 47 and 54 mph.)	The warranty excludes strong gales, windstorms, hurricanes, tornadoes and violent storms. (Strong gales are defined on the Beaufort Scale as winds between 47 and 54 mph and storms are defined as winds between 55 and 63 mph.)	The warranty excludes strong gales, windstorms, hurricanes, tornadoes and violent storms. (Strong gales are defined on the Beaufort Scale as storms with winds between 47 and 54 mph and storms are defined as winds between 55 and 63 mph.)
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	C, G, K, R, (The warranty states that Tamko's obligations under the warranty shall terminate if (1) Tamko is not reimbursed for all reasonable expenses, including, but not limited to, transportation, meals and lodging, associated with the inspection of a complaint, within 30 days of receipt of invoice from Tamko when Tamko has determined that the complaint is expressly excluded by the terms of the warranty; or (2) the owner fails to reimburse Tamko for any additional costs incurred by Tamko attributable to the lack of reasonable access to the roof within 30 days of receipt of invoice from Tamko.	A, B, C, F, K, N	A, B, C, F, K, N
15. Cost to obtain	None	5 years: \$4.00/square; 10 years: \$8.50/square; 12 years:	5 years: \$4.00/square; 10 years: \$8.50/square; 12 years:

		\$9.00/square; 15 years: \$12.50/square	\$9.00/square; 15 years: \$12.50/square; 20 years: \$17.50/square
16. Minimum charge	None	5 years: \$400; 10 years: \$850; 12 years: \$850; 15 years: \$1,000	5 years: \$400; 10 years: \$850; 12 years: \$850; 15 years: \$1,000; 20 years: \$1,200
17. Ineligible structure or building use	Individual residences, condominiums, cooperative apartments, heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions	Individual residences, condominiums, cooperative apartments, heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions	Individual residences, condominiums, cooperative apartments, heated tanks, storage silos, dry kilns, car wash buildings, swimming pools, and other structures with high-humidity conditions.
18. Pre-construction notice and approval requirements	None required.	The contractor is required to submit a request for issuance of guarantee describing the job at least two weeks prior to the commencement of the job. Job specifications must be in accordance with Tamko's published specifications and recommendations unless changes are approved in writing by Tamko's manager of technical services.	The contractor is required to submit a request for issuance of guarantee describing the job at least two weeks prior to the commencement of the job. Job specifications must be in accordance with Tamko's published specifications and recommendations unless changes are approved in writing by Tamko's manager of technical services.
19. Approved, authorized, or licensed applicator	No	Yes	Yes
20. Job inspection policy	No on-site inspections	Tamko representative makes inspection after completion, prior to issuing warranty and two years after issuing warranty. Tamko representative makes on-site inspection during application for specification 243 only; no charge.	Tamko representative makes inspection after completion, prior to issuing warranty and, two years after issuing warranty. Tamko representative makes on-site inspection during application for specification 243 only; no charge.
21. Contractor's post-installation obligation	None; material-only warranty	The contractor is obligated to make repairs to workmanship deficiencies for two years.	The contractor is obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; Tamko indicates that it does not carry insurance covering its warranty obligations.	No; Tamko indicates that it does not carry insurance to cover its warranty obligations.	No; Tamko indicates that it does not carry insurance to cover its warranty obligations.
23. Issuing entity manufactures and/or sells products	Tamko manufactures and sells the product.	Tamko manufactures and sells the product.	Tamko manufactures and sells the product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	The warranty shall accrue and inure only to the benefit of the first consumer purchaser or owner of the Tamko product and shall not be assigned, sold, or transferred in any manner whatsoever. Any assignment, sale or transfer of the warranty or of the building to which the product is applied shall void all warranties.	The guarantee shall accrue and inure only to the benefit of the first consumer purchaser or owner of the Tamko product and shall not be assigned, sold or transferred in any manner whatsoever.	The guarantee shall accrue and inure only to the benefit of the first consumer purchaser or owner of the Tamko product and shall not be assigned, sold or transferred in any manner whatsoever.
26. Special features/conditions	<p>Claims under warranty will require proof of purchase by first consumer purchaser or owner. Tamko shall not be responsible for any claims without such proof of purchase.</p> <p>The warranty states that owner acknowledges that it is the owner's sole responsibility to determine that the product has been installed in compliance with (i) any contract specifications provided by the owner to the contractor and (ii) the terms and conditions of warranty.</p> <p>The warranty may not be modified except in a writing signed by Tamko's president. No representative, employee, agent of Tamko or any person, other than the president of Tamko, has any authority to assume for Tamko any additional or other liability or responsibility.</p> <p>Warranty is not valid in Hawaii, Alaska and California. A separate limited warranty is available for products used in California. Products are sold "as is" and "with all faults" when used outside of the 48 contiguous United States.</p> <p>No action for breach of this limited warranty shall be brought later than one year after any cause of action has accrued.</p> <p>See item 14 above.</p>	<p>No action for breach of this limited warranty may be brought later than one year after any cause of action has accrued.</p> <p>Nothing contained in the guarantee shall be construed to be a waiver of Tamko's right for contribution or indemnity for any liability incurred as a result of this guarantee. No representative, employee, agent of Tamko or any other person has any authority to assume for Tamko any additional or other liability or responsibility. Tamko shall not be responsible for or liable if there is any change or amendment to the Tamko built-up roof specification, unless such change or amendment is approved in writing by Tamko.</p>	<p>No action for breach of this limited warranty may be brought later than one year after any cause of action has accrued.</p> <p>Nothing contained in the guarantee shall be construed to be a waiver of Tamko's right for contribution or indemnity for any liability incurred as a result of this guarantee. No representative, employee, agent of Tamko, or any other person has any authority to assume for Tamko any additional or other liability or responsibility. Tamko shall not be responsible for or liable if there is any change or amendment to the Tamko built-up roof specification, unless such change or amendment is approved in writing by Tamko.</p>
27. Executed by owner	Yes; owner is to sign and retain warranty with the contractor's receipt for future reference.	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Texas Refinery Corporation (TRC)	Tremco Incorporated	Tremco Incorporated
2. Title, original publication date, and identifying symbol, if any	☐Texas Refinery Corporation's Limited Roof System Warranty☐; 1988; 2M0488	☐Tremco Quality Assurance Program 10 Year Warranty☐; 1991; 3/96	☐Tremco Quality Assurance Program 5 Year Warranty☐; 1991;3/96
3. Product, specification, or system covered	MightyPlate Single-Ply; MightyPlate Two-Ply System; MightyPlate Liquid Type II Glasbase Roof System; MightyPlate Liquid Poly-Mat Roof System; MightyPlate Liquid MightyPly Roof System.	Therm 100, Therm 200, Burmastic 100, Burmastic 200, BUR Combinations, HP4510, 4PFR, 2C6S, 2C2S, LTD	Therm 100, Therm 200, Burmastic 100, Burmastic 200, BUR Combinations, HP4510, 4PFR, 2C6S, 2C2S, LTD
4. Scope of coverage	Material only; TRC agrees to furnish sufficient roofing materials to repair leaks through the roofing system caused by natural deterioration resulting from ordinary wear and tear by the elements; blisters, fishmouths, ridges, wrinkles, and splits, unless due to movement or failure of the substrate over which the roofing system is installed; and slippage of the roofing system.	Material and workmanship; Tremco warrants that it will repair any leaks in the Tremco Roofing System (TRS). TRS shall be defined as the weatherproofing assembly and its components as specified by Tremco, which includes membrane, insulation, flashings, and termination details.	Material and workmanship; Tremco warrants that it will repair any leaks in the Tremco Roofing System (TRS). TRS shall be defined as the weatherproofing assembly and its components as specified by Tremco, which includes membrane, insulation, flashings, and termination details.
5. Length of coverage	5 years: MightyPlate Modified Bitumen Roof Membrane, MightyPly System, MightyPlate Liquid Type II Glasbase Roof System, MightyPlate Liquid Poly-Mat Roof System; 10 years: MightyPlate Modified Bitumen Roof Membrane, MightyPlate Liquid Type II Glasbase Roof System, MightyPlate Liquid Poly--Mat Roof System with aluminum roof coating or Textotropic surfacing; MightyPly System with aluminum roof coating, textotropic or Ceramic Granules.	10 years	5 years
6. Nature of remedy	TRC agrees to furnish without charge, F.O.B. closest U.S.A. warehouse, sufficient TRC roofing patching material to stop leaks.	Tremco will inspect the TRS roof and at its own expense make or cause to be made all necessary repairs to the TRS roof to put it in watertight condition.	Tremco will inspect the TRS roof and at its own expense make or cause to be made all necessary repairs to the TRS roof to put it in watertight condition.
7. Monetary limitations	TRC's obligation to furnish additional material is not to exceed original purchase amount.	Tremco's total liability during the first year of the warranty shall not exceed the dollar value of the installed contract price of the TRS. Tremco's max-imum liability, following year one, shall be pro-rated on a straight-line declining-value basis over the life of the warranty, and shall not in any event exceed such prorated amount.	Tremco's total liability during the first year of the warranty shall not exceed the dollar value of the installed contract price of the TRS. Tremco's maximum liability, following year one, shall be prorated on a straight-line declining-value basis over the life of the warranty, and shall not in any event exceed such prorated amount.
8. Notification requirements	Notification to TRC within 30 days of discovery of leak, confirming oral notice in writing within 10 days	Owner shall notify Tremco, 3735 Green Rd., Beachwood, OH 44122, as soon as possible, but in no event more than 30 days, after leakage is or should have been discovered.	Owner shall notify Tremco, 3735 Green Rd., Beachwood, OH 44122, as soon as possible, but in no event more than 30 days, after leakage is or should have been discovered.
9. Exclusive or additional remedy	TRC's exclusive responsibility and liability is to furnish sufficient patching materials to maintain the roofing system in a watertight condition; owner re-cognizes and agrees that TRC has no liability for any alleged breach of warranty, negligence, strict liability or any other theory or damage of any nature whatsoever other than limited and exclusive liability set forth in warranty document.	Remedy stated in warranty is owner's sole and exclusive remedy for any and all claims arising under, or in connection with, or in any way re-lating to the Tremco roof system. Tremco not liable for any damages that are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties.	Remedy stated in warranty is owner's sole and exclusive remedy for any and all claims arising under, or in connection, with or in any way relating to the Tremco roof system. Tremco not liable for any damages that are based upon negligence, breach of warranty, strict liability, or any other theory of liability other than exclusive liability set forth in the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Neutral; TRC arranges for inspection once leak reported.	Unclear; warranty states, ☐Tremco will inspect the TRS roof and if the leak is within coverage of this warranty, will . . . ☐	Unclear; warranty states, ☐Tremco will inspect the TRS roof and if the leak is within coverage of this warranty, will . . . ☐
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 15, 20, 22, 23 (Also excludes damages due to unauthorized test cuts.)	1, 2, 3, 9, 11, 13, 16, 17 [Warranty states that any damage or failure of the TRS as a result of distortion, expansion or contraction of any unguaranteed flashing or metal work is ont covered. Tremso states that this warranty covers all metal specified as part of the warranted project, whether Tremco supplied the metal or not.]	1, 2, 3, 9, 11, 13, 16, 17 [Warranty states that any damage or failure of the TRS as a result of distortion, expansion or contraction of any unguaranteed flashing or metal work is ont covered. Tremso states that this warranty covers all metal specified as part of the warranted project, whether Tremco supplied the metal or not.]
13. Wind coverage/exclusions	Warranty excludes windstorms, hurricanes, and tor-nadoes. [TRC indicates that there is no coverage for damage caused by wind.]	Tremco indicates that warranty covers roof damage resulting from wind speeds up to 74 miles per hour. Warranty excludes hurricane force winds (74 mph or greater) and tornadoes.	Tremco indicates that warranty covers roof damage resulting from wind speeds up to 74 miles per hour. Warranty excludes hurricane force winds (74 mph or greater) and tornadoes.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	M (See Special Features/Conditions.)	B, C, F, H, J, M, S. Warranty also states that Tremco may void warranty for specific exclusions 4, 10, 22.	B, C, F, H, J, M, S. Warranty also states that Tremco may void warranty for specific exclusions 4, 10, 22.
15. Cost to obtain	None	\$8.00/square	\$4.00/square
16. Minimum charge	None	\$1000	\$500
17. Ineligible structure or building use	Cold-storage buildings; residential	Residential	Residential
18. Pre-construction notice and approval requirements	None required	None	None
19. Approved, authorized, or licensed	No	Yes	Yes

applicator			
20. Job inspection policy	Inspection made by TRC sales consultant prior, at least two times during, and after completion, as well as two years after issuance of warranty; no charge.	Tremco technical service and field representatives make on-site inspections prior, during and after application, as well as two years and five years after issuance of warranty; no charge.	Tremco technical service and field representatives make on-site inspections prior, during and after application, as well as two years and five years after issuance of warranty; no charge.
21. Contractor's post-installation obligation	Although this is a material-only warranty, contractor obligated to make repairs to all leaks and any defects, including materials and workmanship, for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.	Contractor obligated to make repairs to workmanship deficiencies for two years.
22. Backed by named insurance or surety	No; TRC indicates that it carries insurance covering its warranty obligations and that TRC home office should be contacted for details.	No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations.	No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	TRC manufactures and sells product.	Tremco manufactures and sells product.	Tremco manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	Initial 10-year warranty can be renewed for one additional five-year period at a price of \$5.00/ square, with a \$500 minimum. To renew: (a) owner must notify Tremco in writing no later than 90 days prior to original warranty expiration date; (b) upon verification of owner's intent to renew original warranty, Tremco shall inspect roof, report condition, and advise owner of any maintenance or restoration work in the form of an executive summary; (c) owner shall make repairs as specified at owner's sole expense by a Tremco approved roofing contractor within 60 days of report delivery; (d) upon completion, Tremco shall inspect repairs to determine satisfactory completion. If roof passes Tremco's final inspection and upon pay-ment by owner to Tremco warranty renewal fees, warranty will be extended.	No renewal provision
25. Assignability	No restrictions stated.	Owner's rights under warranty are not transferable.	Owner's rights under warranty are not transferable.
26. Special features/conditions	No representative, employee, or agent of TRC or any other person other than the TRC manager of technical services, located in Fort Worth, Texas, has any authority to change, alter, or modify the provisions of this warranty. In the event that (a) owner notifies TRC of the need to repair roof leaks, (b) TRC is unable to promptly inspect the roof, and (c) an emergency condition exists that requires immediate repair to avoid substantial damage, owner may make immediate repair to avoid substantial damage to owner, and owner may make temporary repairs as may be essential and such action shall not be a breach of warranty.	To the extent any repairs to any part of the building other than the TRS roof are required, or the removal or replacement of any traffic surfaces or other appurtenances built over the roof are required in order to put the TRS roof in watertight condition, the liability or expense for such repair, removal or replacement, shall be assumed and paid by the owner. If the leak is not within warranty cover-age, Tremco shall advise the owner, and the owner shall have the repairs performed within thirty days, according to Tremco specifications, by a Tremco-approved applicator. In the event an emergency condition exists that requires immediate repair to avoid substantial damage to the building or its contents, Tremco may instruct the owner to make necessary temporary repairs. Tremco will, during the 2nd and 5th years of the warranty, inspect and provide a written executive summary of the roof. Tremco will retain the right to make core extractions and properly repair such extractions.	To the extent any repairs to any part of the building other than the TRS roof are required, or the removal or replacement of any traffic surfaces or other appurtenances built over the roof are required in order to put the TRS roof in watertight condition, the liability or expense for such repair, removal or replacement, shall be assumed and paid by the owner. If the leak is not within warranty coverage, Tremco shall advise the owner, and the owner shall have the repairs performed within thirty days, according to Tremco specifications, by a Tremco-approved applicator. In the event an emergency condition exists that requires immediate repair to avoid substantial damage to the building or its contents, Tremco may instruct the owner to make necessary temporary repairs. Tremco will, during the second year of the warranty, inspect and provide a written executive summary of the roof. Tremco will retain the right to make core extractions and properly repair such extractions.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Uniroof Corporation	Uniroof Corporation	U.S. Intec, Inc.
2. Title, original publication date, and identifying symbol, if any	Uniroof Corporation [Traffigard Limited Warranty]; January 1, 1994	Uniroof Corporation [Uniroof Membrane Roofing Limited Warranty]; April 1989; 4/24/89	"U.S. Intec, Inc. Roofing and Waterproofing Products Full Value Warranty"; 1995.
3. Product, specification, or system covered	Traffigard	Uniroof Membrane Roofing	Modified Bitumen Specifications: B-SP-4000-N, B-SP-4000-NI, B-SP-4000-NNI, B-SP-4000-NN, B-SP-7000-N, B-SP-7000-NI, B-SP-7000-NN, B-SP-7000-NNI, B-SP-9000-N, B-SP-9000-NI, B-SP-9000-NN, B-SP-9000-NNI, BF-200-N, BF-210-NI, BF-250-NNI, BF-300-N, BF-310-NI, BF-350-NNI, BF-400-N, BF-410-NI, BF-450-NNI, BF-500-N. Other systems must be approved in writing by technical services department.
4. Scope of coverage	Material only; Uniroof warrants the Traffigard material will not deteriorate in its condition to the extent of ceasing to be capable of providing an effective weatherproof membrane. Only deterioration as a result of faulty manufacture of Traffigard or defective products used in such manufacture is covered. Uniroof does not warrant to color match replacement material to surrounding area. Blisters, regardless of size, shall not be considered to be a defect.	Material and workmanship; applicator warrants for a period of two years that Uniroof roofing membrane will remain in a watertight condition. For the next eight or thirteen years, depending upon the length of the warranty selected, Uniroof warrants that the Uniroof roofing membrane will remain watertight.	Material and workmanship (See Special Features/Conditions); U.S. Intec guarantees it will repair or replace, at its sole discretion, the Intec roofing membranes and base flashings, as is necessary to correct leaks resulting from (a) manufacturing defects; (2) deterioration as a result of ordinary wear and tear from exposure to the elements; (3) splits, fissures, or tears not caused by structural or roof deck movement or failure; and (4) workmanship in installing the roofing membrane and base flashing.
5. Length of coverage	10 years	10 or 15 years	10, 12, 15 or 20 years (Length of coverage depends on membrane, system configuration and contractor status).
6. Nature of remedy	Uniroof will furnish Traffigard material as may be required to repair those areas that have failed as a result of the deterioration of the originally furnished Traffigard material. Labor to install this material is not included.	Applicator will, for the first two years, and Uniroof will there-after, each at its own expense, cause the repairs or modifications to the membrane to be made to the extent necessary to enable the membrane to perform as warranted.	U.S. Intec will repair or replace, at its sole discretion, the Intec roofing membranes and base flashings, or portion thereof, as is necessary to correct leaks. During first two years, Intec shall have no obligation to repair any leaks due to misapplication.
7. Monetary limitations	The total cost of materials provided under warranty shall not exceed in the aggregate over the life of warranty a sum greater than the original cost of the Uniroof supplied material.	The total cost of repairs provided under warranty shall not exceed in the aggregate over the life of warranty a sum greater than the original cost of Uniroof-supplied material and the labor used to install such material.	None stated.
8. Notification requirements	Prompt written notification to Uniroof within thirty days after owner's discovery of any failure of the roof to perform as warranted	Written notification sent by certified mail to applicator and Uniroof at P.O. Box 160133, Altamonte Springs, FL 32716-0133, during the respective warranty periods within 30 days after owner's discovery of any failure of the roof to perform as warranted.	Written notice to U.S. Intec within 15 days of discovering conditions which are the basis of a warranty claim against U.S. Intec.
9. Exclusive or additional remedy	Warranty states that its provisions shall constitute the exclusive remedy; warranty is in lieu of all other guarantees and warranties; excludes UCC warranties.	Warranty states that its provisions shall constitute the exclusive remedy; Warranty is in lieu of all other guarantees and warranties; excludes UCC warranties.	Remedy set forth in warranty shall be the sole and exclusive remedy available to owner. Guarantee is in lieu of any other guarantees or warranties, and any other obligation or liability on the part of U.S. Intec whether any claim is based upon strict liability, negligence, breach of warranty or any other theory or cause of action; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Warranty will be ineffective if, in Uniroof's judgement, the performance of the material is impaired by any alterations or repairs made without Uniroof's written approval or by work done by anyone other than a Uniroof-approved applicator.	Uniroof's determination if warranty ineffective because performance of the roof and/or the membrane is impaired by (1) any alterations or repairs made without Uniroof's written approval, (2) by work done on the roof by anyone other than a Uniroof approved roofer/applicator, or (3) by change in use of the roof or building	U.S. Intec's determination.
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 3, 4, 5, 13, 10, 18, 22	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 22, 23. Warranty also excludes tests or test cuts not authorized by Uniroof.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 17, 22. Warranty states that Specific Condition H also makes the warranty inapplicable.
13. Wind coverage/exclusions	Uniroof indicates that there is no coverage for damage caused by wind.	Warranty excludes windstorms, hurricanes, and tornadoes.	Warranty excludes windstorms, hurricanes, and tornadoes. U.S. Intec indicates that there is no coverage for damage caused by wind.
14. Specific conditions to make warranty ineffective or null and void (See item no. 14 in Introduction.)	B, C, F, H, N	A, B, C, F, H, I, J, L, N, R	C, G, H, I, L, M
15. Cost to obtain	None	10 years: \$4.00/square; 15 years: \$7.00/square	10 years: no charge; 12 years: no charge; 15 years: \$10.00/square (for Intec Flex); 20 years: \$15.00/square (for Intec Flex)
16. Minimum charge	None	10 years: \$200; 15 years: \$350	10 years: no charge; 12 years: no charge; 15 years: \$1,000; 20 years: \$1,500.
17. Ineligible structure or building use	None	None	See U.S. Intec's specification manual.
18. Pre-construction notice and approval requirements	Contractor required to give pre-construction notice and to obtain pre-construction approval from Uniroof by fax, mail, or telephone.	Contractor required to give pre-construction notice and to obtain pre-construction approval from Uniroof in writing or by telephone.	Contractor provides notice to U.S. Intec through submittal or request for inspection form.
	Yes	Yes	Yes

19. Approved, authorized, or licensed applicator			
20. Job inspection policy	Uniroof makes on-site inspections prior to and during application at its discretion and after completion prior to issuance of warranty; Uniroof charges out-of-pocket expenses for inspections on jobs that are out of state.	Uniroof makes on-site inspections prior to, during, and after application, as well as two years after issuance of warranty. Uniroof does charge for inspections on jobs that are out-of-state. Charges may be waived on larger jobs.	U.S. Intec technical field representatives may make periodic on-site inspections prior to and during application. Technical field representative performs on-site inspection after completion prior to issuance of warranty; no charge. U.S. Intec may at its option make an inspection of the roofing system during the period between 23 and 25 months after validation of the guarantee and protect the Owner and contractor with a report detailing any application related inadequacies or leaks in the membrane or base flashing.
21. Contractor's post-installation obligation	None; material-only warranty	Contractor obligated to repair all leaks and any defects for two years.	Warranty states that owner and contractor agree that all such application inadequacies or leaks will be repaired within 30 days of receipt of the report, weather permitting, in order to return the roof system to a warrantable condition.
22. Backed by named insurance or surety	No; Uniroof indicates that it carries product liability insurance.	No; Uniroof indicates that it does not carry insurance covering its warranty obligations.	No; U.S. Intec indicates that it carries product liability insurance covering its guarantee obligations.
23. Issuing entity manufactures and/or sells products	Uniroof manufactures and sells the product.	Uniroof sells product only.	U.S. Intec manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision.
25. Assignability	Warranty is nontransferable.	Nontransferable	Guarantee is assignable to another owner of the building if the following conditions are met: (1) The request is sent by certified mail to U.S. Intec, Inc., Attn: Technical Services Department, P.O. Box 2845, Port Arthur, Texas 77643 within 30 days after ownership transfer; (2) the membrane is inspected by Intec and any required repairs are completed at the owner's expense; (3) the proposed assignment is approved in writing by an authorized Intec Technical Services Manager; and (4) an assignment fee of \$750 is paid to Intec. Guarantee is not otherwise transferable or assignable, directly or indirectly.
26. Special features/conditions	The owner is responsible for all costs for inspection and/or repairs if condition is found not to be covered by warranty. Responsibility of owner to insure at all times that all required routine maintenance is performed, including cleaning drains, repairing damaged areas, and replacing deteriorated caulking.	This is a joint contractor/manufacture warranty in that the warranty document itself states that the applicator warrants that the roof will remain in a watertight condition for the first two years. In addition to execution by building owner and Uniroof, the warranty is to be signed by the applicator, who warrants by his signature that the material has been applied as specified in the supplier's application manual. Owner responsible for all costs for inspection and/or repairs if reported condition is found not to be covered under the warranty. Responsibility of Owner to insure at all time that all required routine roof maintenance is performed, including cleaning roof drains and replacing deteriorated caulking.	Warranty states that owner and roofing contractor expressly agree that if the owner discovers or should have discovered within the first two years leaks in the membrane or base flashings due to misapplication or to the roofer's failure to install the membrane and base flashings in compliance with the Intec specification manual in effect at the time the roof was installed, it is the roofing contractor's sole responsibility to repair those leaks and Intec shall have no obligation to repair any such leaks. If Intec determines after inspection that a complaint is expressly excluded by the terms of the guarantee, Owner shall be responsible for reimbursing Intec for the reasonable costs associated with making the inspection. If the Owner fails to reimburse U.S. Intec within 30 days of receipt of an invoice, U.S. Intec's guarantee obligations are terminated. If the inspection occurs within the first two years after validation of the guarantee, the reimbursable expenses are the just obligation of the Owner and roofing contractor. If Intec discovers conditions in the Intec membrane or base Lashing or adjacent to the roof system that are not covered by the guarantee but which have effected or may effect the integrity of the Intec roofing membrane or base flashings, conditions within 30 days after notice from Intec, weather permitting. Owner shall send an inspection report to Intec detailing such repairs within 15 days of their completion. Owner may make essential emergency temporary repairs at Owner's expense. Owner's failure to comply with terms and conditions should immediately terminate Intec's obligations under the guarantee in full without further notice.
27. Executed by owner	Yes	Yes (See Special Features/Conditions.)	Yes; warranty will be effective only if validated by a signature of an authorized representative of U.S. Intec and is signed and approved by both the roofing contractor and owner and a copy of the signed original is returned to U.S. Intec within 60 days of validation by U.S. Intec at its offices in Port Arthur, Texas. Warranty states that the owner and contractor acknowledge the terms, conditions and limitations and, by signing the guarantee, agree to be bound by them.

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Versico Incorporated, a subsidiary of Carlisle Companies	Versico Incorporated, a subsidiary of Carlisle Companies	Versico Incorporated, a subsidiary of Carlisle Companies
2. Title, original publication date, and identifying symbol, if any	☐Versico Roofing System Warranty (With Extended Membrane Material Warranty)☐; June 1995	☐Versico Total Roofing System Warranty☐; June 1995	☐Versico Roofing System Warranty☐; June 1995
3. Product, specification, or system covered	VersiGard roofing systems, VersiWeld roofing systems; available for black VersiGard membranes only	VersiGard roofing systems, VersiWeld roofing systems	VersiGard roofing systems, VersiWeld roofing systems
4. Scope of coverage	Material and workmanship for initial 5 or 10 years; material-only for as long as 20 years. For initial term, Versico warrants it will repair leaks in the Versico roofing systems caused by defects in the roofing system's material or workmanship of the Versico authorized roofing contractor in installing the same. For the balance of 20 years, Versico will provide to the owner a credit to be applied toward the purchase of new membrane material in the event of premature deterioration of the Versico membrane material to the point of failure. The Versico roofing system is defined as the Versico membrane, flashings, adhesives and sealants, and any other Versico brand products utilized in the installation.	Material and workmanship; Versico warrants that it will repair leaks in the Versico total roofing system caused by defects in the roofing system's material or workmanship of the Versico authorized roofing contractor in installing the same. The Versico total roofing system is defined as the Versico membrane, flashings, adhesives and sealants, fastener assemblies, metal edging, any Versico-brand products utilized in the installation, and any other products specifically approved by Versico for coverage under warranty.	Material and workmanship; Versico warrants that it will repair leaks in the Versico total roofing system caused by defects in the roofing system's material or workmanship of the Versico authorized roofing contractor in installing the same. The Versico total roofing system is defined as the Versico membrane, flashings, adhesives and sealants, fastener assemblies, metal edging, any Versico-brand products utilized in the installation, and any other products specifically approved by Versico for coverage under warranty.
5. Length of coverage	5 or 10 years material and workmanship; coverage for black VersiGard membrane material only can be extended up to 20 years.	10 or 15 years; white VersiGard limited to 10 years.	10 or 15 years
6. Nature of remedy	For the initial 5- or 10-year term, the owner's remedies and Versico's liability shall be limited to Versico's repair of the leak in the roofing system. For balance of 20 years, Versico will provide a credit to be applied toward the purchase of new membrane material, based on the number of remaining months of warranty and prorated at current prices.	The owner's remedies and Versico's liability shall be limited to Versico's repair of the leak in the roofing system.	The owner's remedies and Versico's liability shall be limited to Versico's repair of the leak in the roofing system.
7. Monetary limitations	For 5- or 10-year material and workmanship warranty: no monetary limitation stated; extended warranty on membrane material: credit based on the number of remaining months of warranty and prorated at current prices.	None stated.	None stated.
8. Notification requirements	The owner shall provide Versico with written notice to Versico at 3485 Fortuna Drive, Akron, OH 44312, within 30 days of the discovery of any leaks in the roofing system.	The owner shall provide Versico with written notice to Versico at 3485 Fortuna Drive, Akron, OH 44312, within 30 days of the discovery of any leaks in the roofing system.	The owner shall provide Versico with written notice to Versico at 3485 Fortuna Drive, Akron, OH 44312, within 30 days of the discovery of any leaks in the roofing system.
9. Exclusive or additional remedy	Remedies stated in warranty are the sole and exclusive remedies for failure of the roofing system or its components; excludes UCC warranties.	Remedies stated in warranty are the sole and exclusive remedies for failure of the roofing system or its components; excludes UCC warranties.	Remedies stated in warranty are the sole and exclusive remedies for failure of the roofing system or its components; excludes UCC warranties.
10. Inclusion of consequential damages	No	No	No
11. Determination of warranty applicability	Versico's determination	Versico's determination	Versico's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4 (including damage by the building structure failing to have adequate strength to support all live and dead loads, including water and snow loads), 9 (including recreational activities), 10, 11, 13, 16, 22. Warranty excludes damage caused by insects.	1, 2, 3, 4 (including damage by the building structure failing to have adequate strength to support all live and dead loads, including water and snow loads), 9 (including recreational activities), 10, 11, 13, 16, 22. Warranty excludes damage caused by insects.	1, 2, 3, 4 (including damage by the building structure failing to have adequate strength to support all live and dead loads, including water and snow loads), 9 (including recreational activities), 10, 11, 13, 16, 22. Warranty excludes damage caused by insects.
13. Wind coverage/exclusions	Versico indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty excludes winds in excess of 55 mph measured at roof level and tornadoes, without prior approval from Versico.	Versico indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty excludes winds in excess of 55 mph measured at roof level and tornadoes, without prior approval from Versico.	Versico indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty excludes winds in excess of 55 mph measured at roof level and tornadoes, without prior approval from Versico.
14. Specific conditions to make warranty ineffective or null and void	B (including taking of test cuts), C, F (including periodic cleaning of drains and removal of harmful debris from	B (including taking of test cuts), C, F (including periodic cleaning of drains and removal of harmful debris from	B (including taking of test cuts), C, F (including periodic cleaning of drains and removal of harmful debris from

(See item 14 in Introduction.)	roof), G	roof), G	roof), G
15. Cost to obtain	call Versico	call Versico	call Versico
16. Minimum charge	call Versico	call Versico	call Versico
17. Ineligible structure or building use	Single-family residences	Single-family residences	Single-family residences
18. Pre-construction notice and approval requirements	The contractor is required to submit job approval forms before project is authorized for warranty.	The contractor is required to submit job approval forms before project is authorized for warranty.	The contractor is required to submit job approval forms before project is authorized for warranty.
19. Approved, authorized, or licensed applicator	Yes	Yes	Yes
20. Job inspection policy	Versico inspector makes on-site inspection after completion, prior to issuance of warranty.	Versico inspector makes on-site inspection after completion, prior to issuance of warranty.	Versico inspector makes on-site inspection after completion, prior to issuance of warranty; \$300 inspection charge.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two (2) years.	The contractor is obligated to make repairs to workmanship deficiencies for two (2) years.	The contractor is obligated to make repairs to workmanship deficiencies for two (2) years.
22. Backed by named insurance or surety	No; Versico indicates that it does not carry insurance covering its warranty obligations.	No; Versico indicates that it does not carry insurance covering its warranty obligations.	No; Versico indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Versico manufactures and sells product.	Versico manufactures and sells product.	Versico manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision	No renewal provision	No renewal provision
25. Assignability	Warranty states that it is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures, including an inspection of the roofing system by Versico representative, and fees will apply to any reissuance. Versico reserves the right, in its sole discretion, to refuse to reissue this warranty.	Warranty states that it is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures, including an inspection of the roofing system by Versico representative, and fees will apply to any reissuance. Versico reserves the right, in its sole discretion, to refuse to reissue this warranty.	Warranty states that it is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures, including an inspection of the roofing system by Versico representative, and fees will apply to any reissuance. Versico reserves the right, in its sole discretion, to refuse to reissue this warranty.
26. Special features/conditions	By notifying Versico of a leak, the owner authorizes Versico to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of the warranty, investigation and repair costs shall be paid by owner.	By notifying Versico of a leak, the owner authorizes Versico to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of the warranty, investigation and repair costs shall be paid by owner.	By notifying Versico of leak, the owner authorizes Versico to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of the warranty, investigation and repair costs shall be paid by owner.
27. Executed by owner	No	No	No

Roof Membrane Warranties (Built-up, Modified Bitumen, and Single-Ply)

1. Identity of issuing entity	Versico Incorporated, a subsidiary of Carlisle Companies
2. Title, original publication date, and identifying symbol, if any	☐Versico Total Roofing System Warranty (With Extended Membrane Material Warranty)☐; June 1995
3. Product, specification, or system covered	VersiGard roofing systems, VersiWeld roofing systems; available for black VersiGard membranes only.
4. Scope of coverage	Material and workmanship for initial 10 or 15 years; material-only for as long as 20 years. For initial term, Versico warrants it will repair leaks in the Versico total roofing system caused by defects in the roofing system's material or workmanship of the Versico authorized roofing contractor in installing the same. For the balance of 20 years, Versico will provide to the owner a credit to be applied toward the purchase of new membrane material in the event of premature deterioration of the Versico membrane material to the point of failure. The Versico total roofing system is defined as the Versico membrane, flashings, adhesives and sealants, any other Versico-brand products utilized in the installation, and any other products specifically approved by Versico for coverage under the warranty.
5. Length of coverage	10 or 15 years material and workmanship; coverage for black VersiGard membrane material only can be extended up to 20 years.
6. Nature of remedy	For initial 10- or 15-year term, the owner's remedies and Versico's liability shall be limited to Versico's repair of the leak in the roofing system. For balance of 20 years, Versico will provide a credit to be applied toward the purchase of new membrane material, based on the number of remaining months of warranty and prorated at current prices.
7. Monetary limitations	For 10- or 15-year material and workmanship warranty: no monetary limitation stated; extended warranty on membrane material: credit based on the number of remaining months of warranty and prorated at current prices.
8. Notification requirements	The owner shall provide Versico with written notice to Versico at 3485 Fortuna Drive, Akron, OH 44312, within 30 days of the discovery of any leaks in the roofing system.
9. Exclusive or additional remedy	Remedies stated in warranty are the sole and exclusive remedies for failure of the roofing system or its components; excludes UCC warranties.
10. Inclusion of consequential damages	No
11. Determination of warranty applicability	Versico's determination
12. Specific exclusions from coverage (See item no. 12 in Introduction.)	1, 2, 3, 4 (including damage by the building structure failing to have adequate strength to support all live and dead loads, including water and snow loads), 9 (including recreational activities), 10, 11, 13, 16, 22. Warranty excludes damage caused by insects.
13. Wind coverage/exclusions	Versico indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. Warranty

	excludes winds in excess of 55 mph measured at roof level and tornadoes, without prior approval from Versico.
14. Specific conditions to make warranty ineffective or null and void (See item 14 in Introduction.)	B (including taking of test cuts), C, F (including periodic cleaning of drains and removal of harmful debris from roof), G
15. Cost to obtain	call Versico
16. Minimum charge	call Versico.
17. Ineligible structure or building use	Single-family residences
18. Pre-construction notice and approval requirements	The contractor is required to submit job approval forms before project is authorized for warranty.
19. Approved, authorized, or licensed applicator	Yes
20. Job inspection policy	Versico inspector makes on-site inspection after completion, prior to issuance of warranty; \$300 inspection charge.
21. Contractor's post-installation obligation	The contractor is obligated to make repairs to workmanship deficiencies for two (2) years.
22. Backed by named insurance or surety	No; Versico indicates that it does not carry insurance covering its warranty obligations.
23. Issuing entity manufactures and/or sells products	Versico manufactures and sells product.
24. Conditions for renewal or extension	No renewal provision
25. Assignability	Warranty states that it is not assignable by operation of law or otherwise. Application may be made by a new building owner for reissuance of the warranty during the original warranty period. Certain procedures, including an inspection of the roofing system by Versico representative, and fees will apply to any reissuance. Versico reserves the right, in its sole discretion, to refuse to reissue this warranty.
26. Special features/conditions	By notifying Versico of leak, the owner authorizes Versico to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of the warranty, investigation and repair costs shall be paid by owner.
27. Executed by owner	No

THIS PAGE INTENTIONALLY LEFT BLANK

ROOF BOARD INSULATION

THIS PAGE INTENTIONALLY LEFT BLANK

Information on Commercial Roof Board Insulation

General Information

Rigid roof board insulation materials are manufactured from a variety of base materials and chemical compounds and are typically categorized as either homogeneous or composite constructions. Homogeneous insulating boards are prefabricated products with one insulation layer component manufactured from any one of several base materials. Top and/or bottom surfaces may or may not be coated or impregnated with asphalt or other binders and/or covered with facer materials, such as foils, organic felts, glass fibers, and kraft paper.

Composite insulating boards consist of multiple layers of insulations and/or a variety of other board materials (typically perlite, polyisocyanurate, fiberboard, plywood, and gypsum board) that form a unified, bonded multilayer component. Top and/or bottom surfaces may or may not be coated or impregnated with asphalt or other binders and/or covered with facer materials, such as foils, organic felts, glass fibers, and kraft paper. Composite insulations containing polyisocyanurate are listed in the 1998 edition of the *Guide* together with homogeneous boards because of the applicability of both to ASTM 1289-95.

The generic classes of homogeneous roofing insulation boards are:

- Expanded polystyrene
- Extruded polystyrene
- Glass fiber/mineral fiber
- Cellular glass
- Phenolic
- Fiberboard
- Perlite
- Polyisocyanurate

Following is additional information on each of these product types.

Expanded (molded) polystyrene (EPS) EPS board is formed from a plastic polymer (polystyrene), which is supplied by several companies to regional converters. The process includes molding into blocks, manufacturing sheets, and, optionally, applying facer materials. The converted materials generally conform to material specifications published by the Society of the Plastics Industry (SPI). Some of these specifications,

together with other calculated data, are shown in the material data sheet in this section.

Extruded polystyrene Extruded polystyrene board is also formed from a polystyrene polymer. Closed cells are integrally formed within the insulation materials during the expansion process. Continuous extrusion produces a tight and complete skin (free of open cells) to form on each side of the insulation board. Boards are expanded to a specific thickness during manufacture.

Glass fiber Glass fiber roof board insulation is a rigid insulating material composed of fine glass fibers, which provide the insulating properties of the product. The glass-fiber-reinforced asphalt and kraft paper top surface of the insulation boards provides a tough, impact-resistant mopping surface upon which a built-up roof system may be applied.

Cellular glass Cellular glass roof insulation is a rigid insulating material composed of heat-fused, closed glass cells. It is available in standard insulation board or block form and in special tapered boards that provide drainage slope for roof decks.

Phenolic foam Phenolic foam insulation board is a closed-cell, rigid, thermosetting phenolic foam core material manufactured in various thicknesses. The product category has been omitted from the index since 1994.

Fiberboard Fiberboard insulation is a preformed rigid fibrous-felted panel, composed principally of wood or cane fibers integrally treated with waterproofing binders.

Perlite Perlite roof board insulation is a rigid insulating material manufactured from expanded volcanic minerals combined with organic fibers and waterproofing binders. The top surface is generally treated to minimize bitumen absorption and to provide an intimate bond with built-up roofing materials.

Polyisocyanurate Polyisocyanurate foam board insulation is produced from a polyisocyanurate-based chemical. The polyisocyanurate material is usually sandwiched between asphalt-saturated organic or inorganic felt facer sheets. Glass fiber reinforcement used in some foam cores provides additional fire resistance and greater dimensional stability.

Selection Criteria

The selection of the appropriate roof insulation materials for a building application involves consideration of the insulation as a component of a specific roof system. Some issues that should be considered are compatibility of the insulation with other roof system components, the nature of the substrate, thermal objectives, durability, resistance to climatic conditions, stability, installed weight, method of attachment, fire and wind resistance, life-cycle cost, and slope and drainage requirements. In practice, no single commercial product possesses all of the ideal properties. The designer therefore must choose materials with properties that, on balance, are best suited to the specific project.

Thermal Values

Thermal values are provided in the insulation section of the *Guide* in the item called "Common Available Thicknesses." These properties are stated as thermal conductance (C) and thermal resistance (R). The data provided are C-values and R-values at both 40 and 75 degrees F for the different thicknesses. A brief explanation of these terms is provided below; for a complete discussion of issues relating to insulating value of roof board insulation, see the *NRCA Energy Manual*, available from the National Roofing Contractors Association.

A BTU (British Thermal Unit) is the amount of heat required to raise the temperature of one pound of water 1 degree F. The k-value of a material is a measurement of the number of BTUs that pass through a 1-in.-thick sample of material 1 ft. by 1 ft. square in one hour with a difference in temperature between the top and bottom of 1 degree F. The C-value is simply the conductance of a material at any thickness; for example, if an insulating material has a k-value of 0.16, then 2 inches of the material will have a C-value of 0.08 (0.16/2). The R-value is the resistance to heat flow, not its conductance; it's the reciprocal of the C-value, so the larger the number of the R-value, the better insulating value the material has. R-values are more commonly used because they can be added together, whereas C-values cannot.

Technical Information

For a general discussion of fire ratings according to Underwriters Laboratories (UL) and/or Factory Mutual (FM) test methods and ASTM performance-related standard specifications and/or standard test methods, see Technical Information on Products in the *Commercial Guide*, in the Introduction. There you will also find a list of ASTM standards pertaining

specifically to insulation. Omitted from the list is reference to expanded polystyrene insulation, the test methods for which are enumerated in the material data sheet shown below.

Throughout the insulation section of the *Low-Slope Guide*, there are provisions for information on UL design numbers and code approvals. These can be found as the third-to-last item in the insulation board listings for each product. Called "UL 'P' Design Numbers; Building Code Agency Approved Design Numbers; ICBO...," this space is for the manufacturer to enter UL design numbers and code agency approvals. If there is insufficient room in the space provided, this data will be found in the insulation appendix.

The term "*P*" Design Number refers to the UL numbering system for rated fire assemblies. The fire ratings are based on the test method and acceptance criteria found in Fire Tests of Building Construction and Materials, ANSI/UL 263 (ASTM E 119). When a test assembly meets the criteria, a description of the assembly, its performance, and such other information as the specification of materials and alternate details, are included in a report to the test sponsor. The summarized form of the test assembly is identified by an alphanumeric design number, the prefix letter for which designates the construction group. A P is used for roof ceiling designs. So, the fact that a product has a "P" Design Number indicates that it is included in an assembly with the specific number as a component in one of the configurations. The assemblies can be found in the *UL Directory* entitled "*Fire Resistance Vol. 1*."

As indicated, there is space for listers to enter code approvals; this is where the acronyms for code-setting organizations, which include Building Officials & Code Administrators International, Inc. (BOCA), Southern Building Code Congress International (SBCCI), and International Conference of Building Officials (ICBO), will be found and also where some government jurisdictions that use their own code approvals will be listed (e.g., Metro-Dade County, [Fla.]). This information is provided as a quick reference for the *Guide* user only; it is necessary to refer to the publications of the organizations to understand the context in which these approvals are given. Each of the organizations has its own set of criteria, and each region of the country sets codes based on the recommendations of one or another of the code-setting bodies. The *Guide* user needs to determine which set of criteria in general is relevant to his particular locality and then understand what the approval process for the particular code-setting organization implies.

Following are the publications produced by the code-setting organizations and where they may be obtained:

BOCA publishes *The BOCA National Building Code/Year*, 4051 W. Flossmor Rd., Country Club Hills, Ill. 60478

ICBO publishes *Uniform Building Code Year*; 5360 So. Workman Mill Rd., Whittier, Calif., 90601.

SBCCI publishes *Standard Building Code Year Edition*; 900 Montclair Rd., Birmingham, Ala. 35213.

Manufacturers will also enter other approvals, such as those from government agencies (e.g., HUD) and any other approvals that the product may have received. In such cases, it will be necessary to contact the manufacturer directly to obtain further details on the nature and significance of these approvals.

Product Types for Part 2 of Polyisocyanurate Roof Board Insulation Section

Following is a description of the product types in Item 3.1 of the of the test results section for polyisocyanurate insulation as they appear in ASTM Standard C 1289-95.

Product Type	Type I, Class 1	Type I, Class 2	Type II	Type III	Type IV	Type V	Type VI
Facer covering one surface	Aluminum foil	Aluminum foil	Fibrous felt or glass fiber mat membrane	Perlite insulation board	Cellulosic fiber insulating board	Oriented-strand board or waferboard	Perlite insulation board
Facer covering opposite surface	Aluminum foil	Aluminum foil	Fibrous felt or glass fiber mat membrane	Fibrous felt or glass fiber mat membrane	Fibrous felt or glass fiber mat membrane	Fibrous felt or glass fiber mat membrane or aluminum foil	Perlite insulation board

Polyisocyanurate Insulation Product Types

Index to Listed Roof Insulation Boards

	EXPANDED POLYSTYRENE	EXTRUDED POLYSTYRENE	GLASS FIBER	CELLULAR GLASS	FIBERBOARD	PERLITE	POLYISOCYANURATE	COMPOSITE
A F M CORP. P. O. Box 246 Excelsior, MN 55331 800/255-0176	596	598						626
ALLIEDSIGNAL INC. COMMERCIAL ROOFING SYSTEMS 2000 Regency Parkway Suite 255 Cary, NC 27511-8507 919/461-4701 (NC) 800/221-6490 FAX 919/461-4720			604		608	612	614	
APACHE PRODUCTS COMPANY 107 Service Road Anderson, SC 29625 800/777-3707	596						614	626
ARVRON INC. 4720 Clay S.W. Grand Rapids, MI 49548 616/530-1888	596							
ATLAS ROOFING CORPORATION 1775 The Exchange, Suite 160 Atlanta, GA 30339 770/933-4478 FAX 770/952-3170							615	621
BENCHMARK FOAM INC. 3200 9th Ave., S.E. Watertown, SD 57201-9102 800/658-3444 FAX 605/886-8099	596							627
BIG SKY INULATIONS INC. 15 Arden Drive P.O. Box 838 Belgrade, MT 59714 406/388-4146	596							627
BMCA INSULATION PRODUCTS INC. 300 N. Haven Avenue Ontario, CA 91761 800/858-8868 FAX 909/390-8764						612		
CARLISLE SYNTEC INCORPORATED P.O. Box 7000 Carlisle, PA 17013 717/245-7000	596	598			608		615	620

	EXPANDED POLYSTYRENE	EXTRUDED POLYSTYRENE	GLASS FIBER	CELLULAR GLASS	FIBERBOARD	PERLITE	POLYISOCYANURATE	COMPOSITE
CARPENTER INSULATION CO. P. O. Box 27205 Richmond, VA 23261 800/288-3836	596							628
CELOTEX CORP. 4010 Boy Scout Blvd. Tampa, FL 33607 813/873-1700					608	612	615	620
DOW CHEMICAL COMPANY, THE Fabricated Products Business Center 1605 Joseph Drive, Larkin 200 Building Midland, MI 48674 517/638-5225		599						
FIRESTONE BUILDING PRODUCTS, INC. 525 Congressional Blvd. Carmel, IN 46032-5607 800/428-4442							615	621
FOAM PLASICS OF NEW ENGLAND Route 69 Prospect, CT 06712 203/758-6651 (CT) 800/237-3763 FAX 203/758-3162 E-mail: foamplastic@sprintmail.com	596							
GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 FAX 973/628-3356	597	600			609	613	615	621
GEORGIA PACIFIC CORP. 133 Peachtree St. NE P.O. Box 105624 Atlanta, GA 30348-5624 404/652-5547 800/879-7781 FAX 404/230-7845					609			
HUEBERT FIBERBOARD CO. 1545 E Morgan Street, Box 167 Boonville, MO 65233 660/882-2704 FAX 660/882-2704					609			
INSUL-BOARD, INC. 2120 Colonial Avenue P.O. Box 8103 Erie, PA 16505 814/833-7400 FAX 814/838-4774	597							

Index to Listed Roof Insulation Boards

	EXPANDED POLYSTYRENE	EXTRUDED POLYSTYRENE	GLASS FIBER	CELLULAR GLASS	FIBERBOARD	PERLITE	POLYISOCYANURATE	COMPOSITE
INSULATED BUILDING SYSTEMS, INC. 9912 Georgetown Pike, Suite D2 Great Falls, VA 22066 703/757-0118 FAX 703/757-0119 E-mail: aol.com/insblgsys/lbs.htm	597							629
INSULATION CORP. OF AMERICA 2571 Mitchell Avenue Allentown, PA 18103 610/791-4200	597							629
JOHNS MANVILLE INTERNATIONAL INC. Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904			604			613	616 623	
KNAUF USA POLYSTYRENE 2725 Henkle Drive Lebanon, OH 45036 513/922-6823 FAX 513/932-3506	597							
KOPPERS INDUSTRIES INC. Commercial Roofing Dept. 436 Seventh Avenue Pittsburgh, PA 15219-1800 800/558-2706					609	613	616 623	
LUCAS SALES CO., INC. 10623 Baur Blvd. St. Louis, MO 63132 314/993-9610 FAX 314/993-4836		600				613		
OWENS CORNING 275 Southwest Avenue Tallmadge, OH 44278 330/633-6735		600						
OWENS CORNING FALCON FOAM CORP 8240 Byron Center Road Byron Center, MI 49315 616/878-1588 FAX 616/878-0874	597							
PACEMAKER PLASTICS CO., INC. 126 New Pace Road., P.O. Box 279 Newcomerstown, OH 43832 800/446-2188 Web site: www.tusco.pacemaker.net	597							
U.S. INTEC, INC. 1700 W. Big Beaver Rd., Suite 360 Troy, MI 48084 248/816-8013 FAX 248/816-8014 E-mail: usintec@mich.com							617 624	

	EXPANDED POLYSTYRENE	EXTRUDED POLYSTYRENE	GLASS FIBER	CELLULAR GLASS	FIBERBOARD	PERLITE	POLYISOCYANURATE	COMPOSITE
PITTSBURGH CORNING CORP. 800 Presque Isle Drive Pittsburg, PA 15239 800/359-8433				606				
PLYMOUTH FOAM INCORPORATED 1800 Sunset Drive Plymouth, WI 53073 920/893-0535 FAX 920/892-4986 Web: www.scottw@plymouthfoam.com	597							
POLY FOAM INC. 116 Pine Street South Lester Prairie, MN 55354-0218 320/395-2551	597							
POLYFOAM PACKERS CORP. CONSTRUCTION PRODUCTS DIV. 3751 Sunset Ave. Waukegan, IL 60067 800/800-0359 847/263-0200 FAX 847/263-0350	597							629
R-MAX INC. 13524 Welch Road Dallas, TX 75244 214/387-4500							617	
T-CLEAR CORPORATION P. O. Box 416 Hamilton, OH 45012 513/870-9243 FAX 513/870-9606 E-mail: tclear@earthlink.net								631
TEMPLE P.O. Drawer N Diboll, TX 75941 800/231-6060					609			
TENNECO BUILDING PRODUCTS 2907 Log Cabin Drive Smyrna, GA 30080-7013 800/241-4402 FAX 404/350-1489		603						
THERMCO INDUSTRIES INC. 809 East 15th St., P.O. Box 49 Washington, IA 52353 800/247-7831 319/653-6216	597							
WOOLLEY & COMPANY 6865 Mimms Drive Doraville, GA 30340 770/448-8473 FAX 770/448-3061	601							

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

Expanded Polystyrene Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	AFM CORP	AFM CORP	AFM CORP	APACHE PRODUCTS COMPANY	ARVRON INC.
2. STATE	MN	MN	MN	SC	MI
3. PRODUCT NAME	AFM PERFORM	AFM CONTOUR TAPER TILE	AFM PERFORM PROTECT	EPS ROOF INSULATION	STEER-O-CELL
4. DENSITIES PER ASTM C 303 OR OTHER					
4.1 1.00 lbs/ft ²	X	X	X	X	X
4.2 1.25 lbs/ft ²	X	X	X	X	X
4.3 1.50 lbs/ft ²	X	X	X	X	X
4.4 2.00 lbs/ft ²	X	X	X	X	X
5. SURFACE TREATMENTS					
5.1 ROOFING FELT	X	X			
5.2 FOIL FACED KRAFT	X	X		X	X
5.3 TREATED KRAFT					
5.4 KRAFT					X
5.5 OTHER	X	X	X		
6. AVAILABLE AS TAPERED MATERIAL					
6.1 WITH FACER		YES		NO	YES
6.2 WITHOUT FACER		YES		YES	YES
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1966	1966	1994	1957	1978
8. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content)					
@ 1 year	100	100	100	100	100
@ 5 years	100	100	100	100	100
@ 10 years	100	100	100	100	100
9. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE APPENDIX	UL 1256 CO. NO. 411 CO. NO. 412 SEE APPENDIX	SBCCI 9443 P213, P251, P255, P410, P411, P509, P513, P810, P901 P905, P906, P910, P911, P913, P914, P916, P917, P919, P920, P923	
10. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	
11. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	

1. COMPANY NAME	BENCHMARK FOAM INC.	BIG SKY INSULATIONS INC.	CARLISLE SYNTEC INCORPORATED	CARPENTER INSULATION COMPANY	FOAM PLASTICS OF NEW ENGLAND
2. STATE	SD	MT	PA	VA	CT
3. PRODUCT NAME	PERMA-FOAM	SNOFOAM EPS	SURE-SEAL EPS	CARPENTER STYRODECK	DURAFOAM
4. DENSITIES PER ASTM C-303 OR OTHER					
4.1 1.00 lbs/ft ²	X	X	X	X	X
4.2 1.25 lbs/ft ²	X	X	X	X	X
4.3 1.50 lbs/ft ²	X	X	X	X	X
4.4 2.00 lbs/ft ²	X	X	X	X	X
5. SURFACE TREATMENTS					
5.1 ROOFING FELT		X		X	
5.2 FOIL FACED KRAFT		X		X	X
5.3 TREATED KRAFT				X	X
5.4 KRAFT		X		X	X
5.5 OTHER	X		X	X	X
6. AVAILABLE AS TAPERED MATERIAL					
6.1 WITH FACER	YES	YES	NO	YES	YES
6.2 WITHOUT FACER	YES	YES	YES	YES	YES
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1977	1977	1981	1977	1976
8. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content)					
@ 1 year	100	100	100	100	100
@ 5 years	100	100	100	100	100
@ 10 years	100	100	100	100	100
9. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	ASTM C 578-87A RADCO 1165 P225, P701 P801, P803 P814, P815 P817 UL 1256 FM 4450	SEE APPENDIX	BOCA 93-39 ICBO 3826 SBCCI 9457 DADE COUNTY: 97-1110 NEW YORK CITY	ASTM C 578-91	P225,P231 P234,P703 ICBO 3504 BOCA 79-06 HH-I-524-C ASTM C578-87a
10. LIMITATIONS AND/OR RESTRICTIONS		SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	
11. SEE INSULATION APPENDIX IF CHECKED		X	X	X	

For thermal conductance (C) and thermal resistance (R), see the expanded polystyrene material data sheet.
NA=not applicable

Expanded Polystyrene Roof Insulation Board

(Homogeneous Only)

GAF MATERIALS CORP.	INSUL-BOARD INC.	INSULATED BUILDING SYSTEMS	INSULATED BUILDING SYSTEMS	INSULATION CORPORATION OF AMERICA	KNAUF USA POLYSTYRENE	OWENS CORNING FALCON FOAM CORP	OWENS CORNING FALCON FOAM CORP	OWENS CORNING FALCON FOAM CORP
NJ	PA	VA	VA	PA	OH	MI	MI	CA
EVERGARD EPS	INSUL-BOARD	AFM PERFORM	AFM CONTOUR TAPER TILE	ICA LITE ROOF INSUL	EPS	FALCON FOAM	FALCON FOAM	FALCON FOAM
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
		X	X					
	X	X	X			X	X	
	X	X	X			X	X	
YES	YES		YES	NO	NO	YES	YES	
1,985	1978	1966	1966	1979	1970	1980	1980	1980
	100	100	100	100	100	100	100	100
	100	100	100	100	100	100	100	100
>90	100	100	100	100	100	100	100	100
CONTACT GAF	P225, P701 P801, P803 P814, P815 P817 UL-13450 UL CO. NO. 458	SEE APPENDIX	SEE APPENDIX	ASTM C 578-87 NY-13B86,P211 P701,P801 P803, P814 P815, P817 BOCA 876-5 ICBO 1717 PA1349B UL 9702	UL R8997 FM 2W1A7.AM ASTM C 578-91	ICBO 4059, 3401 3504, 3530	UL R6705 ICBO 4059 FM J10T0A6 P211, P225 P701, P801 P803, P814 P815, P817 UL 458	UL 418415 ICBO 4059 P211, P225 P 701, P801 P803, P817 P815, P817 UL 458

PACEMAKER PLASTICS CO. INC.	PLYMOUTH FOAM INCORPORATED	POLY FOAM INC.	POLYFOAM PACKERS CORP	THERMCO INDUSTRIES INC.	WOOLLEY & CO.
OH	WI	MN	IL	IA	GA
CHEMFOAM (PERFORM)	POLYTEC	DRI-LITE	THERMOSAFE	THERMCO EPS	ACRASSPAN
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
	X	X	X	X	
	X	X	X	X	
			X		
	X		X	X	
	X	X	X		
YES	YES	YES	YES	YES	YES
1975	1978	1960	1990	1963	1976
100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100
SEE APPENDIX		ICBO 4169 P225,P701 P801,P803 P814,P815 P817	UL R14213, CONSTR. NO 458 FM OV8A0.AC, FM OV8A1.AC FM OV8A2.AC CABO 236, 238, 384, 479 WISC. APPROVAL NO. 960041-I	ASTM C-578-92 UL 5287	
		SEE APPENDIX	SEE APPENDIX		
X		X	X		

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	AFM CORP	AFM CORP	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED
2. STATE	MN	MN	PA	PA	PA
3. PRODUCT NAME	AFM CONTOUR TAPER TILE-X	AFM CONTOUR TAPER TILE-X	FOAMULAR THERMAPINK 18	FOAMULAR THERMAPINK 25	FOAMULAR THERMAPINK 40
4. DENSITY PER ASTM C 303 OR OTHER (lbs/ft ³)	1.8	1.4	1.3 MIN	1.6 MIN	1.8 MIN
5. SURFACE TREATMENT					
TOP SURFACE	CONTINUOUS SKIN 1 SIDE TAPER=ONE SIDE	CONTINUOUS SKIN 1 Side TAPER=ONE SIDE	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN
BOTTOM SURFACE	CONTINUOUS SKIN ONE SIDE TAPER=ONE SIDE	CONTINUOUS SKIN ONE SIDE TAPER=ONE SIDE	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN
6. AVAILABLE AS TAPERED MATERIAL	YES	YES	NO	YES	NO
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1980	1980	1996	1996	1996
8. MEETS APPLICABLE STANDARDS	ASTM C 578-95a TYPE IV	ASTM C 578-95a TYPE X	ASTM C 578-92 TYPE X HHI524C	ASTM C 578-92 TYPE IV	ASTM C 578-92 TYPE VI
9. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	25 MIN	15	18 MIN	25 MIN	40 MIN
10. WATER ABSORPTION PER ASTM C 272 OR OTHER (% by volume)	0.15	0.20	<0.10	<0.10	<0.05
11. FLEXURAL STRENGTH PER ASTM C 203 (psi)	100 LG,62 TR	100 LG,62 TR	60 MIN	70 MIN	115 MIN
12. COMMON AVAILABLE SIZES					
12.1 2' x 4'					
12.2 3' x 4'					
12.3 4' x 4'					
12.4 4' x 8'	X	X	X	X	X
12.5 OTHER	X (2'x 8')	X (2'x 8')			
13. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/FT ²)					
13.1 THICKNESS (inches)	1.0	1.0	1.0	1.0	
THERMAL CONDUCTANCE (C) @40 F	0.18	0.18	0.185	0.185	
THERMAL CONDUCTANCE (C) @75 F	0.20	0.20	0.20	0.20	
THERMAL RESISTANCE (R) @40 F	5.56	5.56	5.4	5.4	
THERMAL RESISTANCE (R) @75 F	5.0	5.0	5.0	5.0	
WEIGHT (lbs/ft ²)			0.11	0.13	
13.2 THICKNESS (inches)	1.5	1.5	1.5	1.5	1.5
THERMAL CONDUCTANCE (C) @40 F	0.123		0.123	0.123	0.123
THERMAL CONDUCTANCE (C) @75 F	0.133	0.133	0.133	0.133	0.133
THERMAL RESISTANCE (R) @40 F	8.13		8.1	8.1	8.1
THERMAL RESISTANCE (R) @75 F	7.52	7.52	7.5	7.5	7.5
WEIGHT (lbs/ft ²)			0.17	0.20	0.23
13.3 THICKNESS (inches)	2.0	2.0	2.0	2.0	2.0
THERMAL CONDUCTANCE (C) @40 F	0.092		0.093	0.093	0.093
THERMAL CONDUCTANCE (C) @75 F	0.10	0.10	0.10	0.10	0.10
THERMAL RESISTANCE (R) @40 F	10.87		10.8	10.8	10.8
THERMAL RESISTANCE (R) @75 F	10.0	10.0	10.0	10.0	10.0
WEIGHT (lbs/ft ²)			0.23	0.27	0.30
13.4 THICKNESS (inches)	2.5	2.5			
THERMAL CONDUCTANCE (C) @40 F	0.074				
THERMAL CONDUCTANCE (C) @75 F	0.08	0.08			
THERMAL RESISTANCE (R) @40 F	13.51				
THERMAL RESISTANCE (R) @75 F	12.5	12.5			
WEIGHT (lbs/ft ²)					
13.5 THICKNESS (inches)	3.0	3.0	3.0	3.0	3.0
THERMAL CONDUCTANCE (C) @40 F	0.061		0.062	0.062	0.062
THERMAL CONDUCTANCE (C) @75 F	0.066	0.066	0.067	0.067	0.067
THERMAL RESISTANCE (R) @40 F	16.39		16.2	16.2	16.2
THERMAL RESISTANCE (R) @75 F	15.15	15.15	15.0	15.0	15.0
WEIGHT (lbs/ft ²)			0.34	0.40	0.45
13.6 THICKNESS (inches)			4.0	4.0	
THERMAL CONDUCTANCE (C) @40 F			0.046	0.046	
THERMAL CONDUCTANCE (C) @75 F			0.05	0.05	
THERMAL RESISTANCE (R) @40 F			21.6	21.6	
THERMAL RESISTANCE (R) @75 F			20.0	20.0	
WEIGHT (lbs/ft ²)			0.45	0.53	
14. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 >90	100 100 >90	95 95 90	95 95 90	95 95 90
15. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE APPENDIX	ICBO 3826 BOCA 93-39 SBCCI 9457 DADE COUNTY: 97-1110 NEW YORK CITY	ICBO 3826 BOCA 93-39 SBCCI 9457 DADE COUNTY: 97-1110 NEW YORK CITY	ICBO 3826 BOCA 93-39 SBCCI 9457 DADE COUNTY: 97-1110 NEW YORK CITY
16. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
17. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

NA=not applicable

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY	THE DOW CHEMICAL COMPANY
MI	MI	MI	MI	CANADA	CANADA	MI	CANADA	MI
STYROFOAM ROOFMATE BRAND INSULATION	STYROFOAM PLAZAMATE BRAND INSULATION	STYROFOAM DECKMATE	STYROFOAM DECKMATE PLUS	STYROFOAM DECKMATE	STYROFOAM DECKMATE 200	STYROFOAM RECOVERMATE	STYROFOAM ROOFMATE	SYTROFOAM HIGH LOAD 100
1.8 MIN	2.2 MIN	1.35 MIN	1.6 MIN			2.0		3.00
CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN
CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS CLOSED-CELL EX- TRUDED SKIN	CONTINUOUS CLOSED-CELL EXTRUDED SKIN
YES	YES	YES	YES	YES	YES	NO	YES	YES
1971	1981	1995	1995	1990	1990	1994	1971	1981
ASTM C 578-92 TYPE VI	ASTM C 578-92 TYPE VII	ASTM C 578-92 TYPE X	ASTM C 578-92 TYPE IV	CAN/CGSB 51- 20-M87 TYPE 2	CAN/CGSB 51- 20-M87 TYPE 3		CAN/CGSB 51- 20-M87	ASTM C 578-92 TYPE V
40 MIN	60 MIN	18 MIN	25 MIN	16 MIN	20 MIN	15 MIN	35 MIN	100 MIN
<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.3 MAX
60 MIN	75 MIN	40 MIN	50 MIN	35 MIN	44 MIN		50 MIN	100 MIN
					X		X	
		X	X	X		X		
X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')			X (2' X 8')
1.5	1.5	2.0	2.0	1.0	1.0	0.5	1.0	2.00
0.123	0.123	0.093	0.093	0.185	0.185	0.212	0.185	0.093
0.133	0.133	0.10	0.10	0.20	0.20	0.2	0.20	0.10
8.1	8.1	10.8	10.8	5.4	5.4	4.7	5.4	10.8
7.5	7.5	10.0	10.0	5.0	5.0	4.7	5.0	10.0
0.23	0.28	0.25	0.27			0.08		0.50
2.0	2.0	2.5	2.5	1.5	1.5		1.5	3.0
0.093	0.093	0.074	0.074	0.123	0.123		0.123	0.062
0.10	0.10	0.08	0.08	0.133	0.133		0.133	0.067
10.8	10.8	13.5	13.5	8.1	8.1		8.1	16.2
10.0	10.0	12.5	12.5	7.5	7.5		7.5	15.0
0.30	0.37	0.31	0.33					0.75
2.5		3.0	3.0	2.0	2.0		2.0	
0.074		0.062	0.062	0.093	0.093		0.093	
0.08		0.067	0.067	0.10	0.10		0.10	
13.5		16.2	16.2	10.8	10.8		10.8	
12.5		15.0	15.0	10.0	10.0		10.0	
0.38		0.38	0.40					
3.0		1.0	1.0	2.5	2.5		2.5	
0.062		0.185	0.185	0.074	0.074		0.074	
0.067		0.20	0.20	0.08	0.08		0.08	
16.2		5.40	5.40	13.5	13.5		13.5	
15.0		5.0	5.0	12.5	12.5		12.5	
0.45		0.13	0.14					
3.5		4.0	4.0	3.0	3.0		3.0	
0.053		0.046	0.046	0.062	0.062		0.062	
0.057		0.050	0.050	0.067	0.067		0.067	
18.9		21.6	21.6	16.2	16.2		16.2	
17.5		20.0	20.0	15.0	15.0		15.0	
0.53		0.50	0.55					
4.0							4.0	
0.046							0.046	
0.05							0.050	
21.6							21.6	
20.0							20.0	
0.60								
>98	>98	98	98			100		>98
>96	>96	96	96			96		>96
>95	>95	95	95			94		>96
ICBO 2257 BOCA 95-33 SBCCI 9576A SEE APPENDIX	ICBO 2257 BOCA 95-33 SBCCI 9576A SEE APPENDIX	ICBO 2257 BOCA 95-33 SBCCI 9576A SEE APPENDIX	ICBO 2257 BOCA 95-33 SBCCI 9576A SEE APPENDIX			ICBO 2257 BOCA 95-33 SBCCI 9576A SEE APPENDIX		ICBO 2257 BOCA 95-33 SBCCI 9516B SEE APPENDIX
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX			SEE APPENDIX		SEE APPENDIX
X	X	X	X			X		X

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	GAF MATERIALS CORP.	GAF MATERIALS CORP.	LUCAS SALES COMPANY INC	LUCAS SALES COMPANY INC	LUCAS SALES COMPANY INC
2. STATE	NJ	NJ	MO	MO	MO
3. PRODUCT NAME	EVERGUARD XPS	EVERGUARD XPS FAN-FOLD	LUCAS LITE TAPERED	LUCAS LITE TAPERED	LUCAS LITE TAPERED
4. DENSITY PER ASTM C 303 OR OTHER (lbs/ft ³)	2.00	3.60	1.35 MIN	1.6 MIN	1.8 MIN
5. SURFACE TREATMENT					
TOP SURFACE	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	PLASTIC CAP SHEET	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN
BOTTOM SURFACE	CONTINUOUS CLOSED-CELL EXTRUDED SKIN	PLASTIC CAP SHEET	SAW CUT SURFACE	SAW CUT SURFACE	SAW CUT SURFACE
6. AVAILABLE AS TAPERED MATERIAL	YES	NO	YES	YES	YES
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1989	1987	1983	1983	1984
8. MEETS APPLICABLE STANDARDS	ASTM C 578-92 TYPE IV TYPE VI		ASTM C 578-87a TYPE X	ASTM C 578-87a TYPE IV	ASTM C 578-87a TYPE VI
9. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	1-40 AVE	20 AVE.	15 MIN	25 MIN	40 MIN
10. WATER ABSORPTION PER ASTM C 272 OR OTHER (% by volume)	0.10	0.40	<0.10	<0.10	<0.05
11. FLEXURAL STRENGTH PER ASTM C 203 (psi)	50 MIN		60 MIN	100 MIN	115 MIN
12. COMMON AVAILABLE SIZES					
12.1 2' x 4'					
12.2 3' x 4'					
12.3 4' x 4'					
12.4 4' x 8'	XPS		X	X	
12.5 OTHER		X (4'X50')	X (2'x 8')	X (2'x 8')	X (2'x 8')
13. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/FT ²)					
13.1 THICKNESS (inches)	1.00	0.38	1.0	1.0	1.5
THERMAL CONDUCTANCE (C) @40 F	0.185		0.185	0.185	0.123
THERMAL CONDUCTANCE (C) @75 F	0.20		0.20	0.20	0.133
THERMAL RESISTANCE (R) @40 F	5.41		5.4	5.4	8.1
THERMAL RESISTANCE (R) @75 F	5.00		5.0	5.0	7.5
WEIGHT (lbs/ft ²)	0.18		0.11	0.13	0.23
13.2 THICKNESS (inches)	1.50		1.5	1.5	2.0
THERMAL CONDUCTANCE (C) @40 F	0.123		0.123	0.123	0.093
THERMAL CONDUCTANCE (C) @75 F	0.133		0.133	0.133	0.10
THERMAL RESISTANCE (R) @40 F	8.10		8.1	8.1	10.8
THERMAL RESISTANCE (R) @75 F	7.50		7.5	7.5	10.0
WEIGHT (lbs/ft ²)	0.26		0.165	0.20	0.30
13.3 THICKNESS (inches)	2.00		2.0	2.0	3.0
THERMAL CONDUCTANCE (C) @40 F	0.093		0.093	0.093	0.062
THERMAL CONDUCTANCE (C) @75 F	0.10		0.10	0.10	0.067
THERMAL RESISTANCE (R) @40 F	10.80		10.8	10.8	16.2
THERMAL RESISTANCE (R) @75 F	10.00		10.0	10.0	15.0
WEIGHT (lbs/ft ²)	0.35		0.22	0.27	0.45
13.4 THICKNESS (inches)	2.50		3.0	3.0	
THERMAL CONDUCTANCE (C) @40 F	0.074		0.062	0.062	
THERMAL CONDUCTANCE (C) @75 F	0.08		0.067	0.067	
THERMAL RESISTANCE (R) @40 F	13.50		16.2	16.2	
THERMAL RESISTANCE (R) @75 F	12.50		15.0	15.0	
WEIGHT (lbs/ft ²)	0.44		0.33	0.40	
13.5 THICKNESS (inches)	3.00				
THERMAL CONDUCTANCE (C) @40 F	0.062				
THERMAL CONDUCTANCE (C) @75 F	0.067				
THERMAL RESISTANCE (R) @40 F	16.20				
THERMAL RESISTANCE (R) @75 F	15.00				
WEIGHT (lbs/ft ²)	0.53				
13.6 THICKNESS (inches)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F					
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F					
WEIGHT (lbs/ft ²)					
14. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years					
	>90	>90	>95	>95	>95
			>90	>90	>90
15. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	CONTACT GAF	CONTACT GAF			
16. LIMITATIONS AND/OR RESTRICTIONS			SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
17. SEE INSULATION APPENDIX IF CHECKED			X	X	X

NA=not applicable

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

LUCAS SALES COMPANY INC	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING
MO	OH	OH	OH	OH	OH	OH	OH	OH
LUCAS LITE TAPERED	FOAMULAR 150	FOAMULAR 250	FOAMULAR 400	FOAMULAR 404	FOAMULAR 404RB	FOAMULAR 600	FOAMULAR 604	FOAMULAR 604RB
2.2 MIN	1.30 MIN	1.6 MIN	1.8 MIN	1.8 MIN	1.8 MIN	2.2 MIN	2.2 MIN	2.2 MIN
CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CHANNELED	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CHANNELED
SAW CUT SURFACE	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN
YES	NO	NO	NO	NO	NO	NO	NO	NO
1984	1983	1983	1984	1984	1991	1984	1984	1991
ASTM C 578-87a TYPE VII	ASTM C 578 TYPE X	ASTM C 578 TYPE IV	ASTM C 578 TYPE VI	ASTM C 578 TYPE VI	ASTM C 578 TYPE VI	ASTM C 578 TYPE VII	ASTM C 578 TYPE VII	ASTM C 578 TYPE VII
60 MIN	15 MIN	25 MIN	40 MIN	40 MIN	40 MIN	60 MIN	60 MIN	60 MIN
<0.05	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
140 MIN	60 MIN	75 MIN	115 MIN	115 MIN	115 MIN	140 MIN	140 MIN	140 MIN
	X	X						
X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')	X (2'x 8')
1.5	1.0	0.5	1.0	1.5	1.5	1.5	1.5	1.5
0.123	0.185	0.370	0.19	0.123		0.123	0.123	
0.133	0.20	0.40	0.20	0.133	0.143	0.133	0.133	0.143
8.1	5.4	2.70	5.4	8.1		8.1	8.1	
7.5	5.0	2.50	5.0	7.5	7.0	7.5	7.5	7.0
0.28	0.11	0.07		0.23	0.21	0.28	0.28	0.26
2.0	1.5	1.0	1.5	2.0	2.0	2.0	2.0	2.0
0.093	0.123	0.185	0.123	0.093		0.093	0.93	
0.10	0.133	0.20	0.133	0.10	0.105	0.10	0.10	0.105
10.8	8.1	5.4	8.1	10.8		10.8	10.8	
10.0	7.5	5.0	7.5	10.0	9.5	10.0	10.0	9.5
0.37	0.17	0.13	0.23	0.30	0.29	0.37	0.37	0.35
3.0	2.0	1.5	2.0	2.5	3.0	2.5	2.5	3.0
0.062	0.093	0.123	0.093	0.074		0.074	0.074	
0.067	0.10	0.133	0.10	0.08	0.069	0.08	0.08	0.105
16.2	10.8	8.1	10.8	13.5		13.5	13.5	
15.0	10.0	7.5	10.0	12.5	14.5	12.5	12.5	14.5
0.55	0.23	0.20	0.30	0.38	0.44	0.46	0.46	0.54
	2.5	2.0	2.5	3.0		3.0	3.0	
	0.074	0.093	0.074	0.062		0.062	0.062	
	0.08	0.10	0.08	0.067		0.067	0.067	
	13.5	10.8	13.5	16.2		16.2	16.2	
	12.5	10.0	12.5	15.0		15.0	15.0	
	0.28	0.27	0.38	0.45		0.55	0.55	
	3.0	3.0	3.0	4.0		4.0		
	0.062	0.062	0.062	0.046		0.046		
	0.067	0.067	0.067	0.05		0.05		
	16.2	16.2	16.2	21.6		21.6		
	15.0	15.0	15.0	20.0		20.0		
	0.34	0.40	0.45	0.60		0.73		
	4.0	4.0						
	0.046	0.046						
	0.05	0.05						
	21.6	21.6						
	20.0	20.0						
	0.45	0.53						
>95	95	95	95	95	95	95	95	95
>90	90	90	90	90	90	90	90	90
	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX	ICBO 3628 BOCA 91-54 SBCCI PST & ESI 9727 SEE APPENDIX
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
X	X	X	X	X	X	X	X	X

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING	OWENS CORNING
2. STATE	OH	OH	OH	OH	OH
3. PRODUCT NAME	FOAMULAR 1000	DURAPINK	DURAPINK FA	DURAPINK PLUS	THERMAPINK 18
4. DENSITY PER ASTM C 303 OR OTHER (lbs/ft ³)	3.0 MIN	1.6 MIN	1.6 MIN	1.5 MIN	1.3 MIN
5. SURFACE TREATMENT					
TOP SURFACE	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	LAMINATED GLASS FIBER	CONTINUOUS EXTRUDED SKIN
BOTTOM SURFACE	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	LAMINATED POLYETHYLENE	LAMINATED POLYETHYLENE	CONTINUOUS EXTRUDED SKIN
6. AVAILABLE AS TAPERED MATERIAL	NO	NO	NO	NO	NO
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1997	1993	1993	1994	1996
8. MEETS APPLICABLE STANDARDS	ASTM C 578 TYPE V	ASTM C 578 TYPE IV	ASTM C 578	ASTM C 578	ASTM C 578 TYPE X
9. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	100 MIN	25 MIN	25 MIN	18 MIN	18 MIN
10. WATER ABSORPTION PER ASTM C 272 OR OTHER (% by volume)	<0.05	< 0.10	< 0.10	< 0.10	< 0.10
11. FLEXURAL STRENGTH PER ASTM C 203 (psi)	140 MIN	NA	75 MIN	80 MIN	60 MIN
12. COMMON AVAILABLE SIZES					
12.1 2' x 4'					
12.2 3' x 4'					
12.3 4' x 4'					
12.4 4' x 8'		X	X	X	X
12.5 OTHER	X (2x 8')				
13. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/FT ²)					
13.1 THICKNESS (inches)	2.0	0.5	0.75	0.5	1.0
THERMAL CONDUCTANCE (C) @40 F	0.093	0.37	0.25	0.37	0.185
THERMAL CONDUCTANCE (C) @75 F	0.10	0.40	0.27	0.40	0.20
THERMAL RESISTANCE (R) @40 F	10.8	2.70	4.05	2.70	5.4
THERMAL RESISTANCE (R) @75 F	10.0	2.50	3.75	2.50	5.0
WEIGHT (lbs/ft ²)	0.50	0.06	0.10	0.12	0.11
13.2 THICKNESS (inches)		0.75	1.0		1.5
THERMAL CONDUCTANCE (C) @40 F		0.25	0.185		0.123
THERMAL CONDUCTANCE (C) @75 F		0.27	0.20		0.133
THERMAL RESISTANCE (R) @40 F		4.05	5.4		8.1
THERMAL RESISTANCE (R) @75 F		3.75	5.0		7.5
WEIGHT (lbs/ft ²)		0.10	0.13		0.17
13.3 THICKNESS (inches)		1.0	1.5		2.0
THERMAL CONDUCTANCE (C) @40 F		0.185	0.123		0.093
THERMAL CONDUCTANCE (C) @75 F		0.20	0.133		0.10
THERMAL RESISTANCE (R) @40 F		5.4	8.1		10.8
THERMAL RESISTANCE (R) @75 F		5.0	7.5		10.0
WEIGHT (lbs/ft ²)		0.13	0.20		0.23
13.4 THICKNESS (inches)			2.0		3.0
THERMAL CONDUCTANCE (C) @40 F			0.093		0.062
THERMAL CONDUCTANCE (C) @75 F			0.10		0.067
THERMAL RESISTANCE (R) @40 F			10.8		16.2
THERMAL RESISTANCE (R) @75 F			10.0		15.0
WEIGHT (lbs/ft ²)			0.27		0.34
13.5 THICKNESS (inches)					4.0
THERMAL CONDUCTANCE (C) @40 F					0.046
THERMAL CONDUCTANCE (C) @75 F					0.05
THERMAL RESISTANCE (R) @40 F					21.6
THERMAL RESISTANCE (R) @75 F					20.0
WEIGHT (lbs/ft ²)					0.45
13.6 THICKNESS (inches)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F					
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F					
WEIGHT (lbs/ft ²)					
14. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years					
	95	95	95	95	95
	90	90	90	90	90
15. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
16. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
17. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

NA=not applicable

Extruded Polystyrene Roof Insulation Board

(Homogeneous Only)

OWENS CORNING	OWENS CORNING	OWENS CORNING	TENNECO BUILDING PRODUCTS	TENNECO BUILDING PRODUCTS	TENNECO BUILDING PRODUCTS
OH	OH	OH	GA	GA	GA
THERMAPINK 25	THERMAPINK 40	THERMAPINK 60	AMOCOR-PB6	AMOCOR PLYGOOD PG38 & PG39	AMOFOAM
1.6 MIN	1.8 MIN	2.2 MIN	3.6	3.6	2.0
CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	EXTRUDED CORE, PLASTIC CAPSHEETS	EXTRUDED CORE, PLASTIC CAPSHEETS	CONTINUOUS CLOSED-CELL EXTRUDED SKIN
CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	CONTINUOUS EXTRUDED SKIN	EXTRUDED CORE, PLASTIC CAPSHEETS	EXTRUDED CORE, PLASTIC CAPSHEETS	CONTINUOUS CLOSED-CELL EXTRUDED SKIN
YES	YES	YES	NO	NO	YES
1996	1996	1996	1987	1988	1989
ASTM C 578 TYPE IV	ASTM C 578 TYPE VI	ASTM C 578 TYPE VII			ASTM C 578-92 TYPE IV, TYPE VI
25 MIN	40 MIN	60 MIN	12 AVG.	12 AVG.	1"-40 AVG.
< 0.10	< 0.05	< 0.05	0.40	0.40	0.10
70 MIN	115 MIN	140 MIN			50 MIN
X	X			X	X
		X (2' X 8')	X (4' x 50')	X (4' x 9')	X (2' x 8')
1.0	1.5	1.5	0.38	0.38	1.0
0.185	0.123	0.123			0.185
0.20	0.133	0.133	0.67	0.67	0.20
5.4	8.1	8.1			5.41
5.0	7.5	7.5	1.5	1.5	5.0
0.13	0.23	0.28	0.11	0.11	0.18
1.5	2.0	2.0			1.5
0.123	0.093	0.093			0.123
0.133	0.10	0.10			0.133
8.1	10.8	10.8			8.1
7.5	10.0	10.0			7.5
0.20	0.30	0.37			0.26
2.0	3.0	3.0			2.0
0.093	0.062	0.062			0.093
0.10	0.067	0.067			0.10
10.8	16.2	16.2			10.8
10.0	15.0	15.0			10.0
0.27	0.45	0.55			0.35
3.0					2.5
0.062					0.074
0.067					0.08
16.2					13.5
15.0					12.5
0.40					0.44
4.0					3.0
0.046					0.062
0.05					0.067
21.6					16.2
20.0					15.0
0.53					0.53
95	95	95			
90	90	90	>90	>90	>90
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	UL A184 ICBO 4280 BOCA 95-44 SBCCI 9736	UL A184 ICBO 4280 BOCA 95-44 SBCCI 9736	UL A183 ICBO 4280 BOCA 90-78 SBCCI 9736
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX			
X	X	X	X	X	X

Glass Fiber/Mineral Fiber Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	ALLIEDSIGNAL	JOHNS MANVILLE INTERNATIONAL INC.
2. STATE	NC	CO
3. PRODUCT NAME	ARMO-R GLAS	FIBER GLASS ROOF INSULATION
4. SURFACE TREATMENT TOP SURFACE	GLASS REINFORCED ASPHALT AND KRAFT CAP SHEET	GLASS REINFORCED ASPHALT AND KRAFT CAP SHEET
BOTTOM SURFACE	NONE	NONE
5. AVAILABLE AS TAPERED MATERIAL	YES	YES
6. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1941	1941
7. MEETS APPLICABLE STANDARDS	ASTM C 726	ASTM C 726
8. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	ABOVE 12	12
9. WATER ABSORPTION PER ASTM C 272 OTHER (% by volume)	BELOW 10	10
10. FLEXURAL STRENGTH PER ASTM C 203 (psi)		
11. COMMON AVAILABLE SIZES		
11.1 2' x 4'		
11.2 3' x 4'		
11.3 4' x 4'	X	X
11.4 4' x 8'	X	X
11.5 OTHER		
12. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/ft ²)		
12.1 THICKNESS (inches)	0.75	0.75
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.36	0.36
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	2.78	2.78
WEIGHT (lbs/ft ²)	0.98	0.78
12.2 THICKNESS (inches)	0.938	0.938
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.27	0.27
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	3.70	3.70
WEIGHT (lbs/ft ²)	1.03	0.94
12.3 THICKNESS (inches)	1.063	1.063
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.24	0.24
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	4.17	4.17
WEIGHT (lbs/ft ²)	1.06	0.94
12.4 THICKNESS (inches)	1.313	1.63
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.19	0.15
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	5.26	6.67
WEIGHT (lbs/ft ²)	1.30	1.32
12.5 THICKNESS (inches)	2.063	2.000
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.12	0.13
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	8.33	8.00
WEIGHT (lbs/ft ²)	1.70	1.59
12.6 THICKNESS (inches)	2.437	2.25
THERMAL CONDUCTANCE (C) @40 F		
THERMAL CONDUCTANCE (C) @75 F	0.10	0.11
THERMAL RESISTANCE (R) @40 F		
THERMAL RESISTANCE (R) @75 F	10.0	9.09
WEIGHT (lbs/ft ²)	1.95	1.71
13. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100
14. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)		SEE APPENDIX
15. LIMITATIONS AND/OR RESTRICTIONS		SEE APPENDIX
16. SEE INSULATION APPENDIX IF CHECKED		X

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Cellular Glass Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	PITTSBURGH CORNING CORP
2. STATE	PA
3. PRODUCT TRADE NAME	FOAMGLAS
4. SURFACE TREATMENT	
TOP SURFACE	KRAFT SHEET
BOTTOM SURFACE	KRAFT SHEET
5. AVAILABLE AS TAPERED MATERIAL	YES
6. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1943
7. MEETS APPLICABLE STANDARDS	ASTM C 552
8. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	87
9. WATER ABSORPTION PER ASTM C 272 OR OTHER (psi)	0.2
10. FLEXURAL STRENGTH PER ASTM C 203 (psi)	64
11. COMMON AVAILABLE SIZES	
11.1 2' x 4'	X
11.2 3' x 4'	
11.3 4' x 4'	
11.4 4' x 8'	
11.5 OTHER	
12. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/FT2)	
12.1 THICKNESS (inches)	1.5
THERMAL CONDUCTANCE (C) @40 F	0.21
THERMAL CONDUCTANCE (C) @75 F	0.22
THERMAL RESISTANCE (R) @40 F	4.76
THERMAL RESISTANCE (R) @75 F	4.55
WEIGHT (lbs/ft2)	0.94
12.2 THICKNESS (inches)	2.0
THERMAL CONDUCTANCE (C) @40 F	0.155
THERMAL CONDUCTANCE (C) @75 F	0.165
THERMAL RESISTANCE (R) @40 F	6.45
THERMAL RESISTANCE (R) @75 F	6.06
WEIGHT (lbs/ft2)	1.25
12.3 THICKNESS (inches)	3.0
THERMAL CONDUCTANCE (C) @40 F	0.103
THERMAL CONDUCTANCE (C) @75 F	0.11
THERMAL RESISTANCE (R) @40 F	9.71
THERMAL RESISTANCE (R) @75 F	9.09
WEIGHT (lbs/ft2)	1.88
12.4 THICKNESS (inches)	4.0
THERMAL CONDUCTANCE (C) @40 F	0.078
THERMAL CONDUCTANCE (C) @75 F	0.083
THERMAL RESISTANCE (R) @40 F	12.82
THERMAL RESISTANCE (R) @75 F	11.90
WEIGHT (lbs/ft2)	2.5
12.5 THICKNESS (inches)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft2)	
12.6 THICKNESS (inches)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft2)	
13. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100
14. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	P 227, P 508, P 701 P 717, P 801 P 819, NYCMEA 138 81-M, BSA 131-44-SM, LA APVL #RR22534
15. LIMITATIONS AND/OR RESTRICTIONS	
16. SEE INSULATION APPENDIX IF CHECKED	

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Fiberboard Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	ALLIEDSIGNAL	ALLIEDSIGNAL	CARLISLE SYNTEC INCORPORATED	CELOTEX CORP.	CELOTEX CORP.
2. STATE	NC	NC	PA	FL	FL
3. PRODUCT NAME	ARMOR BOARD REGULAR	ARMOR BOARD HIGH DENSITY	HP RECOVERY BOARD	REGULAR FBRBD ROOF INSUL	HIGH-DENSITY FBRBD RF INS
4. SURFACE TREATMENT TOP SURFACE	SURFACE TREATMENT	SURFACE TREATMENT	ASPHALT EMULSION	SURFACE TREATMENT	SURFACE TREATMENT
BOTTOM SURFACE	NONE	NONE	NONE	NONE	NONE
5. AVAILABLE AS TAPERED MATERIAL	NO	NO	NO	YES	YES
6. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1928	1928	1981	1928	1928
7. MEETS APPLICABLE STANDARDS	LLLI535B ASTM C 208	LLLI535B ASTM C 208	ASTM C 208 TYPE II, GRADE 2	LLLI535B ASTM C 208, TYPE II, GRADE 1	LLLI535B ASTM C 208, TYPE II, GRADE 1
8. COMMON AVAILABLE SIZES					
8.1 2' x 4'	X			X	
8.2 3' x 4'					
8.3 4' x 4'	X	X	X	X	X
8.4 4' x 8'	X	X	X	X	X
8.5 OTHER					
9. COMMON AVAILABLE THICKNESSES WATER ABSORPTION, TRANSVERSE STRENGTH, C-VALUES, R-VALUES, PERCENT BY VOLUME					
9.1 THICKNESS (inches)	0.5	0.5	0.5	0.5	0.5
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)			7 MAX		
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)			12		
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.72	0.77	0.80	0.72	0.77
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	1.39	1.3	1.25	1.39	1.3
WEIGHT (lbs/ft ²)	0.70	0.80	0.65	0.70	0.80
9.2 THICKNESS (inches)	1.0	1.0	1.0	1.0	1.0
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)			7 MAX		
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)			14		
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.36	0.40	0.4	0.36	0.40
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	2.78	2.5	2.5	2.78	2.5
WEIGHT (lbs/ft ²)	1.4	1.6	1.4	1.4	1.6
9.3 THICKNESS (inches)	1.5	1.5		1.5	1.5
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)					
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.24	0.26		0.24	0.26
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	4.17	3.8		4.17	3.8
WEIGHT (lbs/ft ²)	2.1	2.4		2.1	2.4
9.4 THICKNESS (inches)	2.0			2.0	
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)					
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.18			0.18	
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	5.56			5.56	
WEIGHT (lbs/ft ²)	2.8			2.8	
9.5 THICKNESS (inches)					
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)					
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F					
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F					
WEIGHT (lbs/ft ²)					
9.6 THICKNESS (inches)					
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)					
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)					
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F					
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F					
WEIGHT (lbs/ft ²)					
10. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100		100 100 100	100 100 100
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)			BOCA 93-39, ICBO: 3826; SBCCI: 9457 DADE CTY 97-1110		
12. LIMITATIONS AND/OR RESTRICTIONS					
13. SEE INSULATION APPENDIX IF CHECKED					

NA=not applicable

(Homogeneous Only)

609

Fiberboard Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	TEMPLE
2. STATE	TX
3. PRODUCT NAME	FIBER BASE HD
4. SURFACE TREATMENT TOP SURFACE	ASPHALT COATED, OR UNCOATED
BOTTOM SURFACE	ASPHALT COATED, OR UNCOATED
5. AVAILABLE AS TAPERED MATERIAL	NO
6. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1982
7. MEETS APPLICABLE STANDARDS	ASTM C 208
8. COMMON AVAILABLE SIZES	
8.1 2' x 4'	
8.2 3' x 4'	
8.3 4' x 4'	
8.4 4' x 8'	X
8.5 OTHER	
9. COMMON AVAILABLE THICKNESSES WATER ABSORPTION, TRANSVERSE STRENGTH, C-VALUES, R-VALUES, PERCENT BY VOLUME	
9.1 THICKNESS (inches)	0.5
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	7 MAX
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	14
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	0.758
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	1.32
WEIGHT (lbs/ft ²)	0.75
9.2 THICKNESS (inches)	0.781
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	7 MAX
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	25
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	0.50
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	1.95
WEIGHT (lbs/ft ²)	1.35
9.3 THICKNESS (inches)	
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft ²)	
9.4 THICKNESS (inches)	
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft ²)	
9.5 THICKNESS (inches)	
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft ²)	
9.6 THICKNESS (inches)	
WATER ABSORPTION PER ASTM C-209 OR OTHER (% by volume)	
TRANSVERSE STRENGTH ASTM C-203 OR OTHER (psi)	
THERMAL CONDUCTANCE (C) @40 F	
THERMAL CONDUCTANCE (C) @75 F	
THERMAL RESISTANCE (R) @40 F	
THERMAL RESISTANCE (R) @75 F	
WEIGHT (lbs/ft ²)	
10. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	UL 51P7
12. LIMITATIONS AND/OR RESTRICTIONS	
13. SEE INSULATION APPENDIX IF CHECKED	X

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Perlite Roof Insulation Board

(Homogeneous Only)

1. COMPANY NAME	ALLIEDSIGNAL	ALLIEDSIGNAL	BMCA INSULATION PRODUCTS INC.	BMCA INSULATION PRODUCTS INC.	CELOTEX CORP.
2. STATE	NC	NC	CA	CA	FL
3. PRODUCT NAME	ARMOR LITE	ARMOR LITE 1/2" RECOVER BOARD	PERMALITE ROOF INSULATION	1/2" RECOVER BOARD	CELOTERM PERLITE
4. SURFACE TREATMENT TOP SURFACE	LIMIT BITUMEN SOAK-UP		COATED	COATED	
BOTTOM SURFACE	NONE	NONE	NONE	NONE	NONE
5. AVAILABLE AS TAPERED MATERIAL	YES	NO	YES	NO	YES
6. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1962	1985	1962	1985	1958
7. MEETS APPLICABLE STANDARDS	HHI529b ASTM C 728-91		HHI529b ASTM C 728-91	ASTM C 728-91	HHI529b ASTM C 728-91
8. COMPRESSIVE STRENGTH PER ASTM D 1621 OR OTHER (psi)	35 NOM.	40 NOM.	35 NOM.	40 NOM.	35
9. WATER ABSORPTION PER ASTM C 272 OR OTHER (% by volume)	1.2 NOM.	3.5 MAX.	1.5 MAX.	3.5 MAX.	1.5
10. FLEXURAL STRENGTH PER ASTM C 203 (psi)	60 NOM.		60 NOM.	100 NOM.	40
11. COMMON AVAILABLE SIZES					
11.1 2' x 4'	X	X	X	X	X
11.2 3' x 4'					
11.3 4' x 4'	X	X	X	X	X
11.4 4' x 8'				X	
11.5 OTHER				X	
12. COMMON AVAILABLE THICKNESSES (C-VALUE, R-VALUE, WEIGHT/FT ²)					
12.1 THICKNESS (inches)	0.50	0.50	0.75	0.50	0.75
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.76	0.72	0.48	0.72	0.48
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	1.32	1.39	2.08	1.32	2.08
WEIGHT (lbs/ft ²)	0.45	0.55	0.6	0.50	0.6
12.2 THICKNESS (inches)	0.75		1.0		1.0
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.48		0.36		0.36
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	2.08		2.78		2.78
WEIGHT (lbs/ft ²)	0.68		0.8		0.8
12.3 THICKNESS (inches)	1.0		1.5		1.5
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.36		0.24		0.24
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	2.78		4.17		4.17
WEIGHT (lbs/ft ²)	0.90		1.2		1.2
12.4 THICKNESS (inches)	1.5		2.0		2.0
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.24		0.18		0.18
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	4.17		5.56		5.56
WEIGHT (lbs/ft ²)	1.35		1.6		1.6
12.5 THICKNESS (inches)	2.0		2.5		
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.18		0.15		
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	5.56		6.67		
WEIGHT (lbs/ft ²)	1.8		2.0		
12.6 THICKNESS (inches)	2.5		3.0		
THERMAL CONDUCTANCE (C) @40 F					
THERMAL CONDUCTANCE (C) @75 F	0.15		0.12		
THERMAL RESISTANCE (R) @40 F					
THERMAL RESISTANCE (R) @75 F	6.67		8.33		
WEIGHT (lbs/ft ²)	2.25		2.4		
13. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100	100 100 100	100 100 100	100 100 100
14. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)					
15. LIMITATIONS AND/OR RESTRICTIONS					
16. SEE INSULATION APPENDIX IF CHECKED					

NA=not applicable

Perlite Roof Insulation Board

(Homogeneous Only)

GAF MATERIALS CORP.	GAF MATERIALS CORP.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	KOPPERS INDUSTRIES INC	KOPPERS INDUSTRIES INC	LUCAS SALES COMPANY, INC
NJ	NJ	CO	CO	CO	PA	PA	MO
GAFTEMP PERMALITE	1/2" RECOVER BOARD	NORD BOARD	FESCO BOARD	1/2" RETROFIT BOARD	PERLITE ROOF INSULATION	1/2" RECOVER BOARD	LUCAS TAPERED PERLITE
COATED	COATED	MODIFIED APP ASPHALT			COATED	COATED	
NONE	NONE	NONE	NONE	NONE	NONE	NONE	SAW CUT SURFACE
YES	NO	NO	YES	NO	YES	NO	YES
1958	1985	1987	1958	1982	1962	1985	1974
HHI529b ASTM C 728-91	ASTM C 728-91	ASTM C 728	ASTM C 728	ASTM C 728	HHI529b ASTM C 728-91	ASTM C 728-91	ASTM C 728-91
32	35 NOM	35	20 NOM.	35 NOM.	35 NOM.	40 NOM.	35
1.5	3.5 MAX.	3.5	1.5 MAX.	3.5 MAX.	1.5 MAX.	3.5 MAX.	1.5
40	1.0 NOM.	60 MIN.	40 MIN.	60 MIN.	60 NOM.	1.0 NOM.	40
X	X		X	X	X	X	X
X	X	X	X	X	X	X	X
	X			X		X	
	X			X		X	
0.75	0.50	0.50	0.75	0.5	0.75	0.50	0.75
0.48	0.72	0.76	0.48	0.76	0.48	0.72	0.48
2.08	1.39	1.32	2.08	1.32	2.08	1.32	2.08
0.6	0.50	0.8	0.6	0.46	0.6	0.50	0.6
1.0			1.0		1.0		1.0
0.36			0.36		0.36		0.36
2.78			2.78		2.78		2.78
0.98			0.8		0.8		0.08
1.5			1.5		1.5		1.5
0.24			0.24		0.24		0.24
4.17			4.17		4.17		4.17
1.2			1.2		1.2		1.2
2.0			2.0		2.0		2.0
0.18			0.18		0.18		0.18
5.56			5.56		5.56		5.56
1.6			1.6		1.6		1.6
2.5			3.0		2.5		3.0
0.15			0.12		0.15		0.12
6.67			8.33		6.67		8.33
2.0			2.4		2.0		2.4
3.0					3.0		
0.12					0.12		
8.33					8.33		
2.4					2.4		
100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100
SEE APPENDIX							SEE APPENDIX
SEE APPENDIX		SEE APPENDIX	SEE APPENDIX	SEE APPENDIX			SEE APPENDIX
X		X	X	X			X

Polyisocyanurate Roof Insulation Board Part 1: General Information

(Homogeneous and Composite Boards)

1. COMPANY NAME	ALLIEDSIGNAL	APACHE PRODUCT COMPANY	APACHE PRODUCT COMPANY	APACHE PRODUCT COMPANY	APACHE PRODUCT COMPANY
2. STATE	NC	SC	SC	SC	SC
3. PRODUCT TRADE NAME	ARMOR-R PLUS	PYROX	ISOFOIL	MILLOX FIBERBOARD	MILLOX PERLITE
4. HOMOGENEOUS OR COMPOSITE	HOMOGENOUS	HOMOGENOUS	HOMOGENOUS	COMPOSITE	COMPOSITE
5. DENSITY PER ASTM D 1622 OR OTHER (homogeneous boards only) (lbs/ft ³)	2.0 NOM.	2.0 NOM.	2.0 NOM.		
6. COMPOSITE COMPONENTS POLYISOCYANURATE INSULATION AND:					
6.1 EXPANDED POLYSTYRENE					
6.2 EXTRUDED POLYSTYRENE					
6.3 POLYURETHANE					
6.4 PERLITE					X
6.5 GYPSUM BOARD					
6.6 FIBER BOARD				X	
6.7 PLYWOOD					
6.8 OTHER					
7. SURFACE TREATMENT TOP SURFACE	GLASS REINFORCED FELT	ORG./INORG. NON-ASPH. FELT	TRI-LAMINATE FOIL	H. D. FIBER- BOARD	PERLITE BOARD
BOTTOM SURFACE	GLASS REINFORCED FELT	ORG./INORG. NON-ASPH. FELT	TRI-LAMINATE FOIL	ORG./INORG. NON-ASPH. FELT	ORG./INORG. NON-ASPH. FELT
8. AVAILABLE AS TAPERED MATERIAL (yes/no)	YES	YES	YES	YES	YES
9. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1987	1985	1985	1985	1985
10. COMMON AVAILABLE SIZES					
10.1 2' x 4'					
10.2 3' x 8'					
10.3 4' x 4'	X	X	X	X	X
10.4 4' x 8'	X	X	X	X	X
10.5 OTHER (specify)				X	X
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	CONTACT APACHE IC-3240, SB-9443, BO-2603	CONTACT APACHE IC-3240, SB-9443, BO-2603	CONTACT APACHE IC-3240, SB-9443, BO-2603	CONTACT APACHE IC-3240, SB-9443, BO-2603
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
13. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

1. COMPANY NAME	APACHE PRODUCT COMPANY	APACHE PRODUCT COMPANY	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION
2. STATE	SC	SC	GA	GA	GA
3. PRODUCT TRADE NAME	NAIL LINE	NAIL LINE V	ACFOAM-II	ACFOAM-III	GEMINI CRICKET
4. HOMOGENEOUS OR COMPOSITE	COMPOSITE	COMPOSITE	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS
5. DENSITY PER ASTM D 1622 OR OTHER (homogeneous boards only) (lbs/ft ³)			2.0 NOM.	2.0 NOM.	2.0 NOM.
6. COMPOSITE COMPONENTS POLYISOCYANURATE INSULATION AND:					
6.1 EXPANDED POLYSTYRENE					
6.2 EXTRUDED POLYSTYRENE					
6.3 POLYURETHANE					
6.4 PERLITE			PERLITE OSB		
6.5 GYPSUM BOARD					
6.6 FIBER BOARD					
6.7 PLYWOOD					
6.8 OTHER	STRUCTURAL BOARD	ORIEN. STRUCT. BD. & RUNNERS			
7. SURFACE TREATMENT TOP SURFACE	ORIENTED STRUCTURAL BOARD	ORIENTED STRUCTURAL BOARD	GLASS REINFORCED FELT	COATED GLASS	GLASS REINFORCED FELT
BOTTOM SURFACE	ORG./INORG. NON-ASPH. FELT	ORG./INORG. NON-ASPH. FELT	GLASS REINFORCED FELT	COATED GLASS	GLASS REINFORCED FELT
8. AVAILABLE AS TAPERED MATERIAL (yes/no)	NO	NO	YES	YES	YES
9. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1985	1985	1987	1995	1998
10. COMMON AVAILABLE SIZES					
10.1 2' x 4'					
10.2 3' x 8'					
10.3 4' x 4'			X	X	
10.4 4' x 8'	X	X	X	X	
10.5 OTHER (specify)					PRECUT CRICKET SHAPE
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	CONTACT APACHE IC-3240, SB-9443, BO-2603	CONTACT APACHE IC-3240, SB-9443, BO-2603	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
13. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

Polyisocyanurate Roof Insulation Board Part 1: General Information

ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CELOTEX CORP.
GA	GA	GA	GA	GA	PA	PA	PA	FL
ACFOAM RECOVER BOARD	ACFOAM SUPREME	ACFOAM COMPOSITE	ACFOAM NAIL- BASE INSULATION	AC FOAM VENTED-R	POLYISO-HP	POLYISO-HP-N	POLYISO-HP-W	HY-THERM COMPOSITE
HOMOGENEOUS	HOMOGENOUS	COMPOSITE	COMPOSITE	COMPOSITE	HOMOGENOUS	HOMOGENOUS	HOMOGENOUS	COMPOSITE
1.8 NOM.	2.0 NOM.				2.0 NOM.	2.0 NOM.	2.0 NOM.	
		X						
								X
			X	X				
COATED GLASS	MULTILAYER FOIL	PERLITE INSULATION	OSB	VENTED OSB	FIBROUS FELT	FIBROUS FELT	FIBROUS FELT	FIBERBOARD
COATED GLASS	MULTILAYER FOIL	FIBER REINFORCED FELT	FIBER REINFORCED FELT	FIBER REINFORCED FELT	FIBROUS FELT	FIBROUS FELT	FIBROUS FELT	GLASS REINFORCED FELT
NO	NO	YES			YES	YES	YES	NO
1995	1988	1985	1985	1991	1985	1985	1985	
X	X	X			X	X	X	X
X	X	X	X	X	X	X	X	
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	BOCA 93-39 ICBO 3826 SBCII 9457 METRO-DADE, FL 97-1110	BOCA 93-39 ICBO 3826 SBCII 9457 METRO-DADE, FL 97-1110	BOCA 93-39 ICBO 3826 SBCII 9457 METRO-DADE, FL 97-1110	ICBO 2602 BOCA 2603.0 SBCCI 2603 ASTM C 1289-95, TYPE IV
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	
X	X	X	X	X	X	X	X	

CELOTEX CORP.	CELOTEX CORP.	FIRESTONE BUILDING PRODUCTS, INC.	FIRESTONE BUILDING PRODUCTS, INC.	FIRESTONE BUILDING PRODUCTS, INC.	FIRESTONE BUILDING PRODUCTS, INC.	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
FL	FL	IN	IN	IN	IN	NJ	NJ	NJ
HY-THERM NAIL-LINE COMPOSITE	HY-THERM AP	ISO 95 + ISOCYANURATE HOMOGENEOUS	FIRESTONE NAILBASE COMPOSITE	FIRESTONE COMPOSITE	FIRESTONE COMPOSITE	EVERGUARD ISO	GAFTEMP ISOTHERM R	GAFTEMP ISOTHERM RA
	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS	HOMOGENEOUS
	2.0 NOM.	2.0 NOM.				2.0 NOM.		
				X	X			
				X				
				X				
ORIENTED STRAND BOARD			7/16-IN. OSB	1/2-IN STOCK	3/4-IN. STOCK			
OSB	GLASS REINFORCED FELT	GLASS REINFORCED ORGANIC MAT	ORIENTED STRAND BOARD	PERLITE OR WOOD FIBER	PERLITE OR WOOD FIBER	ORG/INORG NON ASPHALT FELT	COMPOSITE FACER	GLASS FACER
GLASS REINFORCED FELT	GLASS REINFORCED FELT	GLASS REINFORCED ORGANIC MAT	GLASS REINFORCED ORGANIC MAT	GLASS REINFORCED ORGANIC MAT	GLASS REINFORCED ORGANIC MAT	ORG/INORG NON ASPHALT FELT	COMPOSITE FACER	GLASS FACER
NO	YES	YES	NO	YES	YES	YES	YES	YES
		1980	1980	1980	1980	1985	1988	1992
X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X
		X					X	X
ASTM C 1289-95, TYPE V	ASTM C 1289-95, TYPE II	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	CONTACT GAF	SEE APPENDIX	SEE APPENDIX
		SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX		SEE APPENDIX	SEE APPENDIX
	X	X	X	X	X		X	X

Polyisocyanurate Roof Insulation Board Part 1: General Information

(Homogeneous and Composite Boards)

1. COMPANY NAME	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	JOHNS MANVILLE INTERNATIONAL INC.
2. STATE	NJ	NJ	NJ	NJ	CO
3. PRODUCT TRADE NAME	GAFTEMP ISOTHERM RN	GAFTEMP COMPOSITE BOARD	GAFTEMP RA COMPOSITE BOARD	GAFTEMP RN COMPOSITE BOARD	ISO 1
4. HOMOGENEOUS OR COMPOSITE	HOMOGENOUS	COMPOSITE	COMPOSITE	COMPOSITE	HOMOGENOUS
5. DENSITY PER ASTM D 1622 OR OTHER (homogeneous boards only) (lbs/ft ³)					2.0 NOM.
6. COMPOSITE COMPONENTS POLYISOCYANURATE INSULATION AND:					
6.1 EXPANDED POLYSTYRENE					
6.2 EXTRUDED POLYSTYRENE					
6.3 POLYURETHANE					
6.4 PERLITE			X	X	
6.5 GYPSUM BOARD					
6.6 FIBER BOARD		X	X		
6.7 PLYWOOD					
6.8 OTHER					
7. SURFACE TREATMENT TOP SURFACE	GLASS FACER				FIBERGLASS-REINFORCED FACER
BOTTOM SURFACE	GLASS FACER	COMPOSITE FACER	COMPOSITE FACER	COMPOSITE FACER	FIBERGLASS-REINFORCED FACER
8. AVAILABLE AS TAPERED MATERIAL (yes/no)	YES	YES	YES	YES	YES
9. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1992	1988	1992	1992	1987
10. COMMON AVAILABLE SIZES					
10.1 2' x 4'					
10.2 3' x 8'					
10.3 4' x 4'	X	X	X	X	X
10.4 4' x 8'	X	X	X	X	X
10.5 OTHER (specify)	X				
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
13. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.
2. STATE	CO	ME	ME	ME	ME
3. PRODUCT TRADE NAME	FESCO FOAM	E'NRG'Y 2	E'NRG'Y 2 COMPOSITE	E'NRG'Y 2 PLUS	NAILBOARD
4. HOMOGENEOUS OR COMPOSITE	COMPOSITE	HOMOGENEOUS	COMPOSITE	COMPOSITE	COMPOSITE
5. DENSITY PER ASTM D 1622 OR OTHER (homogeneous boards only) (lbs/ft ³)					
6. COMPOSITE COMPONENTS POLYISOCYANURATE INSULATION AND:					
6.1 EXPANDED POLYSTYRENE					
6.2 EXTRUDED POLYSTYRENE					
6.3 POLYURETHANE					
6.4 PERLITE	X		X		
6.5 GYPSUM BOARD				X	
6.6 FIBER BOARD					
6.7 PLYWOOD					
6.8 OTHER					X
7. SURFACE TREATMENT TOP SURFACE	FIBERGLASS-REINFORCED FACER	GLASS REINFORCED FELT	PERLITE FELT	WOOD FIBERBOARD	OSB
BOTTOM SURFACE	PERLITE	GLASS REINFORCED FELT	PERLITE FELT	GLASS REINFORCED FELT	GLASS REINFORCED FELT
8. AVAILABLE AS TAPERED MATERIAL (yes/no)	YES	YES	YES	YES	NO
9. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1970	1983			
10. COMMON AVAILABLE SIZES					
10.1 2' x 4'					
10.2 3' x 8'					
10.3 4' x 4'	X	X	X	X	
10.4 4' x 8'	X	X	X	X	X
10.5 OTHER (specify)		X			X
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE UL DIRECT. NBC 2603, SBC 717, UBC 1713	SEE UL DIRECT. NBC 2603, SBC 717, UBC 1713	SEE UL DIRECT. NBC 2603, SBC 717, UBC 1713	SEE UL DIRECT. NBC 2603, SBC 717, UBC 1713
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
13. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

Polyisocyanurate Roof Insulation Board Part 1: General Information

KOPPERS INDUSTRIES INC.	KOPPERS INDUSTRIES INC.	RMAX, INC.	RMAX, INC.	RMAX, INC.	RMAX, INC.	U.S. INTEC INC.
PA	PA	TX	TX	TX	TX	TX
KOP-R ISOCYANURATE	KOP-R COMPOSITE	MULTI-MAX	MULTI-MAX FA	TAPERED THERMAROOF	THERMAROOF PLUS	USISO
HOMOGENOUS	COMPOSITE	HOMOGENOUS	HOMOGENOUS	HOMOGENOUS	HOMOGENOUS	HOMOGENOUS
2.0 NOM.		2	2.0	2.0	2.0	2.0 NOM.
	X					
GLASS REINFORCED FELT	PERLITE INSULATION	GLASS FIBER	GLASS FIBER	GLASS FIBER	GLASS FIBER ALUM FOIL	GLASS REINFORCED FELT
GLASS REINFORCED FELT	FIBER REINFORCED FELT	GLASS FIBER	GLASS FIBER	GLASS FIBER	GLASS FIBER ALUM FOIL	GLASS REINFORCED FELT
YES		YES	NO	YES	NO	YES
1987	1985	1985	1988	1986	1978	1987
X	X		X	X	X	
X	X	X	X		X	X
		X	X		X	X
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	
SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	
X	X	X	X	X	X	

Polyisocyanurate Roof Insulation Board Part 2: Test Results

Test description and suggested values as specified in ASTM C 1289-95

1. COMPANY NAME		ALLIEDSIGNAL	APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY
2. PRODUCT NAME		ARMOR-R PLUS	PYROX	ISOFOIL	MILLOX WITH FIBERBOARD	MILLOX WITH PERLITE
3.1 PRODUCT TYPE *						
3.1.1 TYPE 1, CLASS 1 OR CLASS 2				X		
3.1.2 TYPE II		X	X			
3.1.3 TYPE III						X
3.1.4 TYPE IV					X	
3.1.5 TYPE V						
3.1.6 TYPE VI						
3.2 PHYSICAL PROPERTY						
3.2.1 COMPRESSIVE STRENGTH (min., psi, nominal 1-in. core foam)	16	20	16	16	16	16
3.2.2 DIMENSIONAL STABILITY (nominal, 1-in. core foam)						
3.2.2.1 Percent linear change, max. (-40°F)						
Type I, Class 1; Types II-VI	2.0	< 2	2.0	2.0	2.0	2.0
Type I, Class 2	1.5					
(amb. RH 158°F)						
Type I, Class 1	2.0					
Type II-VI	4.0	< 4	2.0	2.0	2.0	2.0
Type I, Class 2	1.5					
(97% RH 200°F)						
Type I, Class 1; Types II-VI	4.0	< 4	2.0	2.0	2.0	2.0
Type I, Class 2	1.5					
3.2.3 FLEXURAL STRENGTH (nominal, 1-in. core foam)						
3.2.3.1 Modulus of rupture, psi, min.						
Types I-V	40		40	40	40	40
Type VI	50					
3.2.3.2 Break load, lbf, min.						
Type I	8		8			
Types II-V	17	8		17	17	
Type VI	33					
3.2.4 TENSILE STRENGTH (psf, min., perpendicular to board surface, nominal 1-in. core foam)	500		500	500	500	500
3.2.5 WATER ABSORPTION (2H % by vol., max., nom. 1-in. core surface)						
Types I, III, V	1.0			1.0		1.0
Types II, VI	1.5	< 1	1.0	2.0		
Type IV	2.0					
3.2.6 WATER TRANSMISSION (perm., max., nominal 1-in. core surface)						
Type I	0.3		0.3			
Type II	1.0	1	1.0			
Types III-VI	NA					
3.3 MINIMUM MEAN THERMAL RESISTANCE						
3.3.1 @ 40 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	7.2			7.1		
1-inch product Type I, Class 2	7.9					
1-inch product Type II	6.6		6.6			
1.5-inch product Type I, Class 1	10.8			11.1		
1.5-inch product Type I, Class 2; Type II	11.0		10.0			
1.5-inch product Type III	8.1					8.1
1.5-inch product Type IV	8.0				8.0	
1.5-inch product Type V	7.1					
2-inch product Type I, Class 1	14.3			14.3		
2-inch product Type I, Class 2	15.8					
2-inch product Type II	15.7		15.7			
2-inch product Type III	12.5					12.5
2-inch product Type IV	12.4				12.4	
2-inch product Type V	11.5					
2-inch product Type VI	8.6					
3.3.2 @ 75 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	6.5			7.1		
1-inch product Type I, Class 2	7.2					
1-inch product Type II	6.0	6.0	6.0			
1.5-inch product Type I, Class 1	9.8			11.1		
1.5-inch product Type I, Class 2; Type II	10.0	10.0	10.0			
1.5-inch product Type III	7.4					7.2
1.5-inch product Type IV	7.3				7.2	
1.5-inch product Type V	6.5					
2-inch product Type I, Class 1	13.0			14.3		
2-inch product Type I, Class 2	14.4					
2-inch product Type II	14.3	14.3	14.3			
2-inch product Type III	11.4					11.1
2-inch product Type IV	11.3				11.1	
2-inch product Type V	10.5					
2-inch product Type VI	7.5					
3.3.3 @ 110 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	5.9			5.9		
1-inch product Type I, Class 2	6.5					
1-inch product Type II	5.4		5.4			
1.5-inch product Type I, Class 1	8.8			8.8		
1.5-inch product Type I, Class 2; Type II	9.0		9.0			
1.5-inch product Type III	6.7					6.7
1.5-inch product Type IV	6.6				6.6	
1.5-inch product Type V	5.9					
2-inch product Type I, Class 1	11.7			11.7		
2-inch product Type I, Class 2	13.0					
2-inch product Type II	12.9		12.9			
2-inch product Type III	10.3					10.3
2-inch product Type IV	10.2				10.2	
2-inch product Type V	9.5					
2-inch product Type VI	6.7					
4. SEE INSULATION APPENDIX IF CHECKED		X				

* See Introduction to insulation section for full descriptions of product types
NA=not applicable

Polyisocyanurate Roof Insulation Board Part 2: Test Results

APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION	ATLAS ROOFING CORPORATION
NAIL LINE	NAIL LINE V	ACFOAM-II	ACFOAM-III	ACFOAM RECOVER BOARD	ACFOAM SUPREME	ACFOAM COMPOSITE	ACFOAM NAIL- BASE INSULATION	ACFOAM VENTED-R
					CLASS 1			
		X	X	X		X		
X	X						X	X
16	16	20	20	16	20	20	20	20
2.0	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2.0	2.0	< 4	< 4	< 4	< 2	< 4	< 4	< 4
2.0	2.0					< 4	< 4	< 4
40	40	40	40	40	40	40	40	40
17	17	17	17	17	8	17	17	17
500	500	500	500	500	500	500	500	500
1.0	1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1
		<1.0	<1.0	<1.0	0.3			
7.1								
11.5								
					7.2			
		6.0	6.0	6.0				
		10.0	10.0					
						7.4		
6.6							7.3	
		14.3	14.3		15.2			
						11.4		
10.5							11.3	7.1
5.9								
9.5								
		X	X	X	X	X	X	X

Polyisocyanurate Roof Insulation Board Part 2: Test Results

Test description and suggested values as specified in ASTM C 1289-95

1. COMPANY NAME		ATLAS ROOFING CORPORATION	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CARLISLE SYNTEC INCORPORATED	CELOTEX CORP.
2. PRODUCT NAME		GEMINI CRICKET	POLYISO-HP	POLYISO-HP-N	POLYISO-HP-W	HY-THERM COMPOSITE
3.1 PRODUCT TYPE *						
3.1.1 TYPE 1, CLASS 1 OR CLASS 2						
3.1.2 TYPE II		X	X	X	X	
3.1.3 TYPE III						
3.1.4 TYPE IV						X
3.1.5 TYPE V						
3.1.6 TYPE VI						
3.2 PHYSICAL PROPERTY						
3.2.1 COMPRESSIVE STRENGTH (min., psi, nominal 1-in. core foam)	16	20	16	16	16	16
3.2.2 DIMENSIONAL STABILITY (nominal, 1-in. core foam)						
3.2.2.1 Percent linear change, max. (-40°F)						
Type I, Class 1; Types II-VI	2.0	< 2	2.0	2.0	4.0	2.0
Type I, Class 2	1.5					
(amb. RH 158°F)						
Type I, Class 1	2.0					
Type II-VI	4.0	< 4	2.0	2.0	2.0	4.0
Type I, Class 2	1.5					
(97% RH 200°F)						
Type I, Class 1; Types II-VI	4.0	< 4	4.0	4.0	4.0	4.0
Type I, Class 2	1.5					
3.2.3 FLEXURAL STRENGTH (nominal, 1-in. core foam)						
3.2.3.1 Modulus of rupture, psi, min.						
Types I-V	40	40	40	40	40	40
Type VI	50					
3.2.3.2 Break load, lbf, min.						
Type I	8					
Types II-V	17	17	17	17	17	17
Type VI	33					
3.2.4 TENSILE STRENGTH (psf, min., perpendicular to board surface, nominal 1-in. core foam)	500	500	500	500	500	500
3.2.5 WATER ABSORPTION (2H % by vol., max., nom. 1-in. core surface)						
Types I, III, V	1.0	< 1				
Types II, VI	1.5	1.5	1.5	1.5		
Type IV	2.0					2.0
3.2.6 WATER TRANSMISSION (perm., max., nominal 1-in. core surface)						
Type I	0.3					
Type II	1.0	<1.0	1.0	1.0	1.0	
Types III-VI	NA					
3.3 MINIMUM MEAN THERMAL RESISTANCE						
3.3.1 @ 40 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	7.2					
1-inch product Type I, Class 2	7.9					
1-inch product Type II	6.6		6.6	6.6	6.6	
1.5-inch product Type I, Class 1	10.8					
1.5-inch product Type I, Class 2; Type II	11.0		11.0	11.0	11.0	
1.5-inch product Type III	8.1					
1.5-inch product Type IV	8.0					8.0
1.5-inch product Type V	7.1					
2-inch product Type I, Class 1	14.3					
2-inch product Type I, Class 2	15.8					
2-inch product Type II	15.7		15.7	15.7	15.7	
2-inch product Type III	12.5					
2-inch product Type IV	12.4					12.4
2-inch product Type V	11.5					
2-inch product Type VI	8.6					
3.3.2 @ 75 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	6.5					
1-inch product Type I, Class 2	7.2					
1-inch product Type II	6.0	6.0	6.0	6.0	6.0	
1.5-inch product Type I, Class 1	9.8					
1.5-inch product Type I, Class 2; Type II	10.0		10.0	10.0	10.0	
1.5-inch product Type III	7.4					
1.5-inch product Type IV	7.3					7.3
1.5-inch product Type V	6.5					
2-inch product Type I, Class 1	13.0					
2-inch product Type I, Class 2	14.4					
2-inch product Type II	14.3		14.3	14.3	14.3	
2-inch product Type III	11.4					
2-inch product Type IV	11.3					11.3
2-inch product Type V	10.5	7.1				
2-inch product Type VI	7.5					
3.3.3 @ 110 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	5.9					
1-inch product Type I, Class 2	6.5					
1-inch product Type II	5.4		5.4	5.4	5.4	
1.5-inch product Type I, Class 1	8.8					
1.5-inch product Type I, Class 2; Type II	9.0		9.0	9.0	9.0	
1.5-inch product Type III	6.7					
1.5-inch product Type IV	6.6					6.6
1.5-inch product Type V	5.9					
2-inch product Type I, Class 1	11.7					
2-inch product Type I, Class 2	13.0					
2-inch product Type II	12.9		12.9	12.9	12.9	
2-inch product Type III	10.3					
2-inch product Type IV	10.2					10.2
2-inch product Type V	9.5					
2-inch product Type VI	6.7					
4. SEE INSULATION APPENDIX IF CHECKED		X	X	X	X	

* See Introduction to insulation section for full descriptions of product types
NA=not applicable

Polyisocyanurate Roof Insulation Board Part 2: Test Results

CELOTEX CORP.	CELOTEX CORP.	FIRESTONE BUILDING PRODUCTS INC.	FIRESTONE BUILDING PRODUCTS INC.	FIRESTONE BUILDING PRODUCTS INC.	FIRESTONE BUILDING PRODUCTS INC.	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION
HY-THERM NAIL-LINE	HY-THERM AP	ISO 95+ ISOCYANURATE	FIRESTONE COMPOSITE	FIRESTONE COMPOSITE	FIRESTONE NAILBASE	GAFTEMP ISOTHERM R	GAFTEMP ISOTHERM RA	GAFTEMP ISOTHERM RN
	X	X				X	X	X
			X					
X				X				
					X			
16	16	20	20	20	20	20	20	20
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
4.0		4.0	4.0	4.0	4.0	2.0	2.0	2.0
4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
40	40	40	40	40	40	40	40	40
17	17	17	17	17	17	17	17	17
500	500	500	500	500	500	500	500	500
1.0			1.0		1.0			
	1.5	1.5		2.0		1.5	1.5	1.5
	1.0	1.0				1.0	1.0	1.0
		6.6				6.6	6.6	6.6
		11.0				11.0	11.0	11.0
			8.1					
7.1				8.0	7.1			
		15.7				15.7	15.7	15.7
			12.5					
11.5				12.4	11.5			
	6.0	6.0				6.0	6.0	6.0
	10.0	10.0				10.0	10.0	10.0
			7.4					
6.5				7.3	6.5			
	14.3	14.3				14.3	14.3	14.3
			11.4					
10.5				11.3	10.5			
		5.4				5.4	5.4	5.4
		9.0				9.0	9.0	9.0
			6.7					
5.9				6.6	5.9			
		12.9				12.9	12.9	12.9
			10.3					
9.5				10.2	9.5			
		X	X	X	X			

Polyisocyanurate Roof Insulation Board Part 2: Test Results

Test description and suggested values as specified in ASTM C 1289-95

1. COMPANY NAME		GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	GAF MATERIALS CORPORATION	JOHNS MANVILLE INTERNATIONAL INC.
2. PRODUCT NAME		EVERGUARD ISO	GAFTEMP COMPOSITE BOARD	GAFTEMP RA COMPOSITE BOARD	GAFTEMP RN COMPOSITE BOARD	ULTRAGARD
3.1 PRODUCT TYPE *						
3.1.1 TYPE 1, CLASS 1 OR CLASS 2						
3.1.2 TYPE II		X				X
3.1.3 TYPE III				X	X	
3.1.4 TYPE IV			X	X		
3.1.5 TYPE V						
3.1.6 TYPE VI						
3.2 PHYSICAL PROPERTY						
3.2.1 COMPRESSIVE STRENGTH (min., psi, nominal 1-in. core foam)	16	16	20	20	20	20
3.2.2 DIMENSIONAL STABILITY (nominal, 1-in. core foam)						
3.2.2.1 Percent linear change, max. (-40°F)						
Type I, Class 1; Types II-VI	2.0	2.0	2.0	2.0	2.0	< 2.0
Type I, Class 2	1.5					
(amb. RH 158°F)						
Type I, Class 1	2.0					
Type II-VI	4.0	2.0	2.0	2.0	2.0	< 4.0
Type I, Class 2	1.5					
(97% RH 200°F)						
Type I, Class 1; Types II-VI	4.0	2.0	4.0	4.0	4.0	< 4.0
Type I, Class 2	1.5					
3.2.3 FLEXURAL STRENGTH (nominal, 1-in. core foam)						
3.2.3.1 Modulus of rupture, psi, min.						
Types I-V	40	40	40	40	40	> 40
Type VI	50					
3.2.3.2 Break load, lbf, min.						
Type I	8					
Types II-V	17	8	17	17	17	> 17
Type VI	33					
3.2.4 TENSILE STRENGTH (psf, min., perpendicular to board surface, nominal 1-in. core foam)	500	500	500	500	500	> 500
3.2.5 WATER ABSORPTION (2H % by vol., max., nom. 1-in. core surface)						
Types I, III, V	1.0			1.0	1.0	< 1.5
Types II, VI	1.5	1.0				
Type IV	2.0		2.0	2.0		
3.2.6 WATER TRANSMISSION (perm., max., nominal 1-in. core surface)						
Type I	0.3					
Type II	1.0	1.0				> 1.0
Types III-VI	NA					
3.3 MINIMUM MEAN THERMAL RESISTANCE						
3.3.1 @ 40 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	7.2					
1-inch product Type I, Class 2	7.9					
1-inch product Type II	6.6	6.6				> 6.6
1.5-inch product Type I, Class 1	10.8					
1.5-inch product Type I, Class 2; Type II	11.0	1.0				> 11.0
1.5-inch product Type III	8.1			8.1	8.1	
1.5-inch product Type IV	8.0		8.0	8.0		
1.5-inch product Type V	7.1					
2-inch product Type I, Class 1	14.3					
2-inch product Type I, Class 2	15.8					
2-inch product Type II	15.7	15.7				> 15.7
2-inch product Type III	12.5			12.5	12.5	
2-inch product Type IV	12.4		12.4	12.4		
2-inch product Type V	11.5					
2-inch product Type VI	8.6					
3.3.2 @ 75 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	6.5					
1-inch product Type I, Class 2	7.2					
1-inch product Type II	6.0	6.0				> 6.0
1.5-inch product Type I, Class 1	9.8					
1.5-inch product Type I, Class 2; Type II	10.0	10.0				> 10.0
1.5-inch product Type III	7.4			7.4	7.4	
1.5-inch product Type IV	7.3		7.3	7.3		
1.5-inch product Type V	6.5					
2-inch product Type I, Class 1	13.0					
2-inch product Type I, Class 2	14.4					
2-inch product Type II	14.3	14.3				> 14.3
2-inch product Type III	11.4			11.4	11.4	
2-inch product Type IV	11.3		11.3	11.3		
2-inch product Type V	10.5					
2-inch product Type VI	7.5					
3.3.3 @ 110 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	5.9					
1-inch product Type I, Class 2	6.5					
1-inch product Type II	5.4	5.4				> 5.4
1.5-inch product Type I, Class 1	8.8					
1.5-inch product Type I, Class 2; Type II	9.0	9				> 9.0
1.5-inch product Type III	6.7			6.7	6.7	
1.5-inch product Type IV	6.6		6.6	6.6		
1.5-inch product Type V	5.9					
2-inch product Type I, Class 1	11.7					
2-inch product Type I, Class 2	13.0					
2-inch product Type II	12.9	12.9				> 12.9
2-inch product Type III	10.3			10.3	10.3	
2-inch product Type IV	10.2		10.2	10.2		
2-inch product Type V	9.5					
2-inch product Type VI	6.7					
4. SEE INSULATION APPENDIX IF CHECKED						X

* See Introduction to insulation section for full descriptions of product types
NA=not applicable

Polyisocyanurate Roof Insulation Board Part 2: Test Results

JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	JOHNS MANVILLE INTERNATIONAL INC.	KOPPERS INDUSTRIES, INC.	KOPPERS INDUSTRIES, INC.
FESCO FOAM	E'NRGY' 2	E'NRGY 2 FF	E'NRGY 2 COMPOSITE	E'NRGY 2 PLUS	NAILBOARD	E'NRGY 2 GYPSUM COMPOSITE	KOP-R ISOCYANURATE	KOP-R COMPOSITE
		X						
	X						X	
X			X					X
				X				
					X			
16	20/25	20/25	20/25	20/25	20/25	20/25	20	20
< 2.0	2.0	2.0	2.0	2.0	2.0	2.0	< 2.0	< 2.0
		2.0						
< 4.0	2.0		2.0	2.0	2.0	2.0	< 4.0	< 4.0
< 4.0	2.0	2.0	2.0	2.0	2.0	2.0		< 4.0
> 40	40	40	40	40	40			40
		8						
> 17	17		17	17	17			17
500	500	500	500	500	500	500		500
< 1.0		1.0	1.0		1.0			< 1.0
	1.5			2.0		1.5		
		0.3						
	1.0					1.0	1.0	
		7.9						
	6.6							
	11.0	11.0						
> 8.1			8.0	8.0				
		15.7		8.0	8.0			
	15.7							
> 12.5			12.5	12.5				
					12.4			
		7.2						
	6.0						6.0	
	10.0	10.8					10.0	
> 7.4			7.4	7.3		7.4		7.4
		14.4			7.3			
	14.3						14.3	
> 11.4			11.4	11.3		12.0		11.4
				11.4				
		5.9						
	6.4							
	9.0	8.8						
> 6.7			6.7	6.6				
		13.0			6.9			
	12.9							
> 10.3			10.3	10.2				
				10.3				
X							X	X

Polyisocyanurate Roof Insulation Board Part 2: Test Results

Test description and suggested values as specified in ASTM C 1289-95

1. COMPANY NAME		RMAX, INC.	RMAX, INC.	RMAX, INC.	RMAX, INC.	U.S. INTEC INC.
2. PRODUCT NAME		MULTI-MAX	MULTI-MAX FA	TAPERED THERMAROOF	THERMAROOF PLUS	USISO
3.1 PRODUCT TYPE *						
3.1.1 TYPE 1, CLASS 1 OR CLASS 2					CLASS 1	
3.1.2 TYPE II		X	X	X		X
3.1.3 TYPE III						
3.1.4 TYPE IV						
3.1.5 TYPE V						
3.1.6 TYPE VI						
3.2 PHYSICAL PROPERTY						
3.2.1 COMPRESSIVE STRENGTH (min., psi, nominal 1-in. core foam)	16	> 16	> 16	> 16	> 16	20
3.2.2 DIMENSIONAL STABILITY (nominal, 1-in. core foam)						
3.2.2.1 Percent linear change, max. (-40°F)						
Type I, Class 1; Types II-VI	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Type I, Class 2	1.5					
(amb. RH 158°F)						
Type I, Class 1	2.0				< 2.0	
Type II-VI	4.0	< 4.0	< 4.0	< 4.0		< 4.0
Type I, Class 2	1.5					
(97% RH 200°F)						
Type I, Class 1; Types II-VI	4.0	< 4.0	< 4.0	< 4.0	< 4.0	
Type I, Class 2	1.5					
3.2.3 FLEXURAL STRENGTH (nominal, 1-in. core foam)						
3.2.3.1 Modulus of rupture, psi, min.						
Types I-V	40	> 40	> 40	> 40	> 40	
Type VI	50					
3.2.3.2 Break load, lbf, min.						
Type I	8				> 8	
Types II-V	17	> 17	> 17	> 17		
Type VI	33					
3.2.4 TENSILE STRENGTH (psf, min., perpendicular to board surface, nominal 1-in. core foam)	500	> 500	> 500	> 500	> 500	
3.2.5 WATER ABSORPTION (2H % by vol., max., nom. 1-in. core surface)						
Types I, III, V	1.0				1.0	
Types II, VI	1.5	< 1.5	< 1.5	< 1.5		<1.0
Type IV	2.0					
3.2.6 WATER TRANSMISSION (perm., max., nominal 1-in. core surface)						
Type I	0.3				<1.0	
Type II	1.0	> 1.0	> 1.0	> 1.0		
Types III-VI	NA					
3.3 MINIMUM MEAN THERMAL RESISTANCE						
3.3.1 @ 40 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	7.2					
1-inch product Type I, Class 2	7.9					
1-inch product Type II	6.6					
1.5-inch product Type I, Class 1	10.8					
1.5-inch product Type I, Class 2; Type II	11.0					
1.5-inch product Type III	8.1					
1.5-inch product Type IV	8.0					
1.5-inch product Type V	7.1					
2-inch product Type I, Class 1	14.3					
2-inch product Type I, Class 2	15.8					
2-inch product Type II	15.7					
2-inch product Type III	12.5					
2-inch product Type IV	12.4					
2-inch product Type V	11.5					
2-inch product Type VI	8.6					
3.3.2 @ 75 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	6.5					
1-inch product Type I, Class 2	7.2					
1-inch product Type II	6.0					6.0
1.5-inch product Type I, Class 1	9.8					
1.5-inch product Type I, Class 2; Type II	10.0					10.0
1.5-inch product Type III	7.4					
1.5-inch product Type IV	7.3					
1.5-inch product Type V	6.5					
2-inch product Type I, Class 1	13.0					
2-inch product Type I, Class 2	14.4					
2-inch product Type II	14.3					14.3
2-inch product Type III	11.4					
2-inch product Type IV	11.3					
2-inch product Type V	10.5					
2-inch product Type VI	7.5					
3.3.3 @ 110 ± 2°F MEAN TEMPERATURE						
1-inch product Type I, Class 1	5.9					
1-inch product Type I, Class 2	6.5					
1-inch product Type II	5.4					
1.5-inch product Type I, Class 1	8.8					
1.5-inch product Type I, Class 2; Type II	9.0					
1.5-inch product Type III	6.7					
1.5-inch product Type IV	6.6					
1.5-inch product Type V	5.9					
2-inch product Type I, Class 1	11.7					
2-inch product Type I, Class 2	13.0					
2-inch product Type II	12.9					
2-inch product Type III	10.3					
2-inch product Type IV	10.2					
2-inch product Type V	9.5					
2-inch product Type VI	6.7					
4. SEE INSULATION APPENDIX IF CHECKED						

* See Introduction to insulation section for full descriptions of product types
NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Composite Roof Insulation Board

1. COMPANY NAME	AFM CORP	AFM CORP	APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY
2. STATE	MN	MN	SC	SC	SC
3. PRODUCT NAME	AFM PERFORM 1, 2 & 3	AFM CONTOUR TAPER TILE	EPS PERLITE	EPS PLYWOOD	EPS GYPSUM BOARD
4. COMPOSITE COMPONENTS					
4.1 EXPANDED POLYSTYRENE	X	X	X	X	X
4.2 EXTRUDED POLYSTYRENE					
4.3 POLYURETHANE					
4.4 POLYISOCYANURATE					
4.5 PERLITE	X	X	X		X
4.6 GYPSUM BOARD					
4.7 FIBER BOARD	X	X			
4.8 PLYWOOD	X	X		X	
4.9 OTHER	X	X			
5. SURFACE TREATMENT					
5.1 ASPHALT ROOFING FELT					
5.2 FOIL FACER	X	X			
5.3 KRAFT FACER					
5.4 OTHER	X	X			
6. AVAILABLE AS TAPERED MATERIAL	NO	YES	YES	YES	YES
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1971	1966	1957	1957	1957
8. COMMON AVAILABLE SIZES					
8.1 2' x 4'	X	X			
8.2 3' x 4'					
8.3 4' x 4'	X	X	X	X	X
8.4 4' x 8'	X		X	X	X
8.5 OTHER	X	X			
9. COMMON AVAILABLE THICKNESSES WATER ABSORPTION, TRANSVERSE STRENGTH, C-VALUES, R-VALUES, PERCENT BY VOLUME					
9.1 THICKNESS (inches)	2.67	2.67	1.5	1.5	1.5
THERMAL CONDUCTANCE (C) @75 F	0.103	0.103	0.19	0.22	0.23
THERMAL RESISTANCE (R) @75 F	9.73	9.73	5.26	4.55	4.35
WEIGHT (lbs/ft ²)	0.8	0.8			
9.2 THICKNESS (inches)	4.16	4.16	2.0	2.0	2.0
THERMAL CONDUCTANCE (C) @75 F	0.065	0.065	0.15	0.16	0.16
THERMAL RESISTANCE (R) @75 F	15.47	15.47	6.67	6.25	6.25
WEIGHT (lbs/ft ²)	0.93	0.93			
9.3 THICKNESS (inches)	7.36	7.36	2.5	2.5	2.5
THERMAL CONDUCTANCE (C) @75 F	0.036	0.036	0.12	0.12	0.12
THERMAL RESISTANCE (R) @75 F	27.79	27.79	8.33	8.33	8.33
WEIGHT (lbs/ft ²)	1.2	1.2			
9.4 THICKNESS (inches)	2.67	2.67	3.0	3.0	3.0
THERMAL CONDUCTANCE (C) @75 F	0.093	0.093	0.10	0.097	0.098
THERMAL RESISTANCE (R) @75 F	10.77	10.77	10.0	10.31	10.20
WEIGHT (lbs/ft ²)	0.98	0.98			
9.5 THICKNESS (inches)	4.16	4.16	3.5	3.5	3.5
THERMAL CONDUCTANCE (C) @75 F	0.058	0.058	0.08	0.081	0.082
THERMAL RESISTANCE (R) @75 F	17.3	17.3	12.5	12.34	12.20
WEIGHT (lbs/ft ²)	1.23	1.23			
9.6 THICKNESS (inches)	7.36	7.36	4.0	4.0	4.0
THERMAL CONDUCTANCE (C) @75 F	0.032	0.032	0.07	0.07	0.071
THERMAL RESISTANCE (R) @75 F	31.21	31.21	14.29	14.29	14.08
WEIGHT (lbs/ft ²)	1.76	1.76			
10. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100	100 100 100	100 100 100	100 100 100
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	SEE APPENDIX	SEE APPENDIX	SBCCI 9443	SBCCI 9443	SBCCI 9443
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX
13. SEE INSULATION APPENDIX IF CHECKED	X	X	X	X	X

NA=not applicable

Composite Roof Insulation Board

APACHE PRODUCTS COMPANY	APACHE PRODUCTS COMPANY	BENCHMARK FOAM INC	BENCHMARK FOAM INC	BENCHMARK FOAM INC	BENCHMARK FOAM INC	BIG SKY INSULATIONS INC	BIG SKY INSULATIONS INC	BIG SKY INSULATIONS INC
SC	SC	SD	SD	SD	SD	MT	MT	MT
EPS WAVER BOARD	EPS FIBERBOARD	PERMAFOAM COMPOSITE	ENERCEPT PANELS	PERMAFOAM COMPOSITE	PERMAFOAM COMPOSITE	EPS-PERLITE COMPOSITE	EPS-GYPSUM COMPOSITE	EPS-FIBERBOARD COMPOSITE
X	X	X	X	X	X	X	X	X
	X		X			X	X	
WAVER BOARD		X	X					X
YES	YES	YES	NO	YES	YES	YES	YES	YES
1975	1957	1977	1982	1977	1977	1981	1981	1981
		X		X	X	X	X	X
X	X	X		X	X	X		X
X	X	X	X	X	X	X	X	X
			4 x 12 OR 4 x 16					
1.5	1.5	2.0	8.0	2.0	2.0	1.75	1.5	1.5
0.22	0.19	0.10	0.033	0.10	0.10	0.169	0.233	0.193
4.55	5.26	10.0	30.30	10.0	10.0	5.92	4.29	5.18
						0.769	1.062	0.753
2.0	2.0	4.0	6.0	4.0	4.0	2.25	2.0	2.0
0.16	0.14	0.06	0.045	0.05	0.06	0.127	0.161	0.14
6.25	7.14	16.67	22.22	20.0	16.67	7.87	6.21	7.14
						0.811	1.104	0.795
2.5	2.5	6.0		6.0	6.0	2.75	2.5	2.5
0.12	0.11	0.04		0.04	0.04	0.102	0.123	0.11
8.33	9.09	25.0		25.0	25.0	9.80	8.13	9.09
						0.853	1.146	0.837
3.0	3.0	8.0		8.0	8.0	3.25	3.0	3.0
0.097	0.09	0.03		0.03	0.03	0.085	0.099	0.091
10.31	11.11	33.33		33.33	33.33	11.76	10.10	10.99
						0.845	1.187	0.878
3.5	3.5					3.75	3.5	3.5
0.081	0.076					0.073	0.083	0.077
12.34	13.16					13.70	12.05	12.99
						0.936	1.229	0.92
4.0	4.0					4.25	4.0	4.0
0.07	0.066					0.064	0.072	0.067
14.29	15.15					15.63	13.89	14.93
						0.978	1.271	0.96
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100
SBCCI 9443	SBCCI 9443		ICBO 4246 HUD 1067 RADCO 1165					
SEE APPENDIX	SEE APPENDIX							
X	X							

Composite Roof Insulation Board

1. COMPANY NAME	CARPENTER INSULATION COMPANY	CARPENTER INSULATION COMPANY	CARPENTER INSULATION COMPANY	CARPENTER INSULATION COMPANY	CARPENTER INSULATION COMPANY
2. STATE	VA	VA	VA	VA	VA
3. PRODUCT NAME	CARPENTER EPS/PLYWOOD	CARPENTER EPS/PERLITE	CARPENTER EPS/STYROFOIL	CARPENTER EPS/GYPSUM	CARPENTER EPS/WAFER- BOARD
4. COMPOSITE COMPONENTS					
4.1 EXPANDED POLYSTYRENE	X	X	X	X	X
4.2 EXTRUDED POLYSTYRENE					
4.3 POLYURETHANE					
4.4 POLYISOCYANURATE					
4.5 PERLITE		X			
4.6 GYPSUM BOARD				X	
4.7 FIBER BOARD					
4.8 PLYWOOD	X				
4.9 OTHER			X		X
5. SURFACE TREATMENT					
5.1 ASPHALT ROOFING FELT			X		
5.2 FOIL FACER			X		
5.3 KRAFT FACER					
5.4 OTHER					
6. AVAILABLE AS TAPERED MATERIAL	YES	YES	YES	YES	YES
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1977	1977	1977	1977	1977
8. COMMON AVAILABLE SIZES					
8.1 2' x 4'		X			
8.2 3' x 4'					
8.3 4' x 4'	X	X	X	X	X
8.4 4' x 8'	X		X	X	X
8.5 OTHER			X		
9. COMMON AVAILABLE THICKNESSES WATER ABSORPTION, TRANSVERSE STRENGTH, C-VALUES, R-VALUES, PERCENT BY VOLUME					
9.1 THICKNESS (inches)	1.5	1.75	1.0	1.5	1.5
THERMAL CONDUCTANCE (C) @75 F	0.22	0.168	0.259	0.23	0.20
THERMAL RESISTANCE (R) @75 F	4.48	5.94	3.86	4.28	5.08
WEIGHT (lbs/ft ²)	1.5	0.68	0.085	2.18	1.5
9.2 THICKNESS (inches)	2.0	2.25	2.0	2.0	2.0
THERMAL CONDUCTANCE (C) @75 F	0.156	0.126	0.129	0.16	0.14
THERMAL RESISTANCE (R) @75 F	6.40	7.86	7.75	6.21	7.0
WEIGHT (lbs/ft ²)	1.53	0.73	0.17	2.23	1.53
9.3 THICKNESS (inches)	2.5	2.75	2.5	2.5	2.5
THERMAL CONDUCTANCE (C) @75 F	0.12	0.102	0.104	0.12	0.11
THERMAL RESISTANCE (R) @75 F	8.33	9.78	9.62	8.13	8.93
WEIGHT (lbs/ft ²)	1.57	0.77	0.22	2.27	1.57
9.4 THICKNESS (inches)	3.0	3.25	3.0	3.0	3.0
THERMAL CONDUCTANCE (C) @75 F	0.097	0.085	0.086	0.099	0.092
THERMAL RESISTANCE (R) @75 F	10.35	11.71	11.63	10.06	10.85
WEIGHT (lbs/ft ²)	1.61	0.81	0.255	2.31	1.61
9.5 THICKNESS (inches)	3.5	3.75	3.5	3.5	3.5
THERMAL CONDUCTANCE (C) @75 F	0.082	0.073	0.074	0.083	0.078
THERMAL RESISTANCE (R) @75 F	12.18	13.63	13.51	11.98	12.77
WEIGHT (lbs/ft ²)	1.65	0.85	0.30	2.35	1.65
9.6 THICKNESS (inches)	4.0	4.25	4.0	4.0	4.0
THERMAL CONDUCTANCE (C) @75 F	0.07	0.064	0.065	0.072	0.068
THERMAL RESISTANCE (R) @75 F	14.11	15.55	15.38	13.90	14.70
WEIGHT (lbs/ft ²)	1.7	0.90	0.34	2.4	1.7
10. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100	100 100 100	100 100 100	100 100 100
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)					
12. LIMITATIONS AND/OR RESTRICTIONS					
13. SEE INSULATION APPENDIX IF CHECKED					

NA=not applicable

Composite Roof Insulation Board

CARPENTER INSULATION COMPANY	DOW CHEMICAL COMPANY	INSULATED BUILDING SYSTEMS	INSULATED BUILDING SYSTEMS	INSULATION CORP OF AMERICA	INSULATION CORP OF AMERICA	INSULATION CORP OF AMERICA	INSULATION CORP OF AMERICA	POLYFOAM PACKERS CORP
VA	CANADA	VA	VA	PA	PA	PA	PA	IL
CARPENTER EPS/FIBERBOARD	ROOFMATE CT	AFM PERFORM 1, 2 & 3	AFM CONTOUR TAPER TILE	ICALITE EPS/FIBERBOARD	ICALITE EPS/PLYWOOD	ICALITE EPS/PERLITE	ICALITE EPS/GYPSUM- BOARD	THERMOSAFE- PLUS WITH FIBER- BOARD
X		X	X	X	X	X	X	X
	X							
		X	X			X		
X		X	X	X			X	X
		X	X		X			
		X	X					
								X
		X	X		X			X
					X			X
	X	X	X					X
YES	NO	NO	YES	YES	YES	YES	YES	YES
1977	1985	1971	1966	1979	1979	1979	1979	1990
		X	X	X	X	X	X	X
				X	X	X	X	X
X		X	X	X	X	X	X	X
X		X		X	X	X	X	X
		X	X					X
1.5		1.5	1.5	1.5	1.0	1.75	1.625	1.5
0.19		0.193	0.193	0.19	0.26	0.14	0.19	0.174
5.17		5.18	5.18	5.26	3.84	7.14	5.26	5.74
0.83		0.83	0.83	0.5	0.5	0.75	2.0	0.76
2.0		2.0	2.0	2.0	1.5	2.25	2.125	2.5
0.14		0.141	0.141	0.15	0.17	0.13	0.17	0.099
7.10		7.09	7.09	6.67	5.88	7.69	5.88	10.09
0.88		0.85	0.85	0.625	0.125	1.0	2.125	0.93
2.5		2.5	2.5	2.5	2.0	2.75	2.625	3.5
0.11		0.111	0.111	0.11	0.13	0.11	0.13	0.069
9.02		9.01	9.01	9.09	7.69	9.09	7.69	14.44
0.92		0.88	0.88	0.75	0.167	1.25	2.25	1.1
3.0		3.0	3.0					4.5
0.091		0.091	0.091					0.053
10.95		10.99	10.99					18.79
0.96		0.92	0.92					1.27
3.5		3.5	3.5					5.5
0.078		0.078	0.078					0.043
12.87		12.82	12.82					23.14
0.99		0.964	0.964					1.43
4.0		4.0	4.0					6.5
0.068		0.068	0.068					0.036
14.80		14.71	14.71					27.49
1.04		1.0	1.0					1.6
100		100	100	100	100	100	100	100
100		100	100	100	100	100	100	100
100		100	100	100	100	100	100	100
		SEE APPENDIX	SEE APPENDIX	P211,P701 P801,P803 P814,P815 UL-9702	P211,P701 P801,P803 P814,P815 UL-9702	P211,P701 P801,P803 P814,P815 UL-9702	P211,P701 P801,P803 P814,P815 UL-9702	UL R14213, FM OV8A0.AC, FM OV8A1.AC, FM OV8A2.AC, CABO 236, 238, 384, 479
		SEE APPENDIX	SEE APPENDIX					SEE APPENDIX
		X	X					X

Composite Roof Insulation Board

1. COMPANY NAME	POLYFOAM PACKERS CORP	POLYFOAM PACKERS CORP	T. CLEAR CORPORATION	T. CLEAR CORPORATION
2. STATE	IL	IL	OH	OH
3. PRODUCT NAME	THERMOSAFE- PLUS WITH PERLITE	THERMOSAFE- PLUS WITH FIBER- BOARD AND PERLITE	LIGHTGUARD	HEAVYGUARD
4. COMPOSITE COMPONENTS				
4.1 EXPANDED POLYSTYRENE	X	X		
4.2 EXTRUDED POLYSTYRENE			X	X
4.3 POLYURETHANE				
4.4 POLYISOCYANURATE				
4.5 PERLITE	X	X		
4.6 GYPSUM BOARD				
4.7 FIBER BOARD		X		
4.8 PLYWOOD				
4.9 OTHER			CONCRETE	CONCRETE
5. SURFACE TREATMENT				
5.1 ASPHALT ROOFING FELT	X			
5.2 FOIL FACER	X			
5.3 KRAFT FACER	X			
5.4 OTHER	X		3/8" CONCRETE ONE SIDE	15/16" CONCRETE ONE SIDE
6. AVAILABLE AS TAPERED MATERIAL	YES	YES	NO	NO
7. YEAR FIRST USED IN COMMERCIAL ROOFING SYSTEM	1990	1990	1976	1983
8. COMMON AVAILABLE SIZES				
8.1 2' x 4'	X	X	X	X
8.2 3' x 4'	X	X		
8.3 4' x 4'	X	X		
8.4 4' x 8'	X	X		
8.5 OTHER	X	X		
9. COMMON AVAILABLE THICKNESSES WATER ABSORPTION, TRANSVERSE STRENGTH, C-VALUES, R-VALUES, PERCENT BY VOLUME				
9.1 THICKNESS (inches)	1.75	2.25	2	2.0
THERMAL CONDUCTANCE (C) @75 F	0.155	0.127	0	0.1
THERMAL RESISTANCE (R) @75 F	6.43	7.82	10	10
WEIGHT (lbs/ft ²)	0.76	1.36	5	11
9.2 THICKNESS (inches)	2.75	3.25	3	3
THERMAL CONDUCTANCE (C) @75 F	0.092	0.082	0	0.06
THERMAL RESISTANCE (R) @75 F	10.78	12.17	15	15
WEIGHT (lbs/ft ²)	0.93	1.53	5	11
9.3 THICKNESS (inches)	3.75	4.25	4	
THERMAL CONDUCTANCE (C) @75 F	0.066	0.06	0	
THERMAL RESISTANCE (R) @75 F	15.13	16.52	18	
WEIGHT (lbs/ft ²)	1.1	1.7	5	
9.4 THICKNESS (inches)	4.75	5.25		
THERMAL CONDUCTANCE (C) @75 F	0.051	0.048		
THERMAL RESISTANCE (R) @75 F	19.48	20.87		
WEIGHT (lbs/ft ²)	1.27	1.87		
9.5 THICKNESS (inches)	5.75	6.25		
THERMAL CONDUCTANCE (C) @75 F	0.042	0.04		
THERMAL RESISTANCE (R) @75 F	23.83	25.22		
WEIGHT (lbs/ft ²)	1.43	2.03		
9.6 THICKNESS (inches)	6.75	7.25		
THERMAL CONDUCTANCE (C) @75 F	0.035	0.034		
THERMAL RESISTANCE (R) @75 F	28.18	29.57		
WEIGHT (lbs/ft ²)	1.6	2.2		
10. ESTIMATED PERCENTAGE OF THERMAL VALUE RETENTION (assuming a continuous mean temperature @ 1 year differential and constant moisture content) @ 5 years @ 10 years	100 100 100	100 100 100	100 98 95	100 98 95
11. UL "P" DESIGN NUMBERS; BUILDING CODE AGENCY APPROVED DESIGN NUMBERS; ICBO, BOCA, SBCCI (OTHERS)	UL R14213, FM OV8A0.AC, FM OV8A1.AC, FM OV8A2.AC, CABO 236, 238, 384, 479	UL R14213, FM OV8A0.AC, FM OV8A1.AC, FM OV8A2.AC, CABO 236, 238, 384, 479	P 225, 229, 230, 235, 404, 505, 507, 714, 803, 904	P 225, 229, 230, 235, 404, 505, 507, 714, 803, 904
12. LIMITATIONS AND/OR RESTRICTIONS	SEE APPENDIX	SEE APPENDIX	PMR INSULATION	PMR INSULATION
13. SEE INSULATION APPENDIX IF CHECKED	X	X		

NA=not applicable

Appendix, Roof Board Insulation

AFM CORPORATION

The following companies, included in the *Low-Slope Guide* Index to Listed Roof Board Insulations, manufacture AFM Perform, AFM Contour Taper Tile, and AFM Perform Protect expanded polystyrene insulations; AFM Contour Taper Tile-X extruded polystyrene insulation in both 1.4 and 1.8 densities; and AFM Perform 1, 2, and 3 and AFM Perform Contour Taper Tile composite insulations: Advance Foam Plastics, Inc., Colo. (5250 N. Sherman St., Denver 80216, 303/297-3844); Advance Foam Plastics, Inc., Utah (111 W. Fireclay Ave., Murray, UT 84107, 801/265-3465); Advance Foam Plastics, Inc., Nevada (902 Kleppe Lane, Sparks, NV 89431); Allied Foam Products, Inc. (1604 Athens Hwy/Box 2861, Gainesville, GA 30503, 404/536-7900); Big Sky Insulations, Inc., 15 Arden Drive, P.O. Box 838, Belgrade, MT 59714, 406/388-4146; Branch River Foam Plastics, Inc., 15 Thruber Blvd., Smithfield, RI 02917, 401/232-0270; Contour Products, Inc. Kansas City and Newton, Kansas (4001 Kaw Drive, Kansas City, KS 66102, 913/321-4114); Flexible Packaging, Co. (P.O. Box Y, Bayamon, PR 00620, 809/786-8405 Insulated Building Systems, Inc., 326 McGhee Road, Winchester, VA 22603, 540/662-1065); Team Industries, Inc. (4580 Airwest Drive S.E., Grand Rapids, MI 49508, 616/698-2001; NPS Corporation (Industrial Drive/POB 31, Perryville, MO 63775, 314/547-8388); Pacemaker Plastics Co., Inc. (126 New Pace Rd. P.O. Box 279, Newcomerstown, OH 43832, 800/446-2188); Pacific Allied Products, Ltd. (Campbell Industrial Park, 91-102B Kaomi Loop, Kapolei, HI 96707, 808/682-2038); Plasti-Fab, British Columbia (679 Aldford Avenue, Annacis Industrial Estates, Delta, BC V3M 5P5, 604/526-2771); Plasti-Fab, Alberta (820-28 Street N.E., Calgary, Alberta T2A 6K1, 403/248-3990); Plasti-Fab, Manitoba (Unit #6 Sioux Ind. Park, 845 Lagimodiere Blvd., Winnipeg, Manitoba R2J 3M2, 204/237-7711); Plasti-Fab, Ontario (152 Birch Avenue, Kitchener, Ontario N2G 4E1, 519/570-6100; Plasti-Fab, Saskatchewan (837 57th Street East; Saskatoon, Saskatchewan S7K 5Z2, 306/934-3345); Poly Foam, Inc. (116 Pine Street So., Lester Prairie, MN 55354); Stanark Plastics (Highway 70 East/Box 3231, North Little Rock, AR 72117, 501/945-1114); Therma Foams, Inc. (P.O. Box 161128, Ft. Worth, TX 76161, (817 / 624 -7204) ; Thermal Foam, Inc., 2101 Kenmore Ave., Buffalo, NY 14207 (716/87406474); Thermal Foams/Syracuse, Inc. (6173 South Bay Rd/Box 396, Cicero, NY 13039, 315/699-8734, 800/873-6267); Wisconsin EPS, (90 Trowbridge Drive/FOB 669, Fond Du Lac, WI 54935;

414/923-4146). See the appropriate listing under AFM Corporation for a description of these products.

AFM Perform, Contour Taper Tile, and AFM Perform Protect Roof Insulations: UL listing: AFM Perform and Contour Taper Tile EPS Roof Insulations have been tested under UL 790 and ASTM E108 for flame-spread classification. The AFM listing provides for the use of Perform and Contour Taper Tile in unlimited thickness in any UL-classified roof membrane assembly. EPS may be of uniform thickness or tapered. AFM UL-classified EPS may be used in the following assemblies as designated in the 1990 UL Fire Resistance Directory: P211, P225, P230, P231, P238, P246, P250, P251, P254, P255, P261, P410, P262, P410, P411, P508, P509, P510, P511, P513, P514, P515, P701, P710, P711, P713, P715, P717, P801, P803, P814, P815, P817, P818, P902, P909, P912, P915, P919, P920, P921, P922, P923, J999, K902, Const. No. 237, Cons. No. 458. AFM EPS may be substituted for other UL-listed insulation products in UL-rated roof assemblies. See UL Roofing Materials Directory for complete listing. Building Codes: ICBO 4169, , BOCA 94-65, SBCCI 94136, AFM UL file number R11812. The AFM Quality-Control Program and Third-Party Certification Program meet or exceed all requirements for ICBO, BOCA, and SBCCI.

Installation: Follow recommended installation guidelines contained in AFM Perform, Contour Taper Tile Spec-Data form. Warranty: AFM Perform and Contour Taper Tile, and Perform Protect are covered by a 20-year, 100 percent R-value-retention warranty. Consult AFM for specific details.

ALLIEDSIGNAL

AlliedSignal Armor-R Plus features a closed-cell polyisocyanurate foam core laminated to heavy black (nonasphaltic) glass fiber reinforced felt facers. Compliances: Federal specifications: HH-I-1972/GEN; HH-I-1972/2, Class 1; HH-I-1972/1, Class 1; H-I-1972/3; Metro-Dade County, Fla.; California State Insul. Qual. Standards & Title 25 Foam Flammability Criteria (License #TC 1231); BOCA, ICBO, and SBCCI sections on foam insulation; FM Standard 4450/4470 approval for Class 1 insulated roof deck construction; UL Standard 1256 Classification: insulated metal deck construction assemblies, Construction Nos. 120 & 123; UL Standard 790 Classification: Class A; UL Standard 263 Fire Resistance Classification listings: P225, P230, P259, P263, P508, P510, P514, P701, P713, P717, P718, P719, P720, P722, P723, P724, P725, P728, P729, P730, P732, P801, P814, P815, P817, P818, P819, and P823. Canada/CGSB 51.26-M86-

APACHE PRODUCTS COMPANY

Please refer to Apache Products catalogs for application and installation information. Please follow all restrictions, limitations, and warnings contained therein. Following are Apache plant locations: isocyanurate insulation only: Belvidere, Ill., 1005 McKinley Ave. P.O. Box 7, 61008, 815/544-3193, 800/435-5493; Jackson, Miss., 100 Apache Road, P.O. Box 7111, 39282-7111, 601/373-1222, 800/648-2154; Linden, N.J., 2025 East Linden Ave., P.O. Box 1009, 07036, 908/486-6723, 800/526-4056; and Riverside, Calif., 6942 Ed Perkić St., 92504, 909/687-7070, 800/241-7444; isocyanurate and expanded polystyrene: Anderson, S.C., 5720 Highway 81 South, Starr, SC 29684, 803/296-3424, 800/845-3080; expanded polystyrene only: Lakeland, Fla., 4500 South Frontage Rd., 33801, 813/688-8879; Miami, Fla., 1020 S.W. 69th Ave., P.O. Box 4440488, 33144, 305/261-4637; Union, Miss., Industrial Park, P.O. Box 160, Union, MS 39365, 601/774-8285, 800/530-7762.

ATLAS ROOFING CORPORATION

ACFoam-II features a closed-cell polyisocyanurate foam core laminated to heavy black (nonasphaltic) glass-fiber reinforced felt facers. This product is suitable for all single-ply systems. Available in non-HCFC formulation.

ACFoam III also features the closed-cell foam core integrally laminated to heavy coated glass facers. It is specifically designed for all single-ply, cold-applied BUR, and cold-applied modified bitumen membrane systems. Do not use with hot-applied membranes.

ACFoam Supreme has a polyisocyanurate foam core with tri-laminate foil facers and provides highest R-value of all ACFoam products. Specifically designed for use with mechanically fastened and loose laid ballasted single-ply systems. ACFoam Supreme cannot be used directly with hot asphalt or torch-applied systems.

ACFoam Composite consists of a polyisocyanurate foam core bonded to 1/2-in. perlite on one side and a heavy black (nonasphaltic) glass-fiber reinforced felt on the other side. The perlite eliminates the need for cover boards or vented base sheets normally recommended over foam insulation. The product is recommended for use with BUR, modified bitumen, and single-ply roofing systems.

ACFoam Recover Board is part of the Atlas family of thermally efficient polyiso foam board insulations. The foam core of Recover Board is a Class 1 fire-rated foam core and is covered on both sides with a heavy,

strong coated fibrous facer.

Tapered ACFoam features a closed-cell polyisocyanurate foam core laminated to heavy black (nonasphaltic) glass-fiber reinforced felt facers. It is available in 4' x 4' panels with slopes of 1/8-in., 1/4-in., and 1/2-in. for crickets.

ACFoam Nail Base Insulation provides a base for non-asphaltic shingles, tile, or metal roof panels and may be applied over wood or steel decking. Particularly suited for cathedral ceiling and log home applications, the product is a polyisocyanurate foam core that is faced with glass-fiber reinforced facers and bonded to 7/16-in. APA-rated OSB.

Vented-R is a polyiso insulation, laminated to OSB, constructed with ventilation spaces to dissipate moisture vapor and heat buildup.

Compliances: (Check with Atlas for specific applications for each product.) federal specifications HH-I-1972/GEN; HH-I-1972/2, Class 1; HH-I-1972/1, Class 1; HH-I-1972/3; Metro-Dade County, FL No. 96-0612.01; Calif. State Insul. Qual. Standards & Title 25 Foam Flammability Criteria (License #TC 1231); BOCA, ICBO, and SBCCI sections on foam insulation; FM Standard 4450/4470 approval for Class 1 insulated roof deck construction; UL Standard 1256 Classification: insulated metal deck construction assemblies, Construction Nos. 120 & 123; UL Standard 790 Classification: Class A with most roof membrane systems; UL Standard 263 Fire Resistance Classification (ACFoam-II/ACFoam Composite): some listings are P225, P230, P232, P259, P263, P508, P510, P514, P701, P710, P713, P717, P718, P719, P720, P722, P723, P724, P725, P728, P729, P730, P732, P801, P814, P815, P817, P818, P819, and P823. ASTM C1289-95, Type II; C1289-95, Type V; C1289-95, Type I, Class I; C1289-95, Type III. Meets Can/CGSB Standards, CCMC No. 12464-L, CCMC No. 12423-L, and CCMC No. 12422-R.

BIG SKY INSULATIONS, INC.

SnoFoam EPS: Approvals: ASTM C-578-87a, ICBO 4169, UL P design numbers: P211, P225, P230, P231, P232, P238, P246, P250, P251, P254, P255, P261, P262, P410, P411, P508, P509, P510, P511, P513, P514, P515, P701, P710, P713, P715, P717, P801, P803, P814, P815, P817, P818, P902, P909, P912, P915, P919, P920, P921, P922, P923, J999, K901, K902, K903.

CARLISLE SYNTEC INCORPORATED

Sure-Seal EPS Insulation: UL Classified, FM Approved; Sure-Seal EPS Foam must be protected from: (a) temperatures greater than 160 F.; (b) oil, solvents, and other aliphatic or hydrocarbon

substances that could degrade the foam. When used over coal tar roof membranes, the following procedures apply: (a) The coal tar roof membrane to be covered must have been exposed in field surface environment for at least five years. (b) A minimum one-half inch butt-joined wood fiberboard separation barrier is installed prior to laying of the EPS. (c) The system design temperature does not exceed 130 F at the coal tar membrane/wood fiberboard interface. Protect from sunlight during storage. Review the Carlisle EPS Material Safety Data Sheet for complete safety information prior to use.

Thermapink 18/25/40: FM approved. Product should not be used in contact with chimneys, heater vents, steam pipes, or other surfaces where temperatures exceed 150 F. Product should be installed under a membrane applied to a substrate having an adequate fire rating as required by building codes, over metal or combustible deck. Separator sheet should be used where insulation may come in contact with PVC membrane if required by membrane manufacturer. Any material containing organic solvents should not be used in direct contact with polystyrene insulation unless previously evaluated. Protect from extended exposure of sunlight. The product will ignite if exposed to fire of sufficient heat and intensity, although it does contain a flame retardant additive to inhibit ignition from small fire sources.

Polyisocyanurate HP, HP-N, HP-W: UL Classified, FM Approved: Carlisle SynTec's Polyisocyanurate products are non-structural, non-load bearing materials. They are not designed for direct traffic usage unless adequately protected. All roof insulation should be kept dry and protected from the elements. No more insulation should be installed than can be covered in the same day. Isocyanurate foam will burn if exposed to a flame of sufficient heat and intensity. Contact Carlisle SynTec for advice on the use of these products if there is any doubt concerning the proper product for the job, the proper installation procedure or the proper code approvals.

HP Recovery Board: UL classified, FM approved. HP Recovery Board is a wood fiberboard underlayment for use with Carlisle roofing systems. All roof insulation should be kept dry and protected from the elements. No more insulation should be installed than can be covered in the same day. Wood fiberboard will burn if exposed to a flame of sufficient heat and intensity.

CARPENTER INSULATION COMPANY

Styrodeck flat and tapered expanded polystyrene: Styrodeck is preferred for building roofs having normal temperature conditions but should not be used in

contact with chimneys, heater vents, steam pipes, or other surfaces where temperatures exceed 150 F. It is not recommended for unballasted applications where sustained roof temperatures exceed 165 F and intermittent temperatures exceed 180 F. Consult the roofing department at Carpenter Insulation Company before using EPS with coal tar pitch. Contact Carpenter Insulation for compliance with UL design "P" assemblies.

CELOTEX CORPORATION

Hy-Therm AP: UL Design Numbers: P225, P230, P232, P263, P508, P510, P514, P701, P710, P713, P717, P719, P720, P722, P723, P724, P727, P728, P729, P730, P732, P734, P735, P739, P801, P814, P815, P818, P819, P823, P827, P828. UL 1256 Roof Deck constructions: 99, 120 and 123. FM approved FMRC Standard 4450/4470 for Class 1 Insulated Steel Deck Roofs.

THE DOW CHEMICAL COMPANY

Blue Styrofoam Brand Roofmate Insulation, Blue Styrofoam Brand Plazamate Insulation, Blue Styrofoam Brand Square Edge Insulation, Blue Styrofoam Brand Tongue & Groove Insulation, Blue Styrofoam Brand Recovermate, Blue Styrofoam Brand Deckmate Insulation, Blue Styrofoam Brand Deckmate Plus Insulation, Styrofoam Brand Insulations: UL Design Numbers: D2708, P225, P229, P230, P235, P248, P250, P251, P254, P255, P259, P261, P404, P505, P507, P508, P510, P513, P514, P701, P710, P711, P713, P714, P715, P717, P801, P803, P805, P811, P813, P814, P815, P817, P818, P902, P904, P907, P908, P909, P912, P915, P921, U326, U330, U460, U902, U912, P923. UL Roof Deck Construction Numbers: 1, 2, 3, 9, 14, 58, 87, 200, 237, 260, 276, 380, 287, 440.

Limitations and/or restrictions: Styrofoam Brand Roofing Material insulation is designed for use above waterproofing membranes in roof construction. Styrofoam Brand Plazamate and Styrofoam Brand High Load 100 insulations are designed for use above waterproofing membranes in plaza and parking roof deck construction and in other areas where high compressive strength insulation is required. Styrofoam-Brand Roofing Recovery Board, Styrofoam brand Recovermate, and Styrofoam Deckmate and Deckmate Plus insulations are intended for use beneath loose-laid and ballasted or mechanically fastened sheet membranes in roof construction. Styrofoam brand insulations have poor resistance to aromatic hydrocarbons, chlorinated hydrocarbons, olefins, naphthas, ketones, gasoline, fuel oil, and oil-based paint. Maximum service temperature: 165 F,

except for Styrofoam brand Recovermate, which has a maximum service temperature of 200 F. Light stability: When stored outdoors for extended periods, Styrofoam brand insulations should be shielded from the sunlight with an opaque, light-colored covering. Notice: Styrofoam brand insulation are combustible and should be stored, handled, and used properly. They should be installed with code-acceptable thermal barriers or used in approved alternative constructions. For more information, contact Dow (800-441-4DOW).

FIRESTONE BUILDING PRODUCTS, INC.

ISO 95+: FM Class 1, 1-60 or 1-90. Firestone roof insulation products are non-structural, non-load bearing materials. They are not designed for direct traffic usage unless adequately protected. All roof insulation should be kept dry and protected from the elements. Asphalt mopping temperature must not exceed 450 F. No more insulation should be installed than can be covered in the same day. Isocyanurate foam will burn if exposed to a flame of sufficient heat and intensity. Contact Firestone for advice on the use of these products if there is any doubt concerning the proper product for the job, the proper installation procedure or the proper code approvals. Code approvals: Classified in UL designs, P225, P230, P232, P259, P263, P508, P510, P514, P701, P710, P717, P718, P719, P722, P723, P724, P725, P727, P728, P729, P730, P732, P801, P814, P815, P818, P819, P823, P828; meets the requirements of ICBO Section 2602, SBCCI Section 2603, and BOCA Section 2603; Classified in UL deck construction 120 and 123.

Composite Roof Insulation: UL Classification, FM Class 1, 1-60 or 1-90. Firestone's roof insulation products are non-structural, non-load bearing materials. They are not designed for direct traffic usage unless adequately protected. All roof insulation should be kept dry and protected from the elements. Asphalt mopping temperature must not exceed 450 F. No more insulation should be installed than can be covered in the same day. Isocyanurate foam will burn if exposed to flame of sufficient heat and intensity. Contact Firestone for advice on the use of these products if there is any doubt concerning the proper product for the job, the proper installation procedure, or the proper code approvals. Classified in UL designs, P225, P230, P232, P508, P510, P514, P701, P710, P717, P718, P719, P723, P801, P815, P818, P828; BOCA 2603; meets the requirements of ICBO Section 2602, SBCCI Section 2603, and BOCA Section 2603; Classified in UL deck construction 120 and 123.

GAF MATERIALS CORPORATION

GAFTEMP Permalite: UL Design Numbers: P001, P004, P201, P202, P203, P204, P206, P210, P211, P224, P225, P230, P232, P237, P238, P250, P254, P259, P263, P267, P404, P508, P514, P701, P708, P710, P713, P718, P801, P803, P805, P810, P814, P815, P817, P818, P819, P904, P909, P912, P915, S601, S702, S716, S717, S718.

Limitations and Restrictions: GAFTEMP Permalite roof insulation should not be left exposed to the weather. GAFTEMP Permalite insulation products are not recommended for continuous use at temperatures over 200 F. All insulation boards must be maintained in a dry condition prior to installation. For ambient temperatures below 40 degrees F, the use of hot bitumen application is not recommended due the rapid cooling of the bitumen. Direct torching: GAF does not recommend that modified bitumen roof membranes be directly torched to any insulation. A base sheet should be applied to the surface of the insulation and the torchable membrane torched to the base sheet.

GAFTEMP Isotherm: GAFTEMP Isotherm roof insulation is a non-structural, non-loadbearing material. It is not designed for direct traffic usage unless adequately protected. GAFTEMP Isotherm roof insulation should be stored dry and protected from the elements. No more insulation should be installed than can be completely covered with roofing on the same day. As unprotected urethane will burn, fire safety precautions should be observed wherever any isocyanurate products are used. GAFTEMP Isotherm is an insulation board made up of composite mat facers bonded to a core of isocyanurate foam. UL Design Numbers: P225, P230, P232, P259, P508, P510, P514, P710, P713, P715, P717, P718, P719, P720, P722, P723, P724, P727, P728, P729, P730, P732, P735, P738, P801, P815, P814, P818, P819, P823, 0827.

Mechanical Fasteners: GAF recommends the use of GAF TITE Coated or Stainless Steel mechanical fasteners for the attachment of GAFTEMP roof insulation products to steel decks. The correct number and type, per the Factory Mutual Approval Guide, should be used. Limitations: The values listed herein are typical, nominal values obtained under laboratory conditions using industry-standard test methods. These values are subject to change at any time without notice.

GEORGIA-PACIFIC CORP.

Georgia-Pacific cellulosic wood fiberboard insulation is produced in 1/2" and 1" thick homogenous (non-laminated) panels and are available in sizes 4 x 8, 4 x

4 and, upon request, 2 x 4. High Density is produced in 1/2" and 1" thickness for adhered roof systems and Regular Density is produced in 1/2" for ballasted or mechanically fastened systems. High Density is FM approved for adhered roof systems for I-60 and I-90 wind uplift in FM report J.I. OV7A2.AM and is also available, upon request, UL classified.

Compliances: ASTM C-208-1994, Grade 1 (Regular Density) and Grand II (High Density). It should be noted that Georgia-Pacific High Density roof fiberboard insulation is produced under ASTM C-208-1994 (14# transverse strength), and not under ASTM C-208-1995 (12# transverse strength) which is important for adhered roof systems and wind uplift design.

HUEBERT FIBERBOARD, CO.

HFB Insulation Board: Contact Huebert Fiberboard, Co. for any information on limitations or restrictions.

KOPPERS INDUSTRIES, INC.

Refer to Koppers current literature for additional product information, application instructions, and technical details. Contact Koppers Sales and Service Center at 800-558-2706 for additional information and assistance.

LUCAS SALES COMPANY, INC.

Lucas Lite Tapered Extruded Polystyrene: Lucas Lite is practical for building roofs having normal roof temperature conditions, but should not be used in contact with chimneys, heat vents, steam pipes, or other surfaces where temperatures exceed 150 F. It is not recommended for unballasted applications where sustained roof temperatures exceed 165 F. or intermittent temperatures exceeding 180 F. Lucas Lite is recommended for flat roofs only (less than 2:12 slope).

Lucas Lite is not to be applied with plastic, oil, or solvent-based roof cements. Lucas Lite will provide slope on flat roof decks. Deflected areas or low spots should be filled to provide a relatively level deck for the new tapered system.

The Lucas Tapered System: UL Design Numbers:
Foamular 150/250: FM Class I and 60 or 90 PSF, Insulated Roof Deck; UL Roof Deck Constr. 200, 219, 237, 289; UL Class A; See UL Fire Resistance directory for below membrane design numbers P225, P230, P251, P513, P701, P801, P803, P814, P815, P902, P922, P923.

Foamular 404: UL Roof Deck Constr. 1, 2, 3, 9, 14, 27, 58, 87, 200; UL Class A; FM Class I & 60 or 90 PSF, Insulated Steel Roof Deck; UL Design Numbers for inverted roof insulation: P225, P226, P229, P235, P248, P404, P505, P507, P701, P801, P803, P805,

P001, P004, P201, P202, P203, P204, P205, P206, P210, P211, P221, P224, P225, P230, P232, P233, P237, P238, P243, P252, P404. Building Codes: ICBO 3549, BOCA 8336, SBCCI 80108. Limitations and/or restrictions: Lucas Tapered System is not structural in nature; while highly moisture resistant, it should not be left exposed to the elements. Therefore, no more insulation should be applied than can be completely protected the same day. Lucas Tapered System is not designed for direct traffic unless appropriately protected. Lucas Tapered System is not acceptable for applications where it shall be exposed to direct interface with continuous soaking temperatures of 250 F. Lucas Tapered System will provide slope on flat roof decks. Deflected areas or low spots should be filled to provide a relatively level deck for new tapered roof insulation system. When applying directly over metal decks, 3/4" thickness at low points is recommended as a minimum. Check flute span requirements for specific minimum thickness requirements.

OWENS CORNING SPECIALTY & FOAM PRODUCTS

General: Product should not be used in contact with chimneys, heater vents, steam pipes, or other surfaces where temperatures exceed 150 F. Product should be applied to a substrate having an adequate fire rating as required by building codes, over metal or combustible deck. Some Thermapink applications may be directly over steel decking without the need for a thermal barrier, such as, gypsum board. Durapink Plus or a separator sheet should be used where insulation may come in contact with PVC membrane if required by membrane manufacturer. Any material containing organic solvents should not be used in direct contact with polystyrene insulation unless previously evaluated. Protect from extended exposure to sunlight. Product will ignite if exposed to fire of sufficient heat and intensity, although it does contain a flame retardant additive to inhibit ignition from small fire sources. For additional information, contact Owens Corning S&FP technical service (800) GET-PINK.

P811, P813, P902, P908, P909, P912, P915, P708.

Thermapink 18/25/40/60: Thermapink products are used in all applications where the Foamular product of similar compressive strength is used. Thermapink has the added advantage of being listed for use by UL in Roof Deck construction #457, applied directly over steel roof decks without the use of a thermal barrier. Roofing assemblies that require timed fire resistance or surface flame spread ratings may still require a gypsum board layer. See the UL Roofing Materials and Systems Directory for necessary details.

Tapered Insulation: Tapered Termapink 25, 40, and 60 are available for use in UL listed assemblies. See the appropriate listing directory for complete details.

Foamular 404 RB/Foamular 604 RB: For use in protected roof membrane assemblies and plaza decks when pavers are used as ballast or as a wearing surface. These are high-compressive-strength extruded polystyrene boards with drainage channels on the bottom four edges, as well as channels cut in the top of the board to separate the paver from the insulation.

Foamular 400/Foamular 600: High-compressive-strength products able to withstand heavy loads without damage to the panels or deterioration of the insulating value.

Durapink/Durapink FA, Durapink Plus: Specially designed for use in reroofing applications, either total tear-off or over existing BUR under single-ply mechanically fastened black EPDM without the need for any overlayment protection, ballast, or pavers and, in the case of Durapink Plus, directly under PVC. These products are not intended for use as a cover board in new roof construction or over added insulation in reroofing. Durapink FA can be used directly under fully adhered single-ply membranes, including black EPDM, by using water-based adhesives. Durapink and Durapink Plus provide excellent moisture resistance properties and a 25-psi compressive strength that endures foot traffic abuse and exposure to moisture; UL Class A and FM Class I-60 or 90 recover systems available with a wide variety of single-ply membranes. Durpink Plus has an 18 psi compressive strength and excellent moisture resistance. See UCI guide specification for detailed instructions.

Insul-Drain: Designed to be installed on below-grade foundation walls to the exterior side of the waterproofing membrane, the product has a network of precision-cut channels covered with filter fabric to provide drainage, protection, and insulation for the foundation.

PACEMAKER PLASTICS CO., INC.

Expanded polystyrene roof insulation available flat or tapered in sheet sizes to 48-in. x 96-in. Products manufactured under quality control program are UL classified and can be used in place of other roof insulations in UL-classified assemblies. Factory Mutual listed products; 20-year, 100 percent R-value warranty; laminated products; and Dow tapered insulation are also available.

Chemfoam: Approvals: ASTM C-578-87a, ICBO 4169, BOCA 8715, SBCCI 8735, UL R 12372, FM. UL P design numbers: P211, P225, P230, P232,

P238, P246, P250, P251, P254, P261, P262, P410, P411, P508, P509, P510, P511, P514, P701, P710, P713, P715, P717, P803, P814, P815, P817, P818, P902, P909, P912, P915, P919, P920, P921, P922, P923, J999, K901, K902, K903.

POLYFOAM PACKERS CORPORATION

ThermoSafe EPS and EPS/Composite Board Insulation: Available in sizes up to 192 inches long by 48.5 inches wide by 1/2-in to 40 inches thick. Boards between 2 and 8 inches thick are cut with 1/2-in. x 1/2-in. thickness shiplap edges on all sides as standard (ThermoLock) and at no additional charge. Boards with square edges are available on request. Tapered boards (ThermoSafe DrainMaster), for slope-to-drain systems are available with complete shop drawings. Both flat and tapered insulation boards are available with factory-laminated thermal barriers, facers, and coverboards (ThermoSafe-Plus) on one or two sides. **Approvals:** ASTM C-578; CABO 236, 238, 384 and 479; Factory Mutual file no. 0V8A0.AC, 0V8A1.AC, 0V8A2.AC; UL classification file R14213: tested under UL 790, 1256, and modified full-scale, ASTM E-108, and ASTM E-84 for flame spread and smoke, developed for use as designated in the UL Fire Resistance Directory. UL Design numbers: P211, P225, P226, P230, P232, P235, P238, P254, P325, P404, P413, P508, P510, P514, P904, P909, P912, J925, J941, J970. UL Construction number 458, and Wisconsin Wisconsin DILHR number 960041-I.

Quality Control: The ThermoSafe quality control program and UL classification meet or exceed requirements for building codes across the United States. ThermoSafe EPS roof insulation may be used with UL-approved (or equivalent) roof membrane systems and in place of other roof insulation in UL-classified assemblies.

Installation: Follow guideline specifications in current ThermoSafe EPS roof insulation literature or contact Polyfoam Packers Corp., 3751 Sunset Ave., Waukegan, IL 60087; (800) 800-0359.

Warranty: 20 year for 100 percent R-value retention and dimensional stability when installed as specified. See current literature for details.

R-MAX, INC.

Thermarroof Plus: **Uses:** Designed for use under mechanically fastened or ballasted single-ply systems only over steel or non-combustible roof decks. **Attachment:** Use four FM-approved screw and plate fasteners per 4' x 8' sheet under mechanically fastened single-ply membranes. Consult membrane supplier for additional fastening requirements.

Restrictions: Not for use under fully adhered single-ply, modified bitumen, or built-up roof membranes. Not to be used in exposed insulation systems.

Multi-Max: Uses: Designed for use under mechanically fastened or ballasted single-ply, built-up roof, or modified bitumen membranes. Consult Rmax for applications. Attachment: Use one FM-approved screw and plate mechanical fastener per three or four square feet of insulation under built-up roof membranes. Use one FM-approved mechanical fastener per two square feet of insulation under modified bitumen systems.

Multi-Max FA: Uses: Designed and suitable for use under built-up roofs or modified bitumen membrane systems. May be overlaid with perlite, wood fiberboard, or other suitable overlay to obtain membrane warranty from membrane manufacturer. Consult membrane manufacturer for requirements. Designed for use under all types of single-ply membranes: fully adhered, loose-laid and ballasted, and mechanically fastened. Attachment: Suitable for attachment with hot bitumens according to NRCA specifications, or use FM-listed and approved mechanical screw-and-plate fasteners at recommended density according to Rmax, Inc.: typically, one per four square feet for BUR or solid mopped-in overlay. Use one per two square feet for fully adhered single-ply membranes.

Thermarroof Composite: Uses: Designed for use under built-up roof or modified bitumen membranes. May be used under single-ply membranes when perlite layer specified over roof deck. May be applied to deck with perlite layer up to receive torch applied modified bitumen or hot mopped built-up roof membrane. Attachment: Use one FM-approved screw and plate mechanical fastener per three or four square feet of insulation under built-up roof membranes. Use one FM-approved mechanical fastener per two square feet of insulation under modified bitumen systems.

TEMPLE

Fiber Base HD: FM-approved roof insulation for I-60 and I-90 wind uplift rated system as outlined in FM report J.I. 2M3A2.AM and J.I. 1T6A2.AM. FM allows Fiber Base HD wherever a generically described wood fiber insulation is listed. Fiber Base HD is available by special order as UL-classified product for the built-up roof covering material. See R11115(N) under TFJR in UL Building Materials directory for specific details. Consult the roofing membrane manufacturer and the current FM approval guide for system compatibility and specific application instructions. Warning: Do not apply flame directly to Fiber Base HD. When applying modified bitumen membranes, a base sheet is required. Fiber Base HD may smolder or burn.

Extinguish completely if ignited. Refer to Fiber Base HD applications instructions for specific recommendations. Compliances: Industry Standard ANSI/AHA A 194.1 and ASTM C208.

TENNECO BUILDING PRODUCTS

Extruded Polystyrene Roofing Recover Board (3/8-in. thickness): available as 4 ft. x 50 ft. fanfolded bundle (Amocor-PB6), 4 ft. x 8 ft. sheets (Amocor Plygood-PG38), or 4 ft. x 9 ft. sheets (Amocor Plygood-PG39).

Extruded Polystyrene Insulation Board: Available as Amifoam-CM (square edge), or Amifoam-SL (sidelap edge), Amifoam-DC (drainage channels). Amifoam available as 2 ft. x 8 ft. and 4 ft. x 8 ft. sizes. R-values and C-value for Amifoam are for Type IV. Underwriters Laboratories, Inc. Roof deck construction numbers: Amifoam-CM, SL, 1, 2, 3, 9, 14, 58, 87, 200.

Limitations and/or restrictions: Amocor-PB6, Amocor-Plygood-PG38, and Amocor Plygood-PG39 Roofing Recovery Boards are designed for use in mechanically fastened or loose-laid and ballasted single-ply roofing systems. Amifoam Roofing Insulation Boards are designed for use in partially or fully adhered (1/2-in. wood fiberboard must be applied prior to membrane application), mechanically fastened or loose-laid and ballasted, protected roof membrane assemblies, and tapered systems. All Amocor Roofing Recovery and Amifoam Insulation Boards have poor resistance to fuel oil, oil-based paint, olefins, ketones, gasoline, chlorinated and aromatic hydrocarbons, and naphthas. Although these products contain a flame retardant additive intended to inhibit a small source fire, they, like most commercially available foam plastic insulations, are combustible and should not be exposed to flame or other ignition sources. These materials may constitute a fire hazard if improperly used. Fire and building codes should be followed. Specific information: Obtain installation instructions from your supplier or Tenneco Building Products, 2907 Log Cabin Drive, Smyrna, GA 30080-7013.

THIS PAGE INTENTIONALLY LEFT BLANK

ROOF FASTENERS

THIS PAGE INTENTIONALLY LEFT BLANK

Information on Roof Fasteners

General Information

The Roof Fastener Section of the *Low-Slope Roofing Materials Guide* provides information on a variety of types of fasteners used for attaching roofing materials to the deck. It is divided into four separate parts depending on the type of deck that the fastener is intended to be used with: (1) Steel Decks; (2) Wood Decks; (3) Concrete Decks; and (4) Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks. No attempt has been made to categorize the listed fastener by fastener type (e.g., screws, staples); the name and description of the product should be informative in this regard. The data in this section has been provided to the *Guide* by the manufacturer and/or company that markets its name-brand fastener product.

Material Type

In some instances, a number will be added to carbon steel, hardened carbon steel, and stainless steel. Such designations as *1022* for carbon steel and *304* for stainless steel refer to certain properties of the steel involving strength, corrosion resistance, and alloys used. The descriptive standards for these designations are promulgated by the American Iron & Steel Institute (AISI) and are available from AISI.

Shank Type

There is a variety of terms used to describe the shanks in threaded fasteners. Some listers simply indicate that the shank is *threaded* (or *spiral threaded* or *annular threaded*), others that the shank has a *standard thread*, a *buttress thread*, or a *modified buttress thread*, and still others that the threads are *single lead* or *twin lead*. There are basically three types of spiral threaded shanks: standard thread, buttress thread, and modified buttress thread. The standard thread projects top and bottom at a 30-degree angle. The buttress thread projects at the top at a 4-degree angle and at the bottom at a 30-degree angle; it is, in effect, more nearly perpendicular to the shank at the top. The modified buttress thread projects at an angle anywhere between the angles of the standard thread and the buttress thread. Twin-lead threads are two separate threads that wind around the shank, in contrast to the single-lead threaded screw.

Annular-threaded shanks consist of a series of ringed grooves rather than a spiral. Fluted shanks have wider spirals and flutes, or vertical parallel grooves.

Point Types

The terms *self-drilling* and *self-piercing* are commonly used, sometimes in combination with other descriptions, such as *pinch* and *gimlet*. Often, the latter terms are used independently. There are a variety of descriptions of point types (*pinch*, *x*) that are self-drilling, that is, the point drills a pilot hole for the screw. The term *gimlet* refers to a self-piercing point, which, unlike the self-drilling point, punches a hole for the threaded fastener. *Nail point* and *diamond point* fasteners are varieties of non self-drilling fasteners.

Head Shape

Head shapes are described variously, and manufacturers do not always agree as to nomenclature. Common terms are *No. 3 phillips head* or *No.2 phillips head*, which refer to the size of the phillips grooves; however, these terms can be combined with such terms as *pan head*, *truss head*, and the like, which describe the shape of the head. Among the more common shapes are hex-head, which has a hexagonal shape; flat head, which is flat at the top and is designed for countersinking; pan head, which is rounded at the top; and truss head, which is basically a flattened pan head. Many additional terms are used by manufacturers; if in doubt, the *Guide* user should refer to their literature to determine the exact head shape.

Technical Information on Roof Fastener Products

Factory Mutual Requirements

Specific reference is made in the Fastener Section to FM Approval Standard for Class I Roof Covers Class Number 4470. (For information concerning the totality of the 4470 standard, see the general introduction.) In addition, results are requested on individual tests that are associated with this standard, that FM commonly performs for manufacturers when products are submitted for evaluation, or that may be performed by independent laboratories. An enumeration of these follows.

Item 16 Average Pullout Resistance (lbs.); (Item 17 Lightweight Concrete,...Section) In the sections for steel, concrete, and wood decks, reference is made to FM Tinius Olsen pullout resistance tests. Factory Mutual does not report on fastener pullout resistance tests as a part of its approval requirements for Standard 4470 Class I Roof Covers or Standard 4450 Class I Insulated Steel Deck Roofs. Manufacturers may request that FM conduct such tests or may use either their own resources or other laboratories to conduct them. The inference should not be made that the test results published in this section were necessarily conducted by Factory Mutual. The gauges listed for steel decks and the wood and concrete specifications are simply those normally associated with the Tinius Pullout Resistance tests.

In the section for lightweight concrete, gypsum, and cementitious wood fiber decks, results of any pullout tests that the manufacturer may have conducted are requested.

Item 18 Meets FM Approval Requirements as a Component of Class I...Deck It should be stressed that Factory Mutual issues approvals based on an evaluation of total roof systems, not for individual components, such as fasteners. This category only requests that the manufacturer indicate whether the fastener is approved by FM as a component of a system. Readers should refer to the *FM Approval Guide* and its supplements for details concerning the applicable roof systems in which the fasteners are used.

Item 19 (Steel Decks) Passes Test Procedure for Corrosion Resistance for Standard 4470 FM Standard 4470 includes a test for corrosion resistance. Known as DIN 50018 Standard Kesternick Test, it is designed to assess the potential damage to metal fasteners used for mechanically fastened roof covers and mechanical fasteners used for insulation.

Item 20 (Steel Decks) Item 19 Other Sections Accepted by the Following Codes: This is where the acronyms for code-setting organizations, which include Building Officials & Code Administrators International, Inc. (BOCA), Southern Building Code Congress International (SBCCI), and International Conference of Building Officials (ICBO), will be found and also where some government jurisdictions that use their own code approvals will be listed (e.g., Metro-Dade County, [Fla.]). This information is provided as a quick reference for the *Guide* user only; it is necessary to refer to the publications of the organizations to understand the context in which these approvals are given. Each of the organizations has its own set of criteria, and each region of the country sets

codes based on the recommendations of one or another of the code-setting bodies. The *Guide* user needs to determine which set of criteria in general is relevant to his particular locality and then understand what the approval process for the particular code-setting organization implies.

Following is a list of the publications produced by the code-setting organizations and where they may be obtained:

BOCA publishes *The BOCA National Building Code/Year*, 4051 W. Flossmor Rd., Country Club Hills, Ill. 60478

ICBO publishes *Uniform Building Code [] Year*; 5360 Workman Mill Rd., Whittier, Calif., 90601.

SBCCI publishes *Standard Building Code [] Year Edition*; 900 Montclair Rd., Birmingham, Ala. 35213.

Manufacturers will also enter other approvals, such as those from government agencies (e.g., HUD) and any other approvals that the product may have received. In such cases, it will be necessary to contact the manufacturer directly to obtain further details on the nature and significance of these approvals.

Item 21 (Steel Decks) Item 20 Other Sections Warranty Available from the Manufacturer The warranty available from the manufacturer may refer to a roof system warranty of which the fastener product is only a component. For details, contact the manufacturer.

Index to Listed Roof Fasteners

	STEEL DECKS	WOOD DECKS	CONCRETE DECKS	LIGHTWEIGHT CON- CRETE, GYPSUM, OR WOOD FIBER DECKS		STEEL DECKS	WOOD DECKS	CONCRETE DECKS	LIGHTWEIGHT CON- CRETE, GYPSUM, OR WOOD FIBER DECKS
BMCA INSULATION PRODUCTS INC. 300 N. Haven Avenue Ontario, CA 91761 800/858-8868 FAX 909/390-8764	646					654	679	711	734
CARLISLE SYNTEC INCORPORATED 1285 Ritner Hwy. P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX 717/245-7053	646	672	704	722		656	951	711	734
CELOTEX CORP. 4010 Boy Scout Blvd. Tampa, FL 33607 813/873-4000	647	675	706	724		659	684	712	734
CONSTRUCTION FASTENERS INC. DEKFAST PRODUCT GROUP Spring & Van Reed Box 6326 Wyomissing, PA 19610 610/376-5751 FAX 610/376-8551	649	675	706	724			685	714	
DURO-LAST INC. 525 Morley Drive Saginaw, MI 48601 800/248-0280 FAX 800/432-9331	651	676	707			660	686	713	735
ES PRODUCTS INC. 280 Franklin Street P.O. Box 810 Bristol, RI 02809 401/253-8600 FAX 401/253-8896		677		725		662	688	714	737
FIRESTONE BUILDING PRODUCTS 525 Congressional Blvd. Carmel, IN 46032 800/428-4442 FAX 317/575-7100	651	687	707	729			690		
GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 FAX 973/628-3356	652	684	708	730		664	690	716	738
HILTI INC. P.O. Box 21148 Tulsa, OK 74121 800/879-8000 FAX 918/252-6988 E-mail: ushilti.com									
ITW BUILDDEX 1349 W. Bryn Mawr Ave. Itasca, IL 60143 800/284-5339 630/595-3500 FAX 630/595-6329									
JOHNS MANVILLE INTERNATIONAL INC. Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904									
NATIONAL NAIL CORP. 2964 Clydon SW Grand Rapids, MI 49509 800/746-5659 FAX 616/531-5970									
OLYMPIC MANUFACTURING GROUP INC. P.O. Box 508 153 Bowles Road Agawam, MA 01001 800/633-3800 or 413/789-0252 FAX 413/789-1069									
POWERS RAWL, POWERS FASTENERS, INC. New Rochelle, NY 10801 914/235-6300 FAX 914/576-6483 Web: www.powers.com									
SENCO PRODUCTS 8485 Broadwell Road Cincinnati, OH 45244 800/543-4596 FAX 800/543-3299									
SFS STADLER INC. 5460 Wegman Drive Valley City, OH 44280 330/273-7171 or 800/648-6032 FAX 330/273-7181									

Index to Listed Roof Fasteners

STEEL DECKS
WOOD DECKS
CONCRETE DECKS
LIGHTWEIGHT CON-
CRETE, GYPSUM, OR
WOOD FIBER DECKS

STEEL DECKS
WOOD DECKS
CONCRETE DECKS
LIGHTWEIGHT CON-
CRETE, GYPSUM, OR
WOOD FIBER DECKS

SIMPLEX NAILS & FASTENERS, INC. 100 Petty Road, Suite A Lawrenceville, GA 30043-4813 800/622-3354 FAX 770/822-6822 E-Mail: technical@www.simplexnails.com		693	719	739
TRI-PLY P.O. Box 2685 Port Arthur, TX 77643 800/331-3007 FAX: 409/727-0771	668		718	741

TRU-FAST CORPORATION U.S. Hwy. 6 and State Route 2 Bryan, OH 43506 800/443-9602 FAX 419/636-1784 E-mail: tru-fast@bright.net Web Site: trufast.com	669	701	719	741
U.S. INTEC, INC. P.O. Box 2845 Port Arthur, TX 77643 800/624-6832 (Tech Hotline) 800/231-4631 (US) 800/392-4216 (TX)	671	703	721	742

THIS PAGE INTENTIONALLY LEFT BLANK

Roof Fasteners: Steel Decks

1. COMPANY NAME	BMCA INSULATION PRODUCTS INC.				CARLISLE SYNTEC INCORPORATED			
2. PRODUCT NAME	LEXSUCO INSULATION CLIP				HP FASTENER			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED STEEL				CARBON STEEL			
6. COATING TYPE	PROPRIETARY				EPOXY ELECTRODEPOSITION			
7. SHANK TYPE	MULTI-HOOK				SINGLE LEAD, BUTTRESS THREAD			
8. POINT TYPE	HARDENED PIERCING				MINI-DRILL POINT			
9. METHOD OF ATTACHMENT	MECHANICAL LOCKING TONGUES				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	NA	2 3/8	1 3/8	15/16	0.180	1 1/4	1/2	3/4
	NA	3 5/8	2 5/8	15/16	0.180	1 3/4	1	3/4
	NA	4 5/8	3 5/8	15/16	0.180	2 1/4	1 1/2	3/4
					0.180	2 3/4	2	3/4
					0.180	3 1/4	2 1/2	3/4
					0.180	3 3/4	3	3/4
					0.180	4 1/4	3 1/2	3/4
					0.180	5	4 1/4	3/4
					0.180	6	5 1/4	3/4
					0.180	7	6 1/4	3/4
					0.180	8	7 1/4	3/4
					0.180	9	8 1/4	3/4
					0.180	10	9 1/4	3/4
					0.180	11	10 1/4	3/4
					0.180	12	11 1/4	3/4
					0.180	13	12 1/4	3/4
					0.180	14	13 1/4	3/4
					0.180	15	14 1/4	3/4
11. HEAD SHAPE	FLAT RECTANGLE				WAFER			
12. HEAD DIMENSIONS (inches)								
THICKNESS					0.105			
DIAMETER	1.00 X 0.6875				0.430			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	3 1/8	STEEL		SQUARE W/ ROUNDED CORNERS	2 7/8	GALVALUME	
					ROUND LOCKING	2	GALVALUME GALVALUME W/ PLASTIC	
					ROUND ROUND	2 3	PLASTIC PLASTIC	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)					REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)	RUBBER Mallet (REQUIRED)							
OTHER					AUTOMATIC FASTENING TOOL			
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE								
20 GAUGE								
22 GAUGE	325							
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	NO				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	NO				YES			
19. ACCEPTED BY THE FOLLOWING CODES	UL				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	NO				YES			
21. SEE APPENDIX IF CHECKED	X							

NA=not applicable

Roof Fasteners: Steel Decks

CARLISLE SYNTec INCORPORATED HP PURLIN FASTENER				CARLISLE SYNTec INCORPORATED HP-X FASTENER				CELOTEx CORP. ANCHORBOND #12			
U.S.				U.S.				U.S.			
X								X			
X				X				X			
CARBON STEEL				CARBON STEEL				HARDENED CARBON STEEL			
EPOXY ELECTRODEPOSITION				EPOXY ELECTRODEPOSITION				ORGANIC FLUOROPOLYMERS			
SINGLE LEAD, "V" THREAD				SINGLE LEAD, BUTTRESS THREAD				SPIRAL THREAD			
DRILL POINT				MINI-DRILL POINT				SELF-DRILLING			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.160	3	2	1		2	1 1/4	3/4	0.222	1 5/8	1 1/4	3/8
0.160	4	3	1		3	2 1/4	3/4	0.222	2 1/4	1 7/8	3/8
0.160	5	4	1		4	3 1/4	3/4	0.222	2 7/8	2 1/2	3/8
0.160	6	5	1		5	4 1/4	3/4	0.222	3 3/4	3 3/8	3/8
0.160	7	6	1		6	5 1/4	3/4	0.222	4 1/2	4 1/8	3/8
					7	6 1/4	3/4	0.222	5	4 5/8	3/8
					8	7 1/4	3/4				
					10	9 1/4	3/4				
					12	11 1/4	3/4				
					14	13 1/4	3/4				
HEX				TRUSS, #3 PHILLIPS				#3 PHILLIPS TRUSS & 1/4" HEX WASHER HEAD			
0.140				0.115				0.109			
0.430				0.435				0.438			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
LOCKING ROUND	2 2	GALVALUME WITH PLASTIC PLASTIC		ROUND	2 3/8	CARBON STEEL		HEXAGONAL	2 7/8	GALVALUME	
REQUIRED				REQUIRED				REQUIRED			
								OPTIONAL			
								637			
								551			
								430			
NO				YES				YES			
				YES				YES			
				FM				FM			
YES				YES				YES			
								X			

Roof Fasteners: Steel Decks

1. COMPANY NAME	CELOTEX CORP.				CELOTEX CORP.			
2. PRODUCT NAME	ANCHORBOND #14				ANCHORBOND #15 HEAVY DUTY			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				HARDENED CARBON STEEL			
6. COATING TYPE	ORGANIC FLUOROPOLYMERS				ORGANIC FLUOROPOLYMERS			
7. SHANK TYPE	SPIRAL THREAD				SPIRAL THREAD			
8. POINT TYPE	SELF-DRILLING				SELF-DRILLING			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.238	1 1/4	7/8	3/8	0.264	1 1/4	3/4	1/2
	0.238	1 5/8	1 1/4	3/8	0.264	2	1 1/2	1/2
	0.238	1 7/8	1 7/8	3/8	0.264	3	2 1/2	1/2
	0.238	2 7/8	2 1/2	3/8	0.264	4	3 1/2	1/2
	0.238	3 1/4	2 7/8	3/8	0.264	5	4 1/2	1/2
	0.238	3 3/4	3 3/8	3/8	0.264	6	5 1/2	1/2
	0.238	4 1/2	4 1/8	3/8	0.264	7	6 1/2	1/2
	0.238	5	4 5/8	3/8	0.264	8	7 1/2	1/2
	0.238	6	5 5/8	3/8	0.264	10	9 1/2	1/2
	0.238	7	6 5/8	3/8	0.264	12	11 1/2	1/2
	0.238	8	7 5/8	3/8	0.264	14	13 1/2	1/2
					0.264	16	15 1/2	1/2
11. HEAD SHAPE	#3 PHILLIPS FLAT TRUSS				#3 PHILLIPS TRUSS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.109				0.109			
DIAMETER	0.438				0.438			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	HEXAGONAL	2 7/8	STAINLESS STEEL		HEXAGONAL	2 7/8	STAINLESS STEEL	
	HEXAGONAL	2 7/8	GALVALUME		HEXAGONAL	2 7/8	GALVALUME	
	HEXAGONAL	3	PLASTIC		HEXAGONAL	2	GALVALUME	
	ROUND	2	GALVALUME		ROUND			
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL				OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	721				735			
20 GAUGE	639				689			
22 GAUGE	507				493			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, UL				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

CELOTEX CORP.				CONSTRUCTION FASTENERS, INC.				CONSTRUCTION FASTENERS, INC.			
ANCHORBOND #14 STAINLESS STEEL				DEKFAST #12				DEKFAST #14			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
STAINLESS STEEL (#304)				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
ORGANIC FLUOROPOLYMERS				ORGANIC				ORGANIC			
SPIRAL THREAD				SPIRAL THREAD				SPIRAL THREAD			
SELF-DRILLING				SELF-DRILLING				SELF-DRILLING			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.264	3	2	1	0.222	1 5/8	7/8	3/4	0.238	1 1/4	1/2	3/4
0.264	4	3	1	0.222	2 1/4	1 1/2	3/4	0.238	1 5/8	7/8	3/4
0.264	5	4	1	0.222	2 7/8	2 1/8	3/4	0.238	2 1/4	1 1/2	3/4
0.264	6	5	1	0.222	3 1/4	2 1/2	3/4	0.238	2 7/8	2 1/8	3/4
0.264	7	6	1	0.222	3 3/4	3	3/4	0.238	3 1/4	2 1/2	3/4
0.264	8	7	1	0.222	4 1/2	3 3/4	3/4	0.238	3 3/4	3	3/4
				0.222	5	4 1/4	3/4	0.238	4 1/2	3 3/4	3/4
				0.222	6	5 1/4	3/4	0.238	5	4 1/4	3/4
				0.222	7	6 1/4	3/4	0.238	6	5 1/4	3/4
				0.222	8	7 1/4	3/4	0.238	7	6 1/4	3/4
								0.238	8	7 1/4	3/4
								0.238	10	9 1/4	3/4
								0.238	12	11 1/4	3/8
#3 PHILLIPS TRUSS				#3 PHILLIPS TRUSS & 1/4" HEX WASHER HEAD				#3 PHILLIPS FLAT TRUSS			
0.109				0.109, 0.130				0.109			
0.438				0.438, 0.335				0.438			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
HEXAGONAL	2 7/8	STAINLESS STEEL		HEXAGONAL	2 7/8	GALVALUME		HEXAGONAL	2 7/8	GALVALUME	
HEXAGONAL	2 7/8	GALVALUME		HEXAGONAL	2 7/8	RECESS GALVALUME		HEXAGONAL	3	PLASTIC	
HEXAGONAL	3	PLASTIC		HEXAGONAL	3	PLASTIC		HEXAGONAL	2	GALVALUME	
ROUND	2	GALVALUME		ROUND	2	GALVALUME		ROUND			
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
790				637				721			
550				551				639			
457				430				507			
YES				YES				YES			
YES				YES				YES			
FM				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			
				X							

Roof Fasteners: Steel Decks

1. COMPANY NAME	CONSTRUCTION FASTENERS, INC.				CONSTRUCTION FASTENERS, INC.			
2. PRODUCT NAME	DEKFAST #15 HI-STRENGTH				#14 DEKFAST STAINLESS STEEL			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				STAINLESS STEEL (TRIMRITE)			
6. COATING TYPE	ORGANIC				NONE			
7. SHANK TYPE	SPIRAL THREAD				SPIRAL THREAD			
8. POINT TYPE	SELF-DRILLING				SELF-DRILLING			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.264	1 1/4	1/2	1/4	0.235	1 1/2	1	3/4
	0.264	2	1 1/4	1/4	0.235	2	1 1/2	3/4
	0.264	3	2 1/4	1/4	0.235	3	2 1/2	3/4
	0.264	4	3 1/4	1/4	0.235	4	3 1/2	3/4
	0.264	5	4 1/4	1/4	0.235	5	4 1/2	3/4
	0.264	6	5 1/4	1/4	0.235	6	5 1/2	3/4
	0.264	7	6 1/4	1/4	0.235	7	6 1/2	3/4
	0.264	8	7 1/4	1/4	0.235	8	7 1/2	3/4
	0.264	10	9 1/4	1/4	0.235	10	9 1/2	3/4
	0.264	12	11 1/4	1/4	0.235	12	11 1/2	3/4
	0.264	14	13 1/4	1/4				
	0.264	16	15 1/4	1/4				
	0.264	18	17 1/4	1/4				
	0.264	20	19 1/4	1/4				
	0.264	22	21 1/4	1/4				
	0.264	24	23 1/4	1/4				
	0.264	26	25 1/4	1/4				
11. HEAD SHAPE	#3 PHILLIPS TRUSS				#3 PHILLIPS TRUSS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.118				0.118			
DIAMETER	0.438				0.440			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	HEXAGONAL	2 7/8	GALVALUME		ROUND	2	GALVALUME	
	ROUND	2	GALVALUME		ROUND	3	GALVALUME	
	ROUND	2 1/2	GALVALUME		ROUND	3	PLASTIC	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL				OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	935				830			
20 GAUGE	689				656			
22 GAUGE	493				472			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

DURO LAST INC.				FIRESTONE BUILDING PRODUCTS				FIRESTONE BUILDING PRODUCTS			
DURO LAST SCREWS #14				FIRESTONE ALL PURPOSE				FIRESTONE HEAVY DUTY			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
STEEL				SAE 1022, HEAT TREATED				SAE 1022, HEAT TREATED			
FLUOROCARBON				ORGANIC				FLUOROCARBON			
SPIRAL THREAD				SPIRAL THREADED				BUTTRESS THREAD			
SELF-DRILLING				SELF-DRILLING				DRILL POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.190	1 3/4	1	3/4	0.235	1 1/4	1/2	3/4	0.264	1 1/4	1/2	3/4
0.190	2	1 1/4	3/4	0.235	1 5/8	7/8	3/4	0.264	2	1 1/4	3/4
0.190	2 1/2	1 3/4	3/4	0.235	2 1/4	1 1/2	3/4	0.264	3	2 1/4	3/4
0.190	3	2 1/4	3/4	0.235	2 7/8	2 1/8	3/4	0.264	4	3 1/4	3/4
0.190	3 1/2	2 3/4	3/4	0.235	3 1/4	2 1/2	3/4	0.264	5	4 1/4	3/4
0.190	4	3 1/4	3/4	0.235	3 3/4	3	3/4	0.264	6	5 1/4	3/4
0.190	4 1/2	3 3/4	3/4	0.235	4 1/2	3 3/4	3/4	0.264	7	6 1/4	3/4
0.190	5	4 1/4	3/4	0.235	5	4 1/4	3/4	0.264	8	7 1/4	3/4
0.190	5 1/2	4 3/4	3/4	0.235	6	5 1/4	3/4	0.264	10	9 1/4	3/4
0.190	6	5 1/4	3/4	0.235	7	6 1/4	3/4	0.264	12	11 1/4	3/4
0.190	7	6 1/4	3/4	0.235	8	7 1/4	3/4	0.264	14	13 1/4	3/4
0.190	8	7 1/4	3/4								
0.190	9	8 1/4	3/4								
0.190	10	9 1/4	3/4								
0.190	11	10 1/4	3/4								
0.190	12	11 1/4	3/4								
TRUSS				ROUND MUSHROOM #3 PHILLIPS				ROUND MUSHROOM #3 PHILLIPS			
0.103				0.110				0.110			
0.438				0.437				0.437			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	POLYCARBONATE		HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME		HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL											
517				450				600			
YES				YES				YES			
YES				YES				YES			
FM, ICBO, BOCA, SBCCI				FM, ICBO, UL, SBCCI				FM, ICBO, UL, SBCCI			
YES				YES				YES			

Roof Fasteners: Steel Decks

1. COMPANY NAME	GAF MATERIALS CORP.				GAF MATERIALS CORP.			
2. PRODUCT NAME	GAFTITE #12-11/EVERGUARD EGIN				GAFTITE #14-10/EVERGUARD EGHG			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	STAINLESS STEEL, SPECIAL 400-SERIES BLEND				HARDENED CARBON STEEL			
6. COATING TYPE	CR-10 FLUOROCARBON				CR-10 FLUOROCARBON			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	PINCH, SELF-DRILLING				PINCH, SELF-DRILLING OR TAPEX			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.172	1 5/8	1 3/8	1/2	0.190	1 1/4	3/4	1/2
	0.172	2 1/4	1 3/4	1/2	0.190	1 3/4	1 1/4	1/2
	0.172	2 7/8	2 3/8	1/2	0.190	2	1 1/2	1/2
	0.172	3 1/4	2 3/4	1/2	0.190	3	2 1/2	1/2
	0.172	3 3/4	3 1/4	1/2	0.190	4	3 1/2	1/2
	0.172	4 1/2	4	1/2	0.190	5	4 1/2	1/2
	0.172	5	4 1/2	1/2	0.190	6	5 1/2	1/2
	0.172	6	5 1/2	1/2	0.190	7	6 1/2	1/2
	0.172	7	6 1/2	1/2	0.190	8	7 1/2	1/2
	0.172	8	7 1/2	1/2	0.190	9	8 1/2	1/2
					0.190	10	9 1/2	1/2
					0.190	11	10 1/2	1/2
					0.190	12	11 1/2	1/2
					0.190	14	13 1/2	1/2
					0.190	16	15 1/2	1/2
					0.201	17	16 1/2	1/2
					0.201	18	17 1/2	1/2
					0.201	20	19 1/2	1/2
					0.201	21	20 1/2	1/2
					0.201	22	21 1/2	1/2
					0.201	24	23 1/2	1/2
11. HEAD SHAPE	ROUND TRUSS, #3 PHILLIPS				ROUND TRUSS, #3 PHILLIPS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.110				0.110			
DIAMETER	0.435				0.435			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3	Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material		
	ROUND	2	STAINLESS STEEL	ROUND	2	STEEL		
	ROUND	3	STAINLESS STEEL	ROUND	2	PLASTIC		
	ROUND	2	STEEL	ROUND	3	STEEL		
	ROUND	2	PLASTIC	ROUND	3	PLASTIC		
	ROUND	3	STEEL	ROUND	2	STAINLESS STEEL		
	ROUND	3	PLASTIC	ROUND	3	STAINLESS STEEL		
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL				OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	540				585			
20 GAUGE	501				535			
22 GAUGE	456				505			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

GAF MATERIALS CORP.				GAF MATERIALS CORP.				GAF MATERIALS CORP.			
GAFTITE #12-11/EVERGUARD EGIN				GAFTITE #14-10/EVERGUARD EGHD				EVERGUARD EGX			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HARDENED CARBON STEEL				STAINLESS STEEL, SPECIAL 400-SERIES BLEND				HARDENED CARBON STEEL			
CR-10 FLUOROCARBON				CR-10 FLUOROCARBON				CR-10FLUOROCARBON			
THREADED				THREADED				THREADED			
PINCH, SELF-DRILLING; GIMLET, OR TAPEX				PINCH, SELF-DRILLING				DOUBLED-EDGE DRILL			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.160	1 5/8	1 1/8	1/2	0.201	1 1/4	3/4	1/2	0.201	2	1 1/4	1/4
0.160	2 1/4	1 3/4	1/2	0.201	1 3/4	1 1/4	1/2	0.201	3	2 1/4	1/4
0.160	2 7/8	2 3/8	1/2	0.201	2	1 1/2	1/2	0.201	4	3 1/4	1/4
0.160	3 1/4	2 3/4	1/2	0.201	3	2 1/2	1/2	0.201	5	4 1/4	1/4
0.160	3 3/4	3 1/4	1/2	0.201	4	3 1/2	1/2	0.201	6	5 1/4	1/4
0.160	4 1/2	4	1/2	0.201	5	4 1/2	1/2	0.201	7	6 1/4	1/4
0.160	5	4 1/2	1/2	0.201	6	5 1/2	1/2	0.201	8	7 1/4	1/4
0.160	6	5 1/2	1/2	0.201	7	6 1/2	1/2	0.201	10	9 1/4	1/4
0.160	8	7 1/2	1/2	0.201	8	7 1/2	1/2	0.201	12	11 1/4	1/4
				0.201	9	8 1/2	1/2	0.201	14	13 1/4	1/4
				0.201	10	9 1/2	1/2	0.201	16	15 1/4	1/4
				0.201	12	11 1/2	1/2				
				0.201	14	13 1/2	1/2				
				0.201	16	15 1/2	1/2				
				0.201	18	17 1/2	1/2				
				0.201	20	19 1/2	1/2				
				0.201	21	20 1/2	1/2				
				0.201	22	21 1/2	1/2				
				0.201	24	23 1/2	1/2				
ROUND TRUSS, #3 PHILLIPS				ROUND TRUSS, #3 PHILLIPS				ROUND TRUSS, #3 PHILLIPS			
0.110				0.108				0.110			
0.435				0.435				0.435			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	STEEL		ROUND	2	STAINLESS STEEL		ROUND	2 3/8	STEEL	
ROUND	2	PLASTIC		ROUND	3	STAINLESS STEEL					
ROUND	3	STEEL		ROUND	2	STEEL					
ROUND	2	STAINLESS STEEL		ROUND	2	PLASTIC					
ROUND	3	STAINLESS STEEL		ROUND	3	STEEL					
ROUND	3	PLASTIC		ROUND	3	PLASTIC					
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
540				585				1114			
501				535				937			
436				505				718			
YES				YES				YES			
YES				YES				YES			
FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL			
YES				YES				YES			

Roof Fasteners: Steel Decks

1. COMPANY NAME	GAF MATERIALS CORP./N.T.B. FASTENING SYSTEM INC.				HILTI INC.			
2. PRODUCT NAME	N-C				HILTI FASTENERS #12			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	NYLON				CARBON STEEL C-1022			
6. COATING TYPE	NA				TRU-KOTE PC-3 (FLOUOROCARBON PAINT)			
7. SHANK TYPE	SPIRAL THREAD				THREADED			
8. POINT TYPE					DOUBLE FLUTESELF-DRILLING			
9. METHOD OF ATTACHMENT	THREADED, SPIN WELD				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.250	4	3 3/4	1/2	0.160	1 5/8	1 1/8	1/2
	0.250	6	5 3/4	1/2	0.160	2 1/4	1 3/4	1/2
	0.250	8	7 3/4	1/2	0.160	2 7/8	2 3/8	1/2
	0.250	10	9 3/4	1/2	0.160	3 1/4	2 3/4	1/2
	0.250	12	11 3/4	1/2	0.160	3 3/4	3 1/2	1/2
					0.160	4 1/2	4	1/2
					0.160	5	4 1/2	1/2
					0.160	6	5 1/2	1/2
					0.160	7	6 1/2	1/2
					0.160	8	7 1/2	1/2
					0.160	10	9 1/2	1/2
					0.160	12	11 1/2	1/2
11. HEAD SHAPE	DOUBLE HEX				TRUSS #3 PHILLIPS, 1/4 HEX WASHER			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.100				0.105			
DIAMETER	1.0				0.440			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND				ROUND	2	GALVALUME	
	WITH SPIKES	2	NYLON		ROUND	3	GALVALUME	
	ROUND				ROUND	3	PLASTIC	
	WITH SPIKES	3	CARBON STEEL					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)					OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	500+				558			
20 GAUGE	500+				456			
22 GAUGE	500+				452			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	NA				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM				FM, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

HILTI INC.				HILTI INC.				HILTI INC.			
HILTI FASTENERS #12 S.S.				HILTI FASTENERS #10				HILTI FASTENERS #14			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
STAINLESS STEEL (TRIMRITE ALLOY #S42010)				CARBON STEEL C-1022				CARBON STEEL C-1022			
				TRU-KOTE PC-3 (FLOUROROCARBON PAINT)				TRU-KOTE PC-3 (FLOUROROCARBON PAINT)			
THREADED				THREADED				THREADED			
SELF-DRILLING				GIMLET				DOUBLE FLUTESELF-DRILLING			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.160	1 5/8	1 1/8	1/2	0.150	1 5/8	1 1/8	1/2	0.180	1 1/2	1	1/2
0.160	2 1/4	1 3/4	1/2	0.150	2 1/4	1 3/4	1/2	0.180	2	1 1/2	1/2
0.160	2 7/8	2 3/8	1/2	0.150	2 7/8	2 3/8	1/2	0.180	3	2 1/2	1/2
0.160	3 3/4	3 1/2	1/2	0.150	3 3/4	3 1/2	1/2	0.180	4	3 1/2	1/2
0.160	4 1/2	4	1/2	0.150	4 1/2	4	1/2	0.180	5	4 1/2	1/2
0.160	5	4 1/2	1/2	0.150	5	4 1/2	1/2	0.180	6	5 1/2	1/2
0.160	6	5 1/2	1/2	0.150	6	5 1/2	1/2	0.180	7	6 1/2	1/2
0.160	7	6 1/2	1/2	0.160	7	6 1/2	1/2	0.180	8	7 1/2	1/2
0.160	8	7 1/2	1/2	0.160	8	7 1/2	1/2	0.180	10	9 1/2	1/2
0.160	10	9 1/2	1/2	0.160	10	9 1/2	1/2	0.180	12	11 1/2	1/2
0.160	12	11 1/2	1/2	0.160	12	11 1/2	1/2				
TRUSS #3 PHILLIPS				#10 TRUSS, PHILLIPS #3				#10 TRUSS, PHILLIPS #3			
0.105				0.110				0.105			
0.440				0.390				0.440			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 1	Column 2	Column 3	Column 1	Column 2	Column 3	Column 1	Column 2	Column 3
Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material
ROUND	2	GALVALUME	ROUND	2	GALVALUME	ROUND	2	GALVALUME	ROUND	2	GALVALUME
ROUND	3	GALVALUME	ROUND	3	GALVALUME	ROUND	3	GALVALUME	ROUND	3	GALVALUME
ROUND	3	PLASTIC	ROUND	3	PLASTIC	ROUND	3	PLASTIC	ROUND	3	PLASTIC
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
720								850			
620				610				656			
473				494				472			
YES				YES				YES			
YES				YES				YES			
FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			

Roof Fasteners: Steel Decks

1. COMPANY NAME	ITW BUILDEX				ITW BUILDEX			
2. PRODUCT NAME	HEXTRA				ROOFGRIP			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				HARDENED CARBON STEEL			
6. COATING TYPE	CLIMASEAL OR SPEX				SPEX			
7. SHANK TYPE	MODIFIED BUTTRESS THREAD				MODIFIED BUTTRESS THREAD			
8. POINT TYPE	X-POINT				X-POINT			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	1 5/8	7/8	3/4	0.215	1 5/8	7/8	3/4
	0.215	2 1/4	1 1/2	3/4	0.215	2 1/4	1 1/2	3/4
	0.215	2 7/8	2 1/8	3/4	0.215	2 7/8	2 1/8	3/4
	0.215	3 1/4	2 1/2	3/4	0.215	3 1/4	2 1/2	3/4
	0.215	3 3/4	3	3/4	0.215	3 3/4	3	3/4
	0.215	4 3/8	3 5/8	3/4	0.215	4 3/8	3 5/8	3/4
	0.215	5	4 1/4	3/4	0.215	5	4 1/4	3/4
	0.215	6	5 1/4	3/4	0.215	6	5 1/4	3/4
	0.215	7	6 1/4	3/4	0.215	7	6 1/4	3/4
	0.215	8	7 1/4	3/4	0.215	8	7 1/4	3/4
11. HEAD SHAPE	1/4-IN. HEX HEAD				#3 PHILLIPS PAN HEAD			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.180				0.118			
DIAMETER	0.392				0.448			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	SQUARE	3 X 3	GALVALUME		SQUARE	3 X 3	GALVALUME	
	GEARLOCK	3	POLYOLEFIN		GEARLOCK	3	POLYOLEFIN	
	ROUND	2	GALVALUME		ROUND	2	GALVALUME	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)	ACCUDRIVE XL PLUS (OPTIONAL)				ACCUDRIVE XL PLUS (OPTIONAL)			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	894				894			
20 GAUGE	565				656			
22 GAUGE	488				488			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

ITW BUILDDEX				ITW BUILDDEX				ITW BUILDDEX			
ROOFGRIP PLUS				ACCUTRAC FASTENER				#14 ROOFGRIP			
U.S.				U.S.				U.S.			
X				X				X			
								X			
								X			
CARBON STEEL				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
CLIMASEAL				SPEX OR CLIMASEAL				CLIMASEAL			
MODIFIED BUTTRESS THREAD				MODIFIED BUTTRESS THREAD				MODIFIED STANDARD THREAD			
X-POINT				X-POINT				X-POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.215	2 1/4	1 1/2	3/4	0.215	1 5/8	7/8	3/4	0.252	1 1/2	3/4	3/4
0.215	2 7/8	2 1/8	3/4	0.215	2 1/4	1 1/2	3/4	0.252	2	1 1/4	3/4
0.215	3 1/4	2 1/2	3/4	0.215	2 7/8	2 1/8	3/4	0.252	3	2 1/4	3/4
0.215	3 3/4	3	3/4	0.215	3 1/4	2 1/2	3/4	0.252	4	3 1/4	3/4
0.215	4 3/8	3 5/8	3/4	0.215	3 3/4	3	3/4	0.252	5	4 1/4	3/4
0.215	5	4 1/4	3/4	0.215	4 3/8	3 5/8	3/4	0.252	6	5 1/4	3/4
0.215	6	5 1/4	3/4	0.215	5	4 1/4	3/4	0.252	7	6 1/4	3/4
0.215	7	6 1/4	3/4	0.215	6	5 1/4	3/4	0.252	8	7 1/4	3/4
0.215	8	7 1/4	3/4								
1/4-IN. HEX HEAD				1/4 IN. HEX HEAD				#3 PHILLIPS PAN HEAD			
0.180				0.180				0.118			
0.392				0.392				0.448			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	3	GALVALUME		SQUARE	3 X 3	GALVALUME		ROUND SQUARE ROUND	2 3 3	GALVALUME GALVALUME PLASTIC	
REQUIRED				REQUIRED				REQUIRED			
ACCUFAST STAND-UP TOOL (OPTIONAL)				ACCUTRAC I, II, OR III (REQUIRED)				ACCU DRIVE XL PLUS (OPTIONAL)			
894				894				918			
656				656				693			
488				488				534			
YES				YES				YES			
YES				YES				YES			
FM				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			
X				X							

Roof Fasteners: Steel Decks

1. COMPANY NAME	ITW BUILD EX				ITW BUILD EX			
2. PRODUCT NAME	#15 ROOFGRIP				HEXTRA PLUS			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X							
C. SINGLE-PLY MEMBRANES	X							
5. MATERIAL TYPE	HARDENED CARBON STEEL				CARBON STEEL			
6. COATING TYPE	CLIMASEAL				CLIMASEAL			
7. SHANK TYPE	STANDARD THREAD				MODIFIED BUTTRESS THREAD			
8. POINT TYPE	DRILL POINT				X-POINT			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.260	1 1/4	1/2	3/4	0.215	2 1/4	1 1/2	3/4
	0.260	2	1 1/4	3/4	0.215	2 7/8	2 1/8	3/4
	0.260	3	1 3/4	3/4	0.215	3 1/4	2 1/2	3/4
	0.260	4	3 1/4	3/4	0.215	3 3/4	3	3/4
	0.260	5	4 1/4	3/4	0.215	4 3/8	3 5/8	3/4
	0.260	6	5 1/4	3/4	0.215	5	4 1/4	3/4
	0.260	7	6 1/4	3/4	0.215	6	5 1/4	3/4
	0.260	8	7 1/4	3/4	0.215	7	6 1/4	3/4
	0.260	10	9 1/4	3/4	0.215	8	7 1/4	3/4
	0.260	12	11 1/4	3/4				
	0.260	14	13 1/4	3/4				
11. HEAD SHAPE	#3 PHILLIPS PAN HEAD				1/4-IN. HEX HEAD			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.118				0.180			
DIAMETER	0.448				0.392			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	GALVALUME		ROUND	3	GALVALUME	
	SQUARE	3	GALVALUME					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)	ACCUDRIVE XL PLUS (OPTIONAL)				ACCUFAST STAND-UP TOOL (OPTIONAL)			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	971				894			
20 GAUGE	686				656			
22 GAUGE	560				488			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED					X			

NA=not applicable

Roof Fasteners: Steel Decks

JOHNS MANVILLE INTERNATIONAL INC.				JOHNS MANVILLE INTERNATIONAL INC.				JOHNS MANVILLE INTERNATIONAL INC.			
ULTRAFAST/HEX HEAD				ULTRAGRIP/PHILLIPS HEAD #12				HIGHLOAD FASTENER			
U.S.				U.S.				U.S.			
X				X				X			
HARDENED CARBON STEEL				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
CLIMASEAL				SPEX				CLIMASEAL			
MODIFIED BUTTRESS THREAD				MODIFIED BUTTRESS THREAD				MODIFIED BUTTRESS THREAD			
SELF-DRILLING X-POINT				SELF-DRILLING X-POINT				SELF-DRILLING X-POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.215	1 5/8	1 1/8	1/2	0.215	1 5/8	1 1/8	1/2	0.20	1 1/4	3/4	1/2
0.215	2 1/4	1 3/4	1/2	0.215	2 1/4	1 3/4	1/2	0.20	2	1 1/2	1/2
0.215	2 7/8	2 3/8	1/2	0.215	2 7/8	2 3/8	1/2	0.20	3	2 1/2	1/2
0.215	3 1/4	2 3/4	1/2	0.215	3 1/4	2 3/4	1/2	0.20	4	3 1/2	1/2
0.215	3 3/4	3 1/4	1/2	0.215	3 3/4	3 1/4	1/2	0.20	5	4 1/2	1/2
0.215	4 3/8	3 7/8	1/2	0.215	4 3/8	3 7/8	1/2	0.20	6	5 1/2	1/2
0.215	5	4 1/2	1/2	0.215	5	4 1/2	1/2	0.20	7	6 1/2	1/2
0.215	6	5 1/2	1/2	0.215	6	5 1/2	1/2	0.20	8	7 1/2	1/2
0.215	7	6 1/2	1/2	0.215	7	6 1/2	1/2	0.20	10	9 1/2	1/2
0.215	8	7 1/2	1/2	0.215	8	7 1/2	1/2	0.20	12	11 1/2	1/2
1/4-IN. HEX HEAD				#3 PHILLIPS HEAD				#3 PHILLIPS HEAD			
0.180				0.118				0.435			
0.392				0.448							
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
SQUARE	3 X 3	CARBON STEEL WITH GALVALUME		SQUARE	3 X 3	CARBON STEEL WITH GALVALUME		ROUND PREM. LOCKING PLATE	2	CARBON STEEL W/ POLYOLEFIN (LOCKING)	
J. MANVILLE ROUND LOCK- ING PLATE	3	POLYOLEFIN		J. MANVILLE ROUND LOCK- ING PLATE	3	POLYOLEFIN		ALL PURPOSE BARBED PLATE	2	CARBON STEEL	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL (ACCU DRIVE XL)				OPTIONAL (ACCU DRIVE XL)							
674				674				850			
502				502				675			
425				425				500			
YES				YES				YES			
YES				YES				YES			
FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY				FM			
YES				YES				YES			
								X			

Roof Fasteners: Steel Decks

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.				OLYMPIC MAN. GROUP/N.T.B.			
2. PRODUCT NAME	HIGHLOAD ASAP				N-C			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT					X			
B. BUILT-UP MEMBRANES					X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				NYLON			
6. COATING TYPE	CR-10				NA			
7. SHANK TYPE	MODIFIED BUTTRESS THREAD				SPIRAL THREAD			
8. POINT TYPE	SPADE POINT							
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness	Required Deck Penetration (inches)
	0.16	2 1/4	1 3/4	1/2	0.250	4	3 3/4	1/2
	0.16	2 7/8	2 3/8	1/2	0.250	6	5 3/4	1/2
	0.16	3 1/4	2 3/4	1/2	0.250	8	7 3/4	1/2
	0.16	3 3/4	3 1/4	1/2	0.250	10	9 3/4	1/2
	0.16	4 1/2	4	1/2	0.250	12	11 3/4	1/2
	0.17	5	4 1/2	1/2				
	0.17	6	5 1/2	1/2				
	0.17	7	6 1/2	1/2				
	0.17	8	7 1/2	1/2				
11. HEAD SHAPE	#3 PHILLIPS HEAD				DOUBLE HEX			
12. HEAD DIMENSIONS (inches)								
THICKNESS					0.100			
DIAMETER	0.435				1.0 and 2.0			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	NYLON (LOCKING)		ROUND WITH SPIKES ROUND WITH SPIKES	2 3	NYLON CARBON STEEL	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	575				500+			
20 GAUGE	525				500+			
22 GAUGE	475				500+			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				NA			
19. ACCEPTED BY THE FOLLOWING CODES	FM				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED	X							

NA=not applicable

Roof Fasteners: Steel Decks

OLYMPIC MANUFACTURING GROUP				OLYMPIC MANUFACTURING GROUP				OLYMPIC MANUFACTURING GROUP			
OLYMPIC FASTENER #12-11 (C.STEEL)				OLYMPIC FASTENER #12-11 (S.STEEL)				OLYMPIC FASTENER #14-10 (C.STEEL)			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HARDENED CARBON STEEL				STAINLESS STEEL, SPECIAL 400-SERIES BLEND				HARDENED CARBON STEEL			
CR-10 FLUOROCARBON				CR-10 FLUOROCARBON				CR-10 FLUOROCARBON			
THREADED				THREADED				THREADED			
PINCH, SELF-DRILLING; GIMLET, OR TAPEX				PINCH, SELF-DRILLING				PINCH, SELF-DRILLING OR TAPEX			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.160	1 5/8	1 1/8	3/4	0.168	1 5/8	1 1/8	3/4	0.190	1 1/4	3/4	3/4
0.160	2 1/4	1 3/4	3/4	0.168	2 1/4	1 3/4	3/4	0.190	1 3/4	1 1/4	3/4
0.160	2 7/8	2 3/8	3/4	0.168	2 7/8	2 3/8	3/4	0.190	2	1 1/2	3/4
0.160	3 1/4	2 3/4	3/4	0.168	3 1/4	2 3/4	3/4	0.190	3	2 1/2	3/4
0.160	3 3/4	3 1/4	3/4	0.168	3 3/4	3 1/4	3/4	0.190	4	3 1/2	3/4
0.160	4 1/2	4	3/4	0.168	4 1/2	4	3/4	0.190	5	4 1/2	3/4
0.168	5	4 1/2	3/4	0.168	5	4 1/2	3/4	0.190	6	5 1/2	3/4
0.168	6	5 1/2	3/4	0.168	6	5 1/2	3/4	0.190	7	6 1/2	3/4
0.168	7	6 1/2	3/4	0.168	7	6 1/2	3/4	0.190	8	7 1/2	3/4
0.168	8	7 1/2	3/4	0.168	8	7 1/2	3/4	0.190	9	8 1/2	3/4
								0.190	10	9 1/2	3/4
								0.190	11	10 1/2	3/4
								0.190	12	11 1/2	3/4
								0.190	14	13 1/2	3/4
								0.190	16	15 1/2	3/4
								0.201	17	16 1/2	3/4
								0.201	18	17 1/2	3/4
								0.201	20	19 1/2	3/4
								0.201	21	20 1/2	3/4
								0.201	22	21 1/2	3/4
								0.201	24	23 1/2	3/4
ROUND TRUSS, #3 PHILLIPS, OR HEX HEAD				ROUND TRUSS, #3 PHILLIPS				ROUND TRUSS, #3 PHILLIPS			
0.110				0.110				0.110			
0.435				0.435				0.435			
YES				YES				YES			
				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	STEEL		ROUND	2	STAINLESS STEEL		ROUND	2	STEEL	
ROUND	2	PLASTIC		ROUND	3	STAINLESS STEEL		ROUND	2	PLASTIC	
ROUND	3	STEEL		ROUND	2	STEEL		ROUND	3	STEEL	
ROUND	3	PLASTIC		ROUND	2	PLASTIC		ROUND	3	PLASTIC	
ROUND	3 1/2	STEEL		ROUND	3	STEEL		ROUND	3 1/2	STEEL	
ROUND	2	STAINLESS STEEL		ROUND	3	PLASTIC		ROUND	2	STAINLESS STEEL	
ROUND	3	STAINLESS STEEL		ROUND	3 1/2	STEEL		ROUND	3	STAINLESS STEEL	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
540				540				585			
501				501				535			
456				456				505			
YES				YES				YES			
YES				YES				YES			
FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY			
YES				YES				YES			

Roof Fasteners: Steel Decks

1. COMPANY NAME	OLYMPIC MANUFACTURING GROUP				POWERS FASTENERS, INC.			
2. PRODUCT NAME	OLYMPIC FASTENER #14-10 (S.STEEL)				POWERS RAWL SPEED-LOCK TOGGLE			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	STAINLESS STEEL, SPECIAL 400-SERIES BLEND				CARBON STEEL & STAINLESS STEEL			
6. COATING TYPE	CR-10 FLUOROCARBON				PERMA-SEAL FLUOROPOLYMER (ON CARBON STEEL BOLT ONLY)			
7. SHANK TYPE	THREADED				ANNULAR THREAD			
8. POINT TYPE	PINCH, SELF-DRILLING				NA			
9. METHOD OF ATTACHMENT	THREADED				CLAMPING			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.201	1 1/4	3/4	3/4	0.250	5	3 1/2	1 1/2
	0.201	1 3/4	1 1/4	3/4	0.250	6	4 1/2	1 1/2
	0.201	2	1 1/2	3/4	0.250	7	5 1/2	1 1/2
	0.201	3	2 1/2	3/4	0.250	8	6 1/2	1 1/2
	0.201	4	3 1/2	3/4	0.250	9	7 1/2	1 1/2
	0.201	5	4 1/2	3/4	0.250	10	8 1/2	1 1/2
	0.201	6	5 1/2	3/4	0.250	12	10 1/2	1 1/2
	0.201	7	6 1/2	3/4	0.250	14	12 1/2	1 1/2
	0.201	8	7 1/2	3/4				
	0.201	9	8 1/2	3/4				
	0.201	10	9 1/2	3/4				
	0.201	12	11 1/2	3/4				
	0.201	14	13 1/2	3/4				
	0.201	16	15 1/2	3/4				
	0.201	18	17 1/2	3/4				
	0.201	20	19 1/2	3/4				
	0.201	21	20 1/2	3/4				
	0.201	22	21 1/2	3/4				
	0.201	24	23 1/2	3/4				
11. HEAD SHAPE	ROUND TRUSS, #3 PHILLIPS				PHILLIPS FLAT HEAD #3 RECESS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.108				0.042			
DIAMETER	0.435				0.426			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	STAINLESS STEEL		ROUND	3	GALVALUME	
	ROUND	3	STAINLESS STEEL					
	ROUND	2	STEEL					
	ROUND	2	PLASTIC					
	ROUND	3	STEEL					
	ROUND	3	PLASTIC					
	ROUND	3 1/2	STEEL					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				OPTIONAL			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL				OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)					APPROPRIATE DRILL & BIT FOR DRILLING THROUGH DECK (REQUIRED)			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	585							
20 GAUGE	535							
22 GAUGE	505				975			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, UL, ICBO, METRO.-DADE COUNTY				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED					X			

NA=not applicable

Roof Fasteners: Steel Decks

POWERS FASTENERS, INC.				POWERS FASTENERS, INC.				POWERS FASTENERS, INC.			
POWERS RAWL#12 DECK SCREW				POWERS RAWL #14 DECK SCREW				POWERS RAWL #15 DECK SCREW			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
CASE HARDENED CARBON STEEL				CASE HARDENED CARBON STEEL				CASE HARDENED CARBON STEEL			
PERMA-SEAL FLUOROPOLYMER				PERMA-SEAL FLUOROPOLYMER				PERMA-SEAL FLUOROPOLYMER			
SPIRAL THREAD				SPIRAL THREAD				SPIRAL THREAD			
RICOH "S" POINT/DRILL TYPE				DRILL TYPE				RICOH "S" POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.226	1 5/8	7/8	3/4	0.238	1 5/8	7/8	3/4	0.264	1 1/4	1/2	3/4
0.226	2 1/4	1 1/2	3/4	0.238	2 1/4	1 1/2	3/4	0.264	2	1 1/4	3/4
0.226	2 7/8	2 1/8	3/4	0.238	2 7/8	2 1/8	3/4	0.264	3	2 1/4	3/4
0.226	3 1/4	2 1/2	3/4	0.238	3 3/4	3	3/4	0.264	4	3 1/4	3/4
0.226	3 3/4	3	3/4	0.238	4 1/2	3 3/4	3/4	0.264	5	4 1/4	3/4
0.226	4 1/2	3 3/4	3/4	0.238	5	4 1/4	3/4	0.264	6	5 1/4	3/4
0.226	5	4 1/4	3/4	0.238	6	5 1/4	3/4	0.264	7	6 1/4	3/4
0.226	6	5 1/4	3/4	0.238	7	6 1/4	3/4	0.264	8	7 1/4	3/4
0.226	7	6 1/4	3/4	0.238	8	7 1/4	3/4	0.264	10	9 1/4	3/4
0.226	8	7 1/4	3/4	0.238	10	9 1/4	3/4	0.264	12	11 1/4	3/4
				0.238	12	11 1/4	3/4	0.264	14	13 1/4	3/4
								0.264	16	15 1/4	3/4
PHILLIPS TRUSS HEAD #3 RECESS WASHER / 1/4" HEX HEAD				PHILLIPS FLAT TRUSS HEAD #3 RECESS				PHILLIPS TRUSS HEAD #3 RECESS			
0.130, 0.140				0.118				0.130			
0.448, 0.385				0.448				0.448			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	GALVALUME	ROUND	2	GALVALUME	ROUND	2	ROUND	2	GALVALUME	ROUND
BARBED	3	GALVALUME	BARBED	3	GALVALUME	GALVALUME	3	BARBED	3	GALVALUME	BARBED
ROUND	3	STAINLESS STEEL	ROUND	3	STAINLESS STEEL	STAINLESS STEEL	3	ROUND	3	STAINLESS STEEL	ROUND
ROUND	3	PLASTIC	ROUND	3	PLASTIC	PLASTIC		ROUND	3	PLASTIC	
REQUIRED				REQUIRED				REQUIRED			
STAND UP TOOL (OPTIONAL)				STAND UP TOOL (OPTIONAL)				STAND UP TOOL (OPTIONAL)			
725				735				800			
655				630				690			
550				505				485			
YES				YES				YES			
YES				YES				YES			
FM				FM				FM			
YES				YES				YES			
X											

Roof Fasteners: Steel Decks

1. COMPANY NAME	SFS STADLER INC.				SFS STADLER INC.			
2. PRODUCT NAME	ISOFAST IF2-M				ISOFAST IF2-C-M			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	CARBON STEEL				CARBON STEEL			
6. COATING TYPE	TUFF-TITE II				TUFF-TITE II			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	SELF-DRILLING 2-FLUTE DRILL POINT				SELF-DRILLING 2-FLUTE DRILL POINT			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.189	2	1 1/2	1/2	0.189	2 1/8	1 5/8	1/2
	0.189	2 1/4	1 3/4	1/2	0.189	2 1/4	1 3/4	1/2
	0.189	2 3/4	2 1/4	1/2	0.189	2 3/4	2 1/4	1/2
	0.189	3 1/8	2 5/8	1/2	0.189	3 1/8	2 5/8	1/2
	0.189	3 7/8	3 3/8	1/2	0.189	3 7/8	3 3/8	1/2
	0.189	4 3/4	4 1/4	1/2	0.189	4 3/4	4 1/4	1/2
	0.189	5 1/2	4 3/4	1/2	0.189	5 1/2	4 3/4	1/2
	0.189	6 1/4	5 1/2	1/2	0.189	6 1/4	5 1/2	1/2
11. HEAD SHAPE	5/16 HEX HEAD				#2 POSI-DRIVE COUNTERSUNK			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.156				0.156			
DIAMETER	0.406				0.406			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	OVAL	3 1/4 X 1 5/8	GALVALUME		OVAL	3 1/4 X 1 5/8	GALVALUME	
	SQUARE	2 3/4 X 2 3/4	GALVALUME		SQUARE	2 3/4 X 2 3/4	GALVALUME	
	DOMED CONVEX	3 1/4 X 1 5/8	GALVALUME		DOMED CONVEX	3 1/4 X 1 5/8	GALVALUME	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	REQUIRED				REQUIRED			
SPECIAL TOOL NEEDED (optional/required)	REQUIRED				REQUIRED			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE								
20 GAUGE	552				552			
22 GAUGE	505				505			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Steel Decks

SFS STADLER INC.				SFS STADLER INC.				SFS STADLER INC.			
ISOFAST IF2-S				SYSTEM METAL ES				INSUL-FIXX #12-11			
SWITZERLAND				U.S.				U.S.			
X				X				X			
X								X			
X								X			
300 SERIES STAINLESS STEEL				HARDENED STEEL				HARDENED STEEL			
				TUFF TITE II				TUFF-TITE II			
THREADED				SPIRAL THREAD				SPIRAL THREAD			
SELF-DRILLING 2-FLUTE DRILL POINT				SELF-DRILLING AND FLUTE DRILL POINT				DRILL POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.189	2	1 1/2	1/2	0.189	2	1 1/2	1/2	0.172	1 5/8	1 3/8	1/2
0.189	3 1/8	2 5/8	1/2	0.189	2 1/4	1 3/4	1/2	0.172	2 1/4	1 3/4	1/2
0.189	3 7/8	3 3/8	1/2	0.189	2 3/4	2 1/4	1/2	0.172	2 7/8	2 3/8	1/2
0.189	4 3/4	4 1/4	1/2	0.189	3 1/8	2 5/8	1/2	0.172	3 1/4	2 3/4	1/2
0.189	5 1/2	4 3/4	1/2	0.189	3 7/8	3 3/8	1/2	0.172	3 3/4	3 1/4	1/2
0.189	6 1/4	5 1/2	1/2	0.189	4 3/4	4 1/4	1/2	0.172	4 1/2	4	1/2
				0.189	5 1/2	4 3/4	1/2	0.172	5	4 1/2	1/2
				0.189	6 1/4	5 1/2	1/2	0.172	6	5 1/2	1/2
								0.172	7	6 1/2	1/2
								0.172	8	7 1/2	1/2
8mm HEX HEAD				8mm HEX HEAD				ROUND WITH #3 PHILLIPS TRUSS			
0.156				0.156				0.103			
0.406				0.406				0.425			
				YES				YES			
				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
OVAL	3 1/4 X 1 5/8	GALVALUME		ROUND	3	GALVALUME		ROUND	3	POLYETHYLENE GALVALUME	
SQUARE	2 3/4 X 2 3/4	GALVALUME									
DOMED CONVEX	3 1/4 X 1 5/8	GALVALUME									
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL							
OPTIONAL				OPTIONAL							
552				552				660			
451				451				575			
								481			
YES				YES				YES			
				YES				YES			
FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			
X				X				X			

Roof Fasteners: Steel Decks

1. COMPANY NAME	SFS STADLER INC.				SFS STADLER INC.			
2. PRODUCT NAME	INSUL-FIXX #14-10				SYSTEM ES I #14-10			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED STEEL				HARDENED STEEL			
6. COATING TYPE	TUFF-TITE II				TUFF-TITE II			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	DRILL POINT				DRILL POINT			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.190	1 1/4	3/4	1/2	0.190	2	1 3/8	1/2
	0.190	2	1 1/2	1/2	0.190	3	2 1/2	1/2
	0.190	3	2 1/2	1/2	0.190	4	3 1/2	1/2
	0.190	4	3 1/2	1/2	0.190	5	4 1/2	1/2
	0.190	5	4 1/2	1/2	0.190	6	5 1/2	1/2
	0.190	6	5 1/2	1/2	0.190	7	6 1/2	1/2
	0.190	7	6 1/2	1/2	0.190	8	7 1/2	1/2
	0.190	8	7 1/2	1/2	0.190	10	9 1/2	1/2
	0.190	10	9 1/2	1/2	0.190	12	11 1/2	1/2
	0.190	12	11 1/2	1/2				
	0.190	14	13 1/2	1/2				
	0.190	16	15 1/2	1/2				
	0.190	18	17 1/2	1/2				
	0.190	20	19 1/2	1/2				
	0.190	22	21 1/2	1/2				
	0.190	24	23 1/2	1/2				
	0.190	26	25 1/2	1/2				
11. HEAD SHAPE	ROUND WITH #3 PHILLIPS TRUSS				ROUND WITH #3 PHILLIPS TRUSS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.103				0.103			
DIAMETER	0.425				0.425			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	3	POLYETHYLENE		ROUND	3	POLYETHYLENE	
	ROUND	3	GALVALUME					
	ROUND	2	GALVALUME					
	ROUND	2	NYLON WITH GLASS					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)					OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)					OPTIONAL			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	690				690			
20 GAUGE	610				610			
22 GAUGE	535				535			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED					X			

NA=not applicable

Roof Fasteners: Steel Decks

SFS STADLER INC.				SFS STADLER INC.				SFS STADLER INC.			
SYSTEM ES I #12-11				SYSTEM ES L #14-10				EXTRA LOAD FASTENER HD			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HARDENED STEEL				HARDENED STEEL				HARDENED STEEL			
TUFF-TITE II				TUFF-TITE II				TUFF-TITE II			
SPIRAL THREAD				THREADED				THREADED			
DRILL POINT				DRILL POINT				DRILL POINT			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.172	2 1/4	1 3/4	1/2	0.190	2	1 3/8	1/2	0.205	1 1/4	3/4	1/2
0.172	2 7/8	2 3/8	1/2	0.190	3	2 1/2	1/2	0.205	2	1 1/2	1/2
0.172	3 1/4	2 3/4	1/2	0.190	4	3 1/2	1/2	0.205	3	2 1/2	1/2
0.172	3 3/4	3 1/4	1/2	0.190	5	4 1/2	1/2	0.205	4	3 1/2	1/2
0.172	4 1/2	4	1/2	0.190	6	5 1/2	1/2	0.205	5	4 1/2	1/2
0.172	5	4 1/2	1/2	0.190	7	6 1/2	1/2	0.205	6	5 1/2	1/2
0.172	6	5 1/2	1/2	0.190	8	7 1/2	1/2	0.205	8	7 1/2	1/2
0.172	7	6 1/2	1/2	0.190	10	9 1/2	1/2	0.205	10	9 1/2	1/2
0.172	8	7 1/2	1/2	0.190	12	11 1/2	1/2	0.205	12	11 1/2	1/2
								0.205	14	13 1/2	1/2
								0.205	16	15 1/2	1/2
ROUND WITH #3 PHILLIPS TRUSS				ROUND WITH #3 PHILLIPS TRUSS				ROUND WITH #3 PHILLIPS TRUSS			
0.103				0.103				0.103			
0.425				0.425				0.425			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 1	Column 2	Column 3	Column 1	Column 2	Column 3	Column 1	Column 2	Column 3
Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material	Shape	Dimensions (inches)	Material
ROUND ROUND	3 3	POLYETHYLENE GALVALUME	ROUND	2	NYLON WITH GLASS	ROUND ROUND	3 2	GALVALUME GALVALUME			
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				REQUIRED							
OPTIONAL				REQUIRED							
650				690							
575				610							
481				535				782			
YES				YES				YES			
YES				YES				YES			
FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			
X				X				X			

Roof Fasteners: Steel Decks

1. COMPANY NAME	SFS STADLER INC.				TRI-PLY			
2. PRODUCT NAME	TPR-THE PEEL RIVET				TRI-FAST DP			
3. COUNTRY OF MANUFACTURE	ISRAEL				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	ALUMINUM ALLOY				CARBON STEEL			
6. COATING TYPE	NA				TRU-KOTE PC-3 (FLUOROCARBON PAINT)			
7. SHANK TYPE	HOLLOW RIVET BODY				THREADED			
8. POINT TYPE	PIERCING MANDREL				DOUBLE FLUTE SELF-DRILLING			
9. METHOD OF ATTACHMENT	CLAMPING				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.250	1 1/4	1/4	1	0.160	1 5/8	1 1/8	1/2
	0.250	2	1	1	0.160	2 1/4	1 3/4	1/2
	0.250	3	2	1	0.160	2 7/8	2 3/8	1/2
	0.250	4	3	1	0.160	3 3/4	3 1/4	1/2
	0.250	5	4	1	0.160	4 1/2	4	1/2
	0.250	6	5	1	0.160	5	4 1/2	1/2
	0.250	7	6	1	0.160	6	5 1/2	1/2
	0.250	8	7	1	0.160	7	6 1/2	1/2
	0.250	9	8	1	0.160	8	7 1/2	1/2
	0.250	10	9	1	0.160	10	9 1/2	1/2
					0.160	12	11 1/2	1/2
11. HEAD SHAPE	LOW PROFILE MUSHROOM				1/4" HEX HEAD			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.075				0.105			
DIAMETER	0.480				0.440			
13. PLATES								
A. REQUIRED (yes/no)	YES							
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES							
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	3	GALVALUME		ROUND	2	GALVALUME	
	ROUND	2	GALVALUME		ROUND	3	GALVALUME	
					ROUND	3	PLASTIC	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL				REQUIRED			
SPECIAL TOOL NEEDED (optional/required)	REQUIRED				OPTIONAL			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE					795			
20 GAUGE	605				605			
22 GAUGE	576				428			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM				FM			
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

TRU-FAST CORPORATION				TRU-FAST CORPORATION				TRU-FAST CORPORATION			
HD DRILL POINT STAINLESS STEEL				TP				DP (DRILL POINT)			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
STAINLESS STEEL (TRIMRITE ALLOY #S-42010)				CARBON STEEL C-1022				CARBON STEEL C-1022			
				TRU-KOTE PC-3 (FLUOROCARBON PAINT)				TRU-KOTE PC-3 (FLUOROCARBON PAINT)			
THREADED				THREADED				THREADED			
DOUBLE FLUTE SELF-DRILLING				GIMLET				DOUBLE FLUTE SELF-DRILLING			
THREADED				THREADED				THREADS			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.180	1 1/2	1	1/2	0.150	1 5/8	1 1/8	1/2	0.160	1 5/8	1 1/8	1/2
0.180	2	1 1/2	1/2	0.150	2 1/4	1 3/4	1/2	0.160	2 1/4	1 3/4	1/2
0.180	3	2 1/2	1/2	0.150	2 7/8	2 3/8	1/2	0.160	2 7/8	2 3/8	1/2
0.180	4	3 1/2	1/2	0.150	3 3/4	3 1/4	1/2	0.160	3 1/4	2 3/4	1/2
0.180	5	4 1/2	1/2	0.150	4 1/2	4	1/2	0.160	3 3/4	3 1/4	1/2
0.180	6	5 1/2	1/2	0.150	5	4 1/2	1/2	0.160	4 1/2	4	1/2
0.180	7	6 1/2	1/2	0.150	6	5 1/2	1/2	0.160	5	4 1/2	1/2
0.180	8	7 1/2	1/2					0.160	6	5 1/2	1/2
0.180	10	9 1/2	1/2					0.160	7	6 1/2	1/2
0.180	12	11 1/2	1/2					0.160	8	7 1/2	1/2
TRUSS #3 PHILLIPS				TRUSS #3 PHILLIPS							
0.105				0.110				0.105			
0.440				0.390				0.440			
YES								YES			
YES								YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	GALVALUME		ROUND	2	GALVALUME		ROUND	2	GALVALUME	
ROUND	3	GALVALUME		ROUND	3	GALVALUME		ROUND	3	GALVALUME	
ROUND	3	PLASTIC		ROUND	3	PLASTIC		ROUND	3	PLASTIC	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
830								558			
656				610				456			
472				494				452			
YES				YES				YES			
YES				YES				YES			
FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			

Roof Fasteners: Steel Decks

1. COMPANY NAME	TRU-FAST CORPORATION				TRU-FAST CORPORATION			
2. PRODUCT NAME	HD (HEAVY DUTY) #14				EHD (EXTRA HEAVY DUTY) #15			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	CARBON STEEL C-1022				CARBON STEEL C-1022			
6. COATING TYPE	TRU-KOTE PC-3 (FLUOROCARBON PAINT)				TRU-KOTE PC-3 (FLUOROCARBON PAINT)			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	DOUBLE FLUTE SELF-DRILLING				DOUBLE FLUTE SELF-DRILLING			
9. METHOD OF ATTACHMENT	THREADS				THREADS			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.180	1 1/2	1	1/2	0.204	1 1/4	3/4	1/2
	0.180	2	1 1/2	1/2	0.204	2	1 1/2	1/2
	0.180	3	2 1/2	1/2	0.204	3	2 1/2	1/2
	0.180	4	3 1/2	1/2	0.204	4	3 1/2	1/2
	0.180	5	4 1/2	1/2	0.204	5	4 1/2	1/2
	0.180	6	5 1/2	1/2	0.204	6	5 1/2	1/2
	0.180	7	6 1/2	1/2	0.204	7	6 1/2	1/2
	0.180	8	7 1/2	1/2	0.204	8	7 1/2	1/2
	0.180	10	9 1/2	1/2	0.204	9	8 1/2	1/2
	0.180	12	11 1/2	1/2	0.204	10	9 1/2	1/2
					0.204	11	10 1/2	1/2
					0.204	12	11 1/2	1/2
					0.204	14	13 1/2	1/2
					0.204	16	15 1/2	1/2
					0.204	18	17 1/2	1/2
					0.204	20	19 1/2	1/2
11. HEAD SHAPE	TRUSS #3 PHILLIPS				TRUSS #3 PHILLIPS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.105				0.105			
DIAMETER	0.440				0.440			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	GALVALUME		ROUND	2	GALVALUME	
	ROUND	3	GALVALUME		ROUND	3	GALVALUME	
	ROUND	3	PLASTIC		ROUND	3	PLASTIC	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)	REQUIRED				REQUIRED			
SPECIAL TOOL NEEDED (optional/required)	OPTIONAL				OPTIONAL			
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)								
18 GAUGE	850							
20 GAUGE	656							
22 GAUGE	472							
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I STEEL ROOF DECK (yes/no)	YES				YES			
18. PASSES FM TEST PROCEDURE 4470 FOR CORROSION RESISTANCE (yes/no)	YES				YES			
19. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY							
20. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
21. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Steel Decks

U.S. INTEC			
DRILL-TEC CDP			
U.S.			
X			
X			
X			
CARBON STEEL			
FLUOROPOLYMER PAINT			
THREADED			
DRILL POINT			
MECHANICAL			
Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.180	1 1/4	1/4	1
0.180	1 3/4	3/4	1
0.180	2 1/4	1 1/4	1
0.180	2 3/4	1 3/4	1
0.180	3 1/4	2 1/4	1
0.180	3 3/4	2 3/4	1
0.180	4 1/4	3 1/4	1
0.180	5	4	1
0.180	6	5	1
0.180	7	6	1
0.180	8	7	1
HEX OR #3 PHILLIPS			
YES			
YES			
Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material	
ROUND	2.7	GALVALUME	
ROUND	3	PLASTIC	
REQUIRED			
OPTIONAL			
OPTIONAL			
558			
456			
452			
YES			
YES			
FM, METRO.-DADE COUNTY			
YES			

Roof Fasteners: Wood Decks

1. COMPANY NAME	CARLISLE SYNTEC INCORPORATED					CARLISLE SYNTEC INCORPORATED				
2. PRODUCT NAME	HP FASTENER					HP WOODIE				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES										
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL					ZAMAC				
6. COATING TYPE	EPOXY ELECTRODEPOSITION									
7. SHANK TYPE	SINGLE LEAD, BUTTRESS THREAD					SPIRAL THREAD				
8. POINT TYPE	MINI-DRILL POINT					PIERCE-POINT				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.180	1 1/4	1/4	1	1	0.500	1 3/4	0		
	0.180	1 3/4	3/4	1	1	0.500	2 1/2	1/2 to 3/4		
	0.180	2 1/4	1 1/4	1	1	0.500	3 1/4	1 to 1 1/2		
	0.180	2 3/4	1 3/4	1	1					
	0.180	3 1/4	2 1/4	1	1					
	0.180	3 3/4	2 3/4	1	1					
	0.180	4 1/4	3 1/4	1	1					
	0.180	5	4	1	1					
	0.180	6	5	1	1					
	0.180	7	6	1	1					
	0.180	8	7	1	1					
	0.180	9	8	1	1					
	0.180	10	9	1	1					
	0.180	11	10	1	1					
	0.180	12	11	1	1					
	0.180	13	12	1	1					
	0.180	14	13	1	1					
	0.180	15	14	1	1					
11. HEAD SHAPE	WAFFER					FLUSH RECESS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.105					0.073				
DIAMETER	0.430					0.600				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material	
	SQUARE WITH ROUNDED CORNERS	2 7/8	GALVALUME	ROUND	2	GALVALUME	ROUND	2	GALVALUME	
	ROUND	2	GALVALUME	ROUND	3	GALVALUME		3	GALVALUME	
	LOCKING	2	GALVALUME WITH PLASTIC							
	ROUND	2	PLASTIC							
	ROUND	3	PLASTIC							
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)										
SPECIAL TOOL NEEDED (optional/required)										
OTHER	AUTOMATIC FASTENING TOOL									
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD										
2-INCH PINE PLANK										
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM					FM				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED										

NA=not applicable

Roof Fasteners: Wood Decks

CARLISLE SYNTEC INCORPORATED					CELOTEX CORP.					CELOTEX CORP.				
HP-X FASTENER					ANCHORBOND #12					ANCHORBOND #14				
U.S.					U.S.					U.S.				
					X					X				
					X					X				
X					X					X				
CARBON STEEL					HARDENED CARBON STEEL					HARDENED CARBON STEEL				
EPOXY ELEXTRODEPOSITION					ORGANIC FLUOROPOLYMERS					ORGANIC FLUOROPOLYMERS				
SINGLE LEAD, BUTTRESS THREAD					SPIRAL THREAD					SPIRAL THREAD				
DRILL POINT					SELF-DRILLING					SELF-DRILLING				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.201	2	1	1		0.222	1 5/8	5/8	3/4	1	0.238	1 1/4	1/4	3/4	1
0.201	3	2	1		0.222	2 1/4	1 1/4	3/4	1	0.238	1 5/8	5/8	3/4	1
0.201	4	3	1		0.222	2 7/8	1 7/8	3/4	1	0.238	1 7/8	1 1/4	3/4	1
0.201	5	4	1		0.222	3 3/4	2 3/4	3/4	1	0.238	2 7/8	1 7/8	3/4	1
0.201	6	5	1		0.222	4 1/2	3 1/2	3/4	1	0.238	3 1/4	2 1/4	3/4	1
0.201	7	6	1		0.222	5	4	3/4	1	0.238	3 3/4	2 3/4	3/4	1
0.201	8	7	1							0.238	4 1/2	3 1/2	3/4	1
0.201	10	9	1							0.238	5	4	3/4	1
0.201	12	11	1							0.238	6	5	3/4	1
0.201	14	13	1							0.238	7	6	3/4	1
										0.238	8	7	3/4	1
TRUSS, #3 PHILLIPS					#3 PHILLIPS TRUSS & 1/4" HEX WASHER HEAD					#3 PHILLIPS FLAT TRUSS				
0.115					0.109					0.109				
0.435					0.438					0.438				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	2 3/8	CARBON STEEL			HEXAGONAL	2 7/8	GALVALUME			HEXAGONAL HEXAGONAL HEXAGONAL ROUND	2 7/8 2 7/8 3 2	STAINLESS STEEL GALVALUME PLASTIC GALVALUME		
REQUIRED					REQUIRED					REQUIRED				
					OPTIONAL					OPTIONAL				
					617					671				
					1,265					1,470				
					YES					YES				
					FM					FM				
YES					YES					YES				
					X									

Roof Fasteners: Wood Decks

1. COMPANY NAME	CELOTEX CORP.					CELOTEX CORP.				
2. PRODUCT NAME	ANCHORBOND #15 HEAVY DUTY					ANCHORBOND #14 STAINLESS STEEL				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	HARDENED CARBON STEEL					STAINLESS STEEL (#304)				
6. COATING TYPE	ORGANIC FLUOROPOLYMERS					ORGANIC FLUOROPOLYMERS				
7. SHANK TYPE	SPIRAL THREAD					SPIRAL THREAD				
8. POINT TYPE	SELF-DRILLING					SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.264	1 1/4	1/4	3/4	1	0.264	3	1 1/2	3/4	1
	0.264	2	1	3/4	1	0.264	4	2 1/2	3/4	1
	0.264	3	2	3/4	1	0.264	5	3 1/2	3/4	1
	0.264	4	3	3/4	1	0.264	6	4 1/2	3/4	1
	0.264	5	4	3/4	1	0.264	7	5 1/2	3/4	1
	0.264	6	5	3/4	1	0.264	8	6 1/2	3/4	1
	0.264	7	6	3/4	1					
	0.264	8	7	3/4	1					
	0.264	10	9	3/4	1					
	0.264	12	11	3/4	1					
	0.264	14	13	3/4	1					
	0.264	16	15	3/4	1					
11. HEAD SHAPE	#3 PHILLIPS TRUSS					#3 PHILLIPS TRUSS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.109					0.109				
DIAMETER	0.438					0.438				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	HEXAGONAL HEXAGONAL ROUND	2 7/8 2 7/8 2	STAINLESS STEEL GALVALUME GALVALUME			HEXAGONAL HEXAGONAL HEXAGONAL ROUND	2 7/8 2 7/8 3 2	STAINLESS STEEL GALVALUME PLASTIC GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	780					773				
2-INCH PINE PLANK	1,500					1,250				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM					FM				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED										

NA=not applicable

Roof Fasteners: Wood Decks

CONSTRUCTION FASTENERS, INC.					CONSTRUCTION FASTENERS, INC.					CONSTRUCTION FASTENERS, INC.				
DEKFAST #12					DEKFAST #14					DEKFAST #15 HI-STRENGTH				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
HARDENED CARBON STEEL					HARDENED CARBON STEEL					HARDENED CARBON STEEL				
ORGANIC					ORGANIC					ORGANIC				
SPIRAL THREAD					SPIRAL THREAD					SPIRAL THREAD				
SELF-DRILLING					SELF-DRILLING					SELF-DRILLING				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.222	1 5/8	5/8	3/4	1	0.238	1 1/4	1/4	3/4	1	0.264	1 1/4	1/4	3/4	1
0.222	2 1/4	1 1/4	3/4	1	0.238	1 5/8	5/8	3/4	1	0.264	2	1	3/4	1
0.222	2 7/8	1 7/8	3/4	1	0.238	2 1/4	1 1/4	3/4	1	0.264	3	2	3/4	1
0.222	3 1/4	2 1/4	3/4	1	0.238	2 7/8	1 7/8	3/4	1	0.264	4	3	3/4	1
0.222	3 3/4	2 3/4	3/4	1	0.238	3 1/4	2 1/4	3/4	1	0.264	5	4	3/4	1
0.222	4 1/2	3 1/2	3/4	1	0.238	3 3/4	2 3/4	3/4	1	0.264	6	5	3/4	1
0.222	5	4	3/4	1	0.238	4 1/2	3 1/2	3/4	1	0.264	7	6	3/4	1
0.222	6	5	3/4	1	0.238	5	4	3/4	1	0.264	8	7	3/4	1
0.222	7	6	3/4	1	0.238	6	5	3/4	1	0.264	10	9	3/4	1
0.222	8	7	3/4	1	0.238	7	6	3/4	1	0.264	12	11	3/4	1
					0.238	8	7	3/4	1	0.264	14	13	3/4	1
					0.238	10	9	3/4	1	0.264	16	15	3/4	1
					0.238	12	11	3/4	1	0.264	18	17	3/4	1
										0.264	20	19	3/4	1
										0.264	22	21	3/4	1
										0.264	24	23	3/4	1
										0.264	26	25	3/4	1
#3 PHILLIPS TRUSS & 1/4" HEX WASHER HEAD					#3 PHILLIPS FLAT TRUSS					#3 PHILLIPS TRUSS				
0.109, 0.130					0.109					0.109				
0.438, 0.335					0.438					0.438				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
HEXAGONAL	2 7/8	RECESS GALVALUME			HEXAGONAL	2 7/8	GALVALUME			HEXAGONAL	2 7/8	GALVALUME		
HEXAGONAL	2 7/8	GALVALUME			HEXAGONAL	3	PLASTIC			ROUND	2	GALVALUME		
HEXAGONAL	3	PLASTIC			ROUND	2	GALVALUME			ROUND	2 1/2	GALVALUME		
ROUND	2	GALVALUME			ROUND	2	NYLON							
ROUND	2	NYLON												
REQUIRED					REQUIRED					REQUIRED				
OPTIONAL					OPTIONAL					OPTIONAL				
617					671					780				
1,265					1,470					1,500				
YES					YES					YES				
FM, METRO-DADE COUNTY					FM, METRO-DADE COUNTY					FM, METRO-DADE COUNTY				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	CONSTRUCTION FASTENERS, INC.					DURO LAST INC.				
2. PRODUCT NAME	#14 DEKFAST STAINLESS STEEL					DURO LAST SCREWS #14				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X									
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	STAINLESS STEEL (TRIMRITE)					STEEL				
6. COATING TYPE	NONE					FLUOROCARBON				
7. SHANK TYPE	SPIRAL THREAD					SPIRAL THREAD				
8. POINT TYPE	SELF-DRILLING					SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.235	1 1/2	1/2	3/4	1	0.190	1 3/4	3/4	1	1
	0.235	2	1	3/4	1	0.190	2	1	1	1
	0.235	3	2	3/4	1	0.190	2 1/2	1 1/2	1	1
	0.235	4	3	3/4	1	0.190	3	2	1	1
	0.235	5	4	3/4	1	0.190	3 1/2	2 1/2	1	1
	0.235	6	5	3/4	1	0.190	4	3	1	1
	0.235	7	6	3/4	1	0.190	4 1/2	3 1/2	1	1
	0.235	8	7	3/4	1	0.190	5	4	1	1
	0.235	10	9	3/4	1	0.190	5 1/2	4 1/2	1	1
	0.235	12	11	3/4	1	0.190	6	5	1	1
						0.190	7	6	1	1
						0.190	8	7	1	1
						0.190	9	8	1	1
						0.190	10	9	1	1
						0.190	11	10	1	1
						0.190	12	11	1	1
11. HEAD SHAPE	#3 PHILLIPS TRUSS					TRUSS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.105					0.103				
DIAMETER	0.440					0.438				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3							
	Shape	Dimensions (inches)	Material							
	ROUND	2	GALVALUME							
	ROUND	3	GALVALUME							
	ROUND	3	PLASTIC							
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	495					930				
2-INCH PINE PLANK	517					983				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO-DADE COUNTY					FM, ICBO, BOCA, SBCCI				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X									

NA=not applicable

Roof Fasteners: Wood Decks

ES PRODUCTS INC					FIRESTONE BUILDING PRODUCTS					FIRESTONE BUILDING PRODUCTS				
HARDENED DO-ALL LOC-NAIL					FIRESTONE ALL PURPOSE					FIRESTONE HEAVY DUTY				
U.S.					U.S.					U.S.				
X					X					X				
HARDENED COLD ROLLED STEEL					SAE 1022, HEAT TREATED					SAE 1022, HEAT TREATED				
ZINC PLATED					ORGANIC					FLUOROCARBON				
SPLIT, SERRATED					SPIRAL THREADED					BUTTRESS THREAD				
2 SHARP POINTS					SELF-DRILLING					DRILL POINT				
SPREAD OF SERRATED SHANKS					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.240	1 3/8	1/4	1/2	1	0.235	1 1/4	1/4	1	1	0.264	1 1/4	1/4	1	1
					0.235	1 5/8	5/8	1	1	0.264	2	1	1	1
					0.235	2 1/4	1 1/4	1	1	0.264	3	2	1	1
					0.235	2 7/8	1 7/8	1	1	0.264	4	3	1	1
					0.235	3 1/4	2 1/4	1	1	0.264	5	4	1	1
					0.235	3 3/4	1 3/4	1	1	0.264	6	5	1	1
					0.235	4 1/2	3 1/2	1	1	0.264	7	6	1	1
					0.235	5	4	1	1	0.264	8	7	1	1
					0.235	6	5	1	1	0.264	10	9	1	1
					0.235	7	6	1	1	0.264	12	11	1	1
0.235	8	7	1	1	0.264	14	13	1	1					
SQUARE WITH ROUNDED CORNERS					ROUND MUSHROOM #3 PHILLIPS					ROUND MUSHROOM #3 PHILLIPS				
0.050					0.110					0.110				
0.375					0.437					0.437				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	1 3/16	PRE-TINNED STEEL			HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME			HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME		
					REQUIRED					REQUIRED				
					OPTIONAL					OPTIONAL				
HAMMER														
134										542				
141														
					YES					YES				
					FM, ICBO, UL, SBCCI					FM, ICBO, UL, SBCCI				
YES					YES					YES				

Roof Fasteners: Wood Decks

1. COMPANY NAME	GAF MATERIALS CORP.					GAF MATERIALS CORP.				
2. PRODUCT NAME	GAFTITE #12-11/EVERGUARD EGIN					GAFTITE #12-11/EVERGUARD EGIN				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	HARDENED CARBON STEEL					STAINLESS STEEL, SPECIAL 400-SERIES BLEND				
6. COATING TYPE	CR-10 FLUOROCARBON					CR-10 FLUOROCARBON				
7. SHANK TYPE	THREADED					THREADED				
8. POINT TYPE	PINCH, SELF-DRILLING; GIMLET, OR TAPEX					PINCH, SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.160	1 5/8	5/8	1/2	1	0.160	1 5/8	1 3/8	1/2	1
	0.160	2 1/4	1 1/4	1/2	1	0.160	2 1/4	1 3/4	1/2	1
	0.160	2 7/8	1 7/8	1/2	1	0.160	2 7/8	2 3/8	1/2	1
	0.160	3 1/4	2 1/4	1/2	1	0.160	3 1/4	2 3/4	1/2	1
	0.160	3 3/4	2 3/4	1/2	1	0.160	3 3/4	3 1/4	1/2	1
	0.160	4 1/2	3 1/2	1/2	1	0.160	4 1/2	4	1/2	1
	0.160	5	4	1/2	1	0.160	5	4 1/2	1/2	1
	0.160	6	5	1/2	1	0.160	6	5 1/2	1/2	1
	0.160	7	6	1/2	1	0.160	7	6 1/2	1/2	1
	0.160	8	7	1/2	1	0.160	8	7 1/2	1/2	1
11. HEAD SHAPE	ROUND TRUSS, #3 PHILLIPS					ROUND TRUSS, #3 PHILLIPS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.110					0.110				
DIAMETER	0.435					0.435				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
	ROUND	2	STEEL			ROUND	2	STAINLESS STEEL		
	ROUND	2	PLASTIC			ROUND	3	STAINLESS STEEL		
	ROUND	2	STAINLESS STEEL			ROUND	2	STEEL		
	ROUND	3	STEEL			ROUND	2	PLASTIC		
	ROUND	3	PLASTIC			ROUND	3	STEEL		
	ROUND	3	STAINLESS STEEL			ROUND	3	PLASTIC		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	531					531				
2-INCH PINE PLANK	735					735				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, ICBO, UL, METRO-DADE COUNTY					FM, ICBO, UL, METRO-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

GAF MATERIALS CORP.					GAF MATERIALS CORP.					HILTI INC.				
GAFTITE #14-10/EVERGUARD EGH0					GAFTITE #14-10/EVERGUARD EGH0					HILTI FASTENERS #12				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
HARDENED CARBON STEEL					STAINLESS STEEL, SPECIAL 400-SERIES BLEND					CARBON STEEL C-1022				
CR-10 FLUOROCARBON					CR-10 FLUOROCARBON					TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)				
THREADED					THREADED					THREADED				
PINCH, SELF-DRILLING OR TAPEX					PINCH, SELF-DRILLING					DOUBLE FLUTED SELF-DRILLING				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.190	1 1/4	1/4	1/2	1	0.201	1 1/4	1/4	1/2	1	0.160	1 5/8	5/8	1	1
0.190	1 3/4	3/4	1/2	1	0.201	1 3/4	3/4	1/2	1	0.160	2 1/4	1 1/4	1	1
0.190	2	1	1/2	1	0.201	2	1	1/2	1	0.160	2 7/8	1 7/8	1	1
0.190	3	2	1/2	1	0.201	3	2	1/2	1	0.160	3 1/4	2 1/4	1	1
0.190	4	3	1/2	1	0.201	4	3	1/2	1	0.160	3 3/4	2 3/4	1	1
0.190	5	4	1/2	1	0.201	5	4	1/2	1	0.160	4 1/2	3 1/2	1	1
0.190	6	5	1/2	1	0.201	6	5	1/2	1	0.160	5	4	1	1
0.190	7	6	1/2	1	0.201	7	6	1/2	1	0.160	6	5	1	1
0.190	8	7	1/2	1	0.201	8	7	1/2	1	0.160	7	6	1	1
0.190	10	9	1/2	1	0.201	9	9	1/2	1	0.160	8	7	1	1
0.190	12	11	1/2	1	0.201	10	11	1/2	1					
0.190	14	13	1/2	1	0.201	12	13	1/2	1					
0.190	16	15	1/2	1	0.201	14	15	1/2	1					
0.201	17	16	1/2	1	0.201	16	16	1/2	1					
0.201	18	17	1/2	1	0.201	18	17	1/2	1					
0.201	20	19	1/2	1	0.201	20	19	1/2	1					
0.201	21	20	1/2	1	0.201	21	20	1/2	1					
0.201	22	21	1/2	1	0.201	22	21	1/2	1					
0.201	24	23	1/2	1	0.201	24	23	1/2	1					
ROUND TRUSS, #3 PHILLIPS					ROUND TRUSS, #3 PHILLIPS					#10 TRUSS, PHILLIPS #3				
0.110					0.108					0.105				
0.435					0.435					0.440				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	2	STAINLESS STEEL			ROUND	2	STAINLESS STEEL			ROUND	2	GALVALUME		
ROUND	3	STAINLESS STEEL			ROUND	3	STAINLESS STEEL			ROUND	3	GALVALUME		
ROUND	2	STEEL			ROUND	2	STEEL			ROUND	3	PLASTIC		
ROUND	2	PLASTIC			ROUND	2	PLASTIC							
ROUND	3	STEEL			ROUND	3	STEEL							
ROUND	3	PLASTIC			ROUND	3	PLASTIC							
REQUIRED					REQUIRED					REQUIRED				
OPTIONAL					OPTIONAL					OPTIONAL				
590					590					566				
820					820					1,248				
YES					YES					YES				
FM, ICBO, UL, METRO.-DADE COUNTY					FM, ICBO, UL, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
YES					YES					YES				
X					X									

Roof Fasteners: Wood Decks

1. COMPANY NAME	HILTI INC.					HILTI INC.				
2. PRODUCT NAME	HILTI FASTENERS #12 S.S.					HILTI FASTENERS #14				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	STAINLESS STEEL (TRIMRITE ALLOY #S-42010)					CARBON STEEL C-1022				
6. COATING TYPE	NA					TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)				
7. SHANK TYPE	THREADED					THREADED				
8. POINT TYPE	DOUBLE FLUTED SELF-DRILLING					DOUBLE FLUTED SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.160	1 5/8	5/8	1	1	0.180	1 1/2	1/2	1	1
	0.160	2 1/4	1 1/4	1	1	0.180	2	1	1	1
	0.160	2 7/8	1 7/8	1	1	0.180	3	2	1	1
	0.160	3 3/4	2 3/4	1	1	0.180	4	3	1	1
	0.160	4 1/2	3 1/2	1	1	0.180	5	4	1	1
	0.160	5	4	1	1	0.180	6	5	1	1
	0.160	6	5	1	1	0.180	7	6	1	1
	0.160	7	6	1	1	0.180	8	7	1	1
	0.160	8	7	1	1	0.180	10	9	1	1
	0.160	10	9	1	1	0.180	12	11	1	1
	0.160	12	11	1	1					
11. HEAD SHAPE	#10 TRUSS, PHILLIPS #3					TRUSS #3 PHILLIPS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.105					0.105				
DIAMETER	0.440					0.440				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	ROUND	2	GALVALUME			ROUND	2	GALVALUME		
	ROUND	3	GALVALUME			ROUND	3	GALVALUME		
	ROUND	3	PLASTIC			ROUND	3	PLASTIC		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	566					495				
2-INCH PINE PLANK	1,248					517				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED										

NA=not applicable

Roof Fasteners: Wood Decks

HILTI INC.					ITW BUILDEX					ITW BUILDEX				
HILTI FASTENERS #10					HEXTRA					ROOFGRIP				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL C-1022					HARDENED CARBON STEEL					HARDENED CARBON STEEL OR STAINLESS (#410)				
TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)					CLIMASEAL OR SPEX					SPEX				
THREADED					MODIFIED BUTTRESS THREAD					MODIFIED BUTTRESS THREAD				
GIMLET					X-POINT					X-POINT				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.150	1 5/8	5/8	1	1	0.215	1 5/8	5/8	1	1	0.215	1 5/8	5/8	1	1
0.150	2 1/4	1 1/4	1	1	0.215	2 1/4	1 1/4	1	1	0.215	2 1/4	1 1/4	1	1
0.150	2 7/8	1 7/8	1	1	0.215	2 7/8	1 7/8	1	1	0.215	2 7/8	1 7/8	1	1
0.150	3 3/4	2 3/4	1	1	0.215	3 1/4	2 1/4	1	1	0.215	3 1/4	2 1/4	1	1
0.150	4 1/2	3 1/2	1	1	0.215	3 3/4	2 3/4	1	1	0.215	3 3/4	2 3/4	1	1
0.150	5	4	1	1	0.215	4 3/8	3 3/8	1	1	0.215	4 3/8	3 3/8	1	1
0.150	6	5	1	1	0.215	5	4	1	1	0.215	5	4	1	1
					0.215	6	5	1	1	0.215	6	5	1	1
					0.215	7	6	1	1	0.215	7	6	1	1
					0.215	8	7	1	1	0.215	8	7	1	1
TRUSS #3 PHILLIPS					1/4-IN. HEX HEAD					#3 PHILLIPS PAN HEAD				
0.110					0.180					0.118				
0.390					0.392					0.448				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	2	GALVALUME			SQUARE	3 X 3	GALVALUME			SQUARE	3 X 3	GALVALUME		
ROUND	3	GALVALUME			GEARLOCK	3	POLYOLEFIN			GEARLOCK	3	POLYOLEFIN		
ROUND	3	PLASTIC			ROUND	2	GALVALUME			ROUND	2	GALVALUME		
REQUIRED					REQUIRED					REQUIRED				
OPTIONAL					ACCUDRIVE XL PLUS (OPTIONAL)					ACCUDRIVE XL PLUS (OPTIONAL)				
636					544					544				
938					1,292					1,292				
YES					YES					YES				
FM, METRO-DADE COUNTY					FM, METRO-DADE COUNTY					FM, METRO-DADE COUNTY				
YES					YES					YES				

Roof Fasteners: Wood Decks

1. COMPANY NAME	ITW BUILDDEX					ITW BUILDDEX				
2. PRODUCT NAME	ACCUTRAC FASTENER					ROOFGRIP PLUS				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES										
C. SINGLE-PLY MEMBRANES										
5. MATERIAL TYPE	HARDENED CARBON STEEL					CARBON STEEL				
6. COATING TYPE	CLIMASEAL					SPEX				
7. SHANK TYPE	MODIFIED BUTTRESS THREAD					MODIFIED BUTTRESS THREAD				
8. POINT TYPE	X-POINT					X-POINT				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.215	1 5/8	5/8	1	1	0.215	2 1/4	1 3/4	1/2	1/2
	0.215	2 1/4	1 1/4	1	1	0.215	2 7/8	2 3/8	1/2	1/2
	0.215	2 7/8	1 7/8	1	1	0.215	3 1/4	2 3/4	1/2	1/2
	0.215	3 1/4	2 1/4	1	1	0.215	3 3/4	3 1/4	1/2	1/2
	0.215	3 3/4	2 3/4	1	1	0.215	4 3/8	3 7/8	1/2	1/2
	0.215	4 3/8	3 3/8	1	1	0.215	5	4 1/2	1/2	1/2
	0.215	5	4	1	1	0.215	6	5 1/2	1/2	1/2
	0.215	6	5	1	1	0.215	7	6 1/2	1/2	1/2
						0.215	8	7 1/2	1/2	1/2
11. HEAD SHAPE	1/4 IN. HEX HEAD					#3 PHILLIPS PAN HEAD				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.180					0.180				
DIAMETER	0.392					0.392				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	SQUARE	3 X 3	GALVALUME			ROUND	3	GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)						REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)										
SPECIAL TOOL NEEDED (optional/required)	ACCUTRAC I, II, OR III (REQUIRED)					ACCUFAST STAND-UP TOOL (OPTIONAL)				
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	544					544				
2-INCH PINE PLANK	1,292					1,292				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO-DADE COUNTY					FM				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

ITW BUILDEX					ITW BUILDEX					ITW BUILDEX				
#14 ROOFGRIP					#15 ROOFGRIP					HEXTRA PLUS				
U.S.					U.S.					U.S.				
X					X					X				
X					X									
X					X									
HARDENED CARBON STEEL					HARDENED CARBON STEEL					CARBON STEEL				
CLIMASEAL					CLIMASEAL					CLIMASEAL				
MODIFIED STANDARD THREAD					MODIFIED BUTTRESS THREAD					MODIFIED BUTTRESS THREAD				
X-POINT					DRILL POINT					X-POINT				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.245	1 1/2	1	1/2	1/2	0.260	1 1/4	3/4	1/2	1/2	0.215	2 1/4	1 3/4	1/2	1/2
0.245	2	1 1/2	1/2	1/2	0.260	2	1 1/2	1/2	1/2	0.215	2 7/8	2 3/8	1/2	1/2
0.245	3	2 1/2	1/2	1/2	0.260	3	2 1/2	1/2	1/2	0.215	3 1/4	2 3/4	1/2	1/2
0.245	4	3 1/2	1/2	1/2	0.260	4	3 1/2	1/2	1/2	0.215	3 3/4	3 1/4	1/2	1/2
0.245	5	4 1/2	1/2	1/2	0.260	5	4 1/2	1/2	1/2	0.215	4 3/8	3 7/8	1/2	1/2
0.245	6	5 1/2	1/2	1/2	0.260	6	5 1/2	1/2	1/2	0.215	5	4 1/2	1/2	1/2
0.245	7	6 1/2	1/2	1/2	0.260	7	6 1/2	1/2	1/2	0.215	6	5 1/2	1/2	1/2
0.245	8	7 1/2	1/2	1/2	0.260	8	7 1/2	1/2	1/2	0.215	7	6 1/2	1/2	1/2
					0.260	10	9 1/2	1/2	1/2	0.215	8	7 1/2	1/2	1/2
					0.260	12	11 1/2	1/2	1/2					
					0.260	14	13 1/2	1/2	1/2					
#3 PHILLIPS PAN HEAD					#3 PHILLIPS PAN HEAD					1/4" HEX HEAD				
0.118					0.118					0.180				
0.448					0.448					0.392				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	2	GALVALUME			ROUND	2	GALVALUME			ROUND	3	GALVALUME		
SQUARE	3	GALVALUME			SQUARE	3	GALVALUME							
ROUND	3	PLASTIC												
REQUIRED					REQUIRED					REQUIRED				
ACCUDRIVE XL PLUS (OPTIONAL)					ACCUDRIVE XL PLUS (OPTIONAL)					ACCUFAST STAND-UP TOOL (OPTIONAL)				
728					606					544				
1,104					1,410					1,292				
YES					YES					YES				
FM, METRO-DADE COUNTY					FM					FM				
YES					YES					YES				
										X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.					JOHNS MANVILLE INTERNATIONAL INC.				
2. PRODUCT NAME	ULTRAFAST/HEX HEAD					ULTRA GRIP PHILLIPS HEAD #12				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES										
C. SINGLE-PLY MEMBRANES										
5. MATERIAL TYPE	HARDENED CARBON STEEL					HARDENED CARBON STEEL				
6. COATING TYPE	CLIMASEAL					SPEX				
7. SHANK TYPE	MODIFIED BUTTRESS THREAD					MODIFIED BUTTRESS THREAD				
8. POINT TYPE	SELF-DRILLING X-POINT					SELF-DRILLING X-POINT				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.215	1 5/8	5/8	1	1	0.215	1 5/8	5/8	1	1
	0.215	2 1/4	1 1/4	1	1	0.215	2 1/4	1 1/4	1	1
	0.215	2 7/8	1 7/8	1	1	0.215	2 7/8	1 7/8	1	1
	0.215	3 1/4	2 1/4	1	1	0.215	3 1/4	2 1/4	1	1
	0.215	3 3/4	2 3/4	1	1	0.215	3 3/4	2 3/4	1	1
	0.215	4 3/8	3 3/8	1	1	0.215	4 3/8	3 3/8	1	1
	0.215	5	4	1	1	0.215	5	4	1	1
	0.215	6	5	1	1	0.215	6	5	1	1
	0.215	7	6	1	1	0.215	7	6	1	1
	0.215	8	7	1	1	0.215	8	7	1	1
11. HEAD SHAPE	1/4-IN. HEX HEAD					#3 PHILLIPS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.180					0.118				
DIAMETER	0.392					0.448				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	SQUARE	3 X 3	CARBON STEEL WITH GALVALUME POLYOLEFIN			SQUARE	3 X 3	CARBON STEEL WITH GALVALUME POLYOLEFIN		
	ROUND J. MANVILLE LOCKING PLATE	3				ROUND J. MANVILLE LOCKING PLATE	3			
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL (ACCUDRIVE)					OPTIONAL (ACCUDRIVE)				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	544					544				
2-INCH PINE PLANK	1,292					1,292				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, UL, METRO-DADE COUNTY					FM, UL, METRO-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					NO				
20. SEE APPENDIX IF CHECKED										

NA=not applicable

Roof Fasteners: Wood Decks

NATIONAL NAIL CORPORATION					NATIONAL NAIL CORPORATION					NATIONAL NAIL CORPORATION				
R/S ROUND-TOP					ROUND-TOP MASONRY					PLASTI-TOP				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					HIGH CARBON STEEL					CARBON STEEL				
NA					NA					NA				
ANULAR THREADED					FLUTED					ANNULAR THREAD				
DIAMOND					DIAMOND					DIAMOND				
THREADED FRICTION					THREADED FRICTION					THREADED FRICTION				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.990	3/4	1/8	1	1	0.164	5/8	1/8	1/2	1	0.990	3/4	1/8	1	1
0.990	7/8	1/8	1	1	0.164	3/4	1/8	1/2	1	0.990	7/8	1/8	1	1
0.990	1	1/8	1	1	0.164	7/8	1/8	1/2	1	0.990	1	1/8	1	1
0.990	1 1/4	1/2	1	1	0.164	1	1/2	1/2	1	0.990	1 1/4	1/2	1	1
0.990	1 1/2	3/4	1	1	0.164	1 1/4	3/4	1/2	1	0.990	1 1/2	3/4	1	1
0.990	1 3/4	1	1	1	0.164	1 1/2	1	1/2	1	0.990	1 3/4	1	1	1
0.990	2	1 1/4	1	1	0.164	1 3/4	1 1/4	1/2	1	0.990	2	1 1/4	1	1
0.110	2 1/2	1 3/4	1	1	0.164	2	1 1/2	1/2	1	0.990	2 1/2	1 3/4	1	1
0.128	3	2 1/4	1	1	0.164	2 1/2	2	1/2	1					
					0.164	3	2 1/2	1/2	1					
					0.164	3 1/2	3	1/2	1					
					0.164	4	3 1/2	1/2	1					
ROUND					ROUND					ROUND				
0.045					0.045					0.060				
1.00					1.00					1.00				
NO					NO					NO				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
NA	NA	NA			NA	NA	NA			NA	NA	NA		
HAMMER (REQUIRED)					HAMMER (REQUIRED)					HAMMER (REQUIRED)				
NO					NO					NO				
BOCA, ICBO					BOCA, ICBO					BOCA, ICBO				
YES					YES					YES				
X										X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	NATIONAL NAIL CORPORATION					OLYMPIC MANUFACTURING GROUP				
2. PRODUCT NAME	PLASTI-CAP					OLYMPIC FASTENER #12-12.5				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL					HARDENED CARBON STEEL				
6. COATING TYPE	NA					CR-10 FLUOROCARBON				
7. SHANK TYPE	SPIRAL THREAD					THREADED				
8. POINT TYPE	DIAMOND					PINCH, SELF-DRILLING; GIMLET; OR TAPEX				
9. METHOD OF ATTACHMENT	THREADED FRICTION					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.110	3/4	1/8	1	1	0.160	1 5/8	5/8	1/2	1
	0.110	7/8	1/8	1	1	0.160	2 1/4	1 1/4	1/2	1
	0.110	1	1/8	1	1	0.160	2 7/8	1 7/8	1/2	1
	0.110	1 1/4	1/2	1	1	0.160	3 1/4	2 1/4	1/2	1
	0.110	1 1/2	3/4	1	1	0.160	3 3/4	2 3/4	1/2	1
	0.110	1 3/4	1	1	1	0.160	4 1/2	3 1/2	1/2	1
	0.110	2	1 1/4	1	1	0.168	5	4	1/2	1
	0.110	2 1/2	1 3/4	1	1	0.168	6	5	1/2	1
	0.110	3	2 1/4	1	1	0.168	7	6	1/2	1
						0.168	8	7	1/2	1
11. HEAD SHAPE	OCTAGON					ROUND TRUSS, #3 PHILLIPS, OR HEX HEAD				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.060					0.110				
DIAMETER	1.00					0.435				
13. PLATES										
A. REQUIRED (yes/no)	NO					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)						YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3							
	Shape	Dimensions (inches)	Material							
	NA	NA	NA							
	ROUND	2	STEEL							
	ROUND	2	PLASTIC							
	ROUND	2	STAINLESS STEEL							
	ROUND	3	STEEL							
	ROUND	3	PLASTIC							
	ROUND	3	STAINLESS STEEL							
	ROUND	3 1/2	STEEL							
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)						REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)						OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER	HAMMER (REQUIRED)									
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD						531				
2-INCH PINE PLANK						735				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					YES				
18. ACCEPTED BY THE FOLLOWING CODES	BOCA, ICBO					FM, UL, ICBO, METRO-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

OLYMPIC MANUFACTURING GROUP					OLYMPIC MANUFACTURING GROUP					OLYMPIC MANUFACTURING GROUP				
OLYMPIC FASTENER #12-11 (S.STEEL)					OLYMPIC FASTENER #14-10 (C STEEL)					OLYMPIC FASTENER #14-10 (S.STEEL)				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
STAINLESS STEEL, SPECIAL 400-SERIES BLEND					HARDENED CARBON STEEL					STAINLESS STEEL, SPECIAL 400-SERIES BLEND				
CR-10 FLUOROCARBON					CR-10 FLUOROCARBON					CR-10 FLUOROCARBON				
THREADED					THREADED					THREADED				
PINCH, SELF-DRILLING					PINCH, SELF-DRILLING OR TAPEX					PINCH, SELF-DRILLING				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.168	1 5/8	5/8	1/2	1	0.190	1 1/4	3/4	1/2	1	0.190	1 1/4	3/4	1/2	1
0.168	2 1/4	1 1/4	1/2	1	0.190	1 3/4	1 1/4	1/2	1	0.190	1 3/4	1 1/4	1/2	1
0.168	2 7/8	2 3/8	1/2	1	0.190	2	1 1/2	1/2	1	0.190	2	1 1/2	1/2	1
0.168	3 1/4	2 1/4	1/2	1	0.190	3	2 1/2	1/2	1	0.190	3	2 1/2	1/2	1
0.168	3 3/4	2 3/4	1/2	1	0.190	4	3 1/2	1/2	1	0.190	4	3 1/2	1/2	1
0.168	4 1/2	3 1/2	1/2	1	0.190	5	4 1/2	1/2	1	0.190	5	4 1/2	1/2	1
0.168	5	4	1/2	1	0.190	6	5 1/2	1/2	1	0.190	6	5 1/2	1/2	1
0.168	6	5	1/2	1	0.190	7	6 1/2	1/2	1	0.190	7	6 1/2	1/2	1
0.168	7	6	1/2	1	0.190	8	7 1/2	1/2	1	0.190	8	7 1/2	1/2	1
0.168	8	7	1/2	1	0.190	9	8 1/2	1/2	1	0.190	9	8 1/2	1/2	1
					0.190	10	9 1/2	1/2	1	0.190	10	9 1/2	1/2	1
					0.190	11	10 1/2	1/2	1	0.190	11	10 1/2	1/2	1
					0.190	12	11 1/2	1/2	1	0.190	12	11 1/2	1/2	1
					0.190	14	13 1/2	1/2	1	0.190	14	13 1/2	1/2	1
					0.190	16	15 1/2	1/2	1	0.190	16	15 1/2	1/2	1
					0.201	17	16 1/2	1/2	1	0.201	17	16 1/2	1/2	1
					0.201	18	17 1/2	1/2	1	0.201	18	17 1/2	1/2	1
					0.201	20	19 1/2	1/2	1	0.201	20	19 1/2	1/2	1
					0.201	21	20 1/2	1/2	1	0.201	21	20 1/2	1/2	1
					0.201	22	21 1/2	1/2	1	0.201	22	21 1/2	1/2	1
					0.201	24	23 1/2	1/2	1	0.201	24	23 1/2	1/2	1
ROUND TRUSS, #3 PHILLIPS					ROUND TRUSS, #3 PHILLIPS					ROUND TRUSS, #3 PHILLIPS				
0.110					0.110					0.110				
0.435					0.435					0.435				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	2	STAINLESS STEEL			ROUND	2	STAINLESS STEEL			ROUND	2	STAINLESS STEEL		
ROUND	3	STAINLESS STEEL			ROUND	3	STAINLESS STEEL			ROUND	3	STAINLESS STEEL		
ROUND	2	STEEL			ROUND	2	STEEL			ROUND	2	STEEL		
ROUND	2	PLASTIC			ROUND	2	PLASTIC			ROUND	2	PLASTIC		
ROUND	3	STEEL			ROUND	3	STEEL			ROUND	3	STEEL		
ROUND	3	PLASTIC			ROUND	3	PLASTIC			ROUND	3	PLASTIC		
ROUND	3 1/2	STEEL			ROUND	3 1/2	STEEL			ROUND	3 1/2	STEEL		
REQUIRED					REQUIRED					REQUIRED				
OPTIONAL					OPTIONAL					OPTIONAL				
531					590					590				
735					820					820				
YES					YES					YES				
FM, UL, ICBO, METRO-DADE COUNTY					FM, UL, ICBO, METRO-DADE COUNTY					FM, UL, ICBO, METRO-DADE COUNTY				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	POWERS FASTENERS, INC.					POWERS FASTENERS, INC.				
2. PRODUCT NAME	POWERS RAWL # 14 DECK SCREW					POWERS RAWL WOODIE				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X									
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CASE HARDENED CARBON STEEL					ZAMAC ALLOY				
6. COATING TYPE	PERMA-SEAL FLUOROPOLYMER					GALVALUME				
7. SHANK TYPE	SPIRAL THREAD					TAPERED/THREADED (SPECIAL DESIGN)				
8. POINT TYPE	DRILL TYPE					SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.238	1 5/8	1 3/8	1/4		0.490	1 3/4	1/8	3/4	
	0.238	2 1/4	2 5/8	1/4		0.490	2 1/2	3/4	3/4	
	0.238	2 7/8	3 1/2	1/4		0.490	3 1/4	1 1/2	3/4	
	0.238	3 3/4	4	1/4		0.490	4	2 1/4	3/4	
	0.238	4 1/2	4 1/4	1/4		0.490	4 3/4	3	3/4	
	0.238	5	4 3/4	1/4						
	0.238	6	5 3/4	1/4						
	0.238	7	6 3/4	1/4						
	0.238	8	7 3/4	1/4						
	0.238	10	9 3/4	1/4						
	0.238	12	11 3/4	1/4						
11. HEAD SHAPE	PHILLIPS FLAT TRUSS HEAD #3 RECESS					FLAT, SQUARE DRIVE RECESS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.118					0.073				
DIAMETER	0.448					0.600				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
	ROUND BARBED	2	GALVALUME			ROUND BARBED	2	GALVALUME		
	ROUND	3	GALVALUME			ROUND BARBED	3	GALVALUME		
	ROUND	3	STAINLESS STEEL							
	ROUND	3	PLASTIC							
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	STAND-UP TOOL (OPTIONAL)									
SPECIAL TOOL NEEDED (optional/required)						SQUARE DRIVER (INCLUDED)				
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	730					591				
2-INCH PINE PLANK										
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM					FM				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED						X				

NA=not applicable

Roof Fasteners: Wood Decks

POWERS FASTENERS INC.					POWERS FASTENERS, INC.					POWERS FASTENERS, INC.				
POWERS RAWL # 12 DECK SCREW					POWERS RAWL # 15 DECK SCREW					POWERS RAWL SPEED-LOCK TOGGLE				
U.S.					U.S.					U.S.				
X					X					X				
					X					X				
					X					X				
CASE HARDENED CARBON STEEL					CASE HARDENED CARBON STEEL					CARBON STEEL & STAINLESS STEEL				
PERMA-SEAL FLUOROPOLYMER					PERMA-SEAL FLUOROPOLYMER					PERMA-SEAL FLUOROPOLYMER (ON CARBON STEEL BOLT ONLY)				
SPIRAL THREAD					SPIRAL THREAD					ANNULAR THREAD				
RICOH "S" POINT/DRILL TYPE					RICOH "S" POINT					NA				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration Plywood (inches)	Required Deck Penetration, Wood (inches)
0.226	1 5/8	1 3/8	1/4		0.264	1 1/4	1	1/4		0.250	5	3 1/2	1 1/2	
0.226	2 1/4	2	1/4		0.264	2	1 3/4	1/4		0.250	6	4 1/2	1 1/2	
0.226	2 7/8	2 5/8	1/4		0.264	3	2 3/4	1/4		0.250	7	5 1/2	1 1/2	
0.226	3 1/4	3	1/4		0.264	4	3 3/4	1/4		0.250	8	6 1/2	1 1/2	
0.226	3 3/4	3 1/2	1/4		0.264	5	4 3/4	1/4		0.250	9	7 1/2	1 1/2	
0.226	4 1/2	4 1/4	1/4		0.264	6	5 3/4	1/4		0.250	10	8 1/2	1 1/2	
0.226	5	4 3/4	1/4		0.264	7	6 3/4	1/4		0.250	12	10 1/2	1 1/2	
0.226	6	5 3/4	1/4		0.264	8	7 3/4	1/4		0.250	14	12 1/2	1 1/2	
0.226	7	6 3/4	1/4		0.264	10	9 3/4	1/4						
0.226	8	7 3/4	1/4		0.264	12	11 3/4	1/4						
					0.264	14	13 3/4	1/4						
					0.264	16	15 3/4	1/4						
PHILLIPS TRUSS HEAD #3 RECESS WASHER / 1/4" HEX HEAD					PHILLIPS TRUSS HEAD #3 RECESS					PHILLIPS FLAT HEAD # RECESS				
0.130, 0.140					0.130					0.042				
0.448, 0.385					0.448					0.426				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND BARBED	2	GALVALUME			ROUND BARBED	2	GALVALUME			ROUND	3	GALVALUME		
ROUND	3	GALVALUME			ROUND	3	GALVALUME							
ROUND	3	STAINLESS STEEL			ROUND	3	STAINLESS STEEL							
ROUND	3	PLASTIC			ROUND	3	PLASTIC							
REQUIRED					REQUIRED					OPTIONAL				
STAND-UP TOOL (OPTIONAL)					STAND-UP TOOL (OPTIONAL)									
										ROTARY DRILL WITH WOOD CUTTING BIT (REQUIRED)				
710					720					710				
YES					YES					YES				
FM					FM					FM				
YES					YES					YES				
X										X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SENCO PRODUCTS, INC.					SFS STADLER INC.				
2. PRODUCT NAME	SENCO BASE TAPE SYSTEM					INSUL-FIXX #12-11				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT						X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES						X				
5. MATERIAL TYPE	CLASS 1 GALVANIZED STEEL					HARDENED STEEL				
6. COATING TYPE	SENCOTE PLASTIC POLYMER					TUFF-TITE II				
7. SHANK TYPE	STAPLE-16 GA.					SPIRAL THREAD				
8. POINT TYPE	DIVERGENT					DRILL POINT				
9. METHOD OF ATTACHMENT	MECHANICALLY ATTACHED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.62 X 0.58	7/8				0.172	1 5/8	1 1/8	1/2	1
						0.172	2 1/4	1 3/4	1/2	1
						0.172	2 7/8	2 3/8	1/2	1
						0.172	3 1/4	2 3/4	1/2	1
						0.172	3 3/4	3 1/4	1/2	1
						0.172	4 1/2	4	1/2	1
						0.172	5	4 1/2	1/2	1
						0.172	6	5 1/2	1/2	1
						0.172	7	6 1/2	1/2	1
						0.172	8	7 1/2	1/2	1
11. HEAD SHAPE	STAPLE					ROUND WITH #3 PHILLIPS TRUSS				
12. HEAD DIMENSIONS (inches)										
THICKNESS						0.103				
DIAMETER						0.425				
13. PLATES										
A. REQUIRED (yes/no)	NO					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)						YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
						ROUND ROUND	3 3	POLYETHYLENE GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)						REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	REQUIRED									
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)						630				
3/4-INCH PLYWOOD						756				
2-INCH PINE PLANK										
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					YES				
18. ACCEPTED BY THE FOLLOWING CODES	ICBO					FM, METRO.-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	NO					YES				
20. SEE APPENDIX IF CHECKED						X				

NA=not applicable

Roof Fasteners: Wood Decks

SFS STADLER INC.					SFS STADLER INC.					SFS STADLER INC.				
INSUL-FIXX #14-10					SYSTEM ES I #14-10					SYSTEM ES L #14-10				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
HARDENED STEEL					HARDENED STEEL					HARDENED STEEL				
TUFF-TITE II					TUFF TITE II					TUFF TITE II				
SPIRAL THREAD					SPIRAL THREAD					SPIRAL THREAD				
DRILL POINT					DRILL POINT					DRILL POINT				
THREADED					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.190	1 1/4	3/4	1/2	1	0.190	2	1	1/2	1	0.190	2	1	1/2	1
0.190	2	1 1/2	1/2	1	0.190	3	2	1/2	1	0.190	3	2	1/2	1
0.190	3	2 1/2	1/2	1	0.190	4	3	1/2	1	0.190	4	3	1/2	1
0.190	4	3 1/2	1/2	1	0.190	5	4	1/2	1	0.190	5	4	1/2	1
0.190	5	4 1/2	1/2	1	0.190	6	5	1/2	1	0.190	6	5	1/2	1
0.190	6	5 1/2	1/2	1	0.190	7	6	1/2	1	0.190	7	6	1/2	1
0.190	7	6 1/2	1/2	1	0.190	8	7	1/2	1	0.190	8	7	1/2	1
0.190	8	7 1/2	1/2	1	0.190	10	9	1/2	1	0.190	10	9	1/2	1
0.190	10	9 1/2	1/2	1	0.190	12	11	1/2	1	0.190	12	11	1/2	1
0.190	12	11 1/2	1/2	1										
0.190	14	13 1/2	1/2	1										
0.190	16	15 1/2	1/2	1										
0.190	18	17 1/2	1/2	1										
0.190	20	19 1/2	1/2	1										
0.190	22	21 1/2	1/2	1										
0.190	24	23 1/2	1/2	1										
0.190	26	25 1/2	1/2	1										
ROUND WITH #3 PHILLIPS TRUSS					ROUND WITH #3 PHILLIPS TRUSS					ROUND WITH #3 PHILLIPS TRUSS				
0.103					0.103					0.103				
0.425					0.425					0.425				
YES					YES					YES				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	3	POLYETHYLENE			ROUND	3	POLYETHYLENE			ROUND	2	NYLON WITH GLASS		
ROUND	3	GALVALUME												
ROUND	2	NYLON WITH GLASS												
ROUND	2	GALVALUME												
REQUIRED					REQUIRED					REQUIRED				
					OPTIONAL					OPTIONAL				
					OPTIONAL					OPTIONAL				
691					691					691				
819					819					819				
YES					YES					YES				
FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SFS STADLER INC.					SFS STADLER INC.				
2. PRODUCT NAME	SYSTEM ES I #12-11					ISOFAST IG-M				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	HARDENED STEEL					CARBON STEEL				
6. COATING TYPE	TUFF-TITE II					TUFF-TITE II				
7. SHANK TYPE	SPIRAL THREAD					THREADED				
8. POINT TYPE	DRILL POINT					GIMLET				
9. METHOD OF ATTACHMENT	THREADED					THREADED				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.172	2 1/4	1 3/4	1/2	1	0.236	2 1/4	1	1 1/4	1 1/4
	0.172	2 7/8	2 3/8	1/2	1	0.236	2 3/4	1 1/2	1 1/4	1 1/4
	0.172	3 1/4	2 3/4	1/2	1	0.236	3 1/8	1 7/8	1 1/4	1 1/4
	0.172	3 3/4	3 1/4	1/2	1	0.236	3 7/8	2 5/8	1 1/4	1 1/4
	0.172	4 1/2	4	1/2	1	0.236	4 3/4	3 1/2	1 1/4	1 1/4
	0.172	5	4 1/2	1/2	1	0.236	5 1/2	4 1/4	1 1/4	1 1/4
	0.172	6	5 1/2	1/2	1	0.236	6 1/4	5	1 1/4	1 1/4
	0.172	7	6 1/2	1/2	1					
	0.172	8	7 1/2	1/2	1					
11. HEAD SHAPE	ROUND WITH #3 PHILLIPS TRUSS					5/16 HEX HEAD				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.103					0.156				
DIAMETER	0.425					0.406				
13. PLATES										
A. REQUIRED (yes/no)	YES					YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3							
	Shape	Dimensions (inches)	Material							
	ROUND	3	POLYETHYLENE							
	OV AL	3 1/4 X 1 5/8	GALVALUME							
	SQ UARE	2 3/4 X 2 3/4	GALVALUME							
	DOM ED CONVEX	3 1/4 X 1 5/8	GALVALUME							
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					REQUIRED				
SPECIAL TOOL NEEDED (optional/required)	OPTIONAL					REQUIRED				
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	630					545				
2-INCH PINE PLANK	756					1,100				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

SFS STADLER INC.					SFS STADLER INC.					SIMPLEX				
ISOFAST IW-T-M					EXTRA LOAD FASTENER HD					ORIGINAL ROUND METAL CAP AG/RL				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					HARDENED STEEL					CARBON STEEL				
TUFF-TITE II					TUFF-TITE II					RUST-LOK				
THREADED					THREADED					ANNULAR GROOVED				
GIMLET					DRILL POINT					DIAMOND				
THREADED					THREADED					THREADED FRICTION				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)
0.196	1 5/8	1 3/4	1	1	0.205	1 1/4	3/4	1/2	1/2	0.106	1/2	1/16	The	1/2
0.196	2 3/4	3/8	1	1	0.205	2	1	1/2	1/2	0.106	5/8	1/16	nail	5/8
					0.205	3	2	1/2	1/2	0.106	3/4	1/16	must	3/4
					0.205	4	3	1/2	1/2	0.106	7/8	1/16	pass	7/8
					0.205	5	4	1/2	1/2	0.106	1	1/16	thru	1
					0.205	6	5	1/2	1/2	0.106	1 1/4	1/4	the	1
					0.205	8	7	1/2	1/2	0.120	1 1/2	1/2	plywood	1
					0.205	10	9	1/2	1/2	0.120	1 3/4	3/4	by	1
					0.205	12	11	1/2	1/2	0.120	2	1	a	1
					0.205	14	13	1/2	1/2	0.120	2 1/2	1 1/2	1/4"	1
					0.205	16	15	1/2	1/2	0.120	3	2		1
COUNTERSUNK POSI-DRIVE #2					ROUND WITH #3 PHILLIPS TRUSS					ROUND				
0.156					0.103					0.037				
0.406					0.425					1.000				
YES					YES					NO				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
OVAL	3 1/4 X 1 5/8	GALVALUME			ROUND	3	GALVALUME			PARABOLIC	2	GALVALUME		
SQUARE	2 3/4 X 2 3/4	GALVALUME			ROUND	2	GALVALUME			PARABOLIC	3	GALVALUME		
REQUIRED					REQUIRED					NO				
REQUIRED					OPTIONAL					NO				
REQUIRED										NO				
										MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
445					885					224				
880					1,200					190				
YES					YES					NO				
FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY					APA, FFN-105B				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SIMPLEX					SIMPLEX				
2. PRODUCT NAME	ORIGINAL ROUND METAL CAP AG/EYD					ORIGINAL ROUND METAL CAP AG/B				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL					CARBON STEEL				
6. COATING TYPE	ELECTRO GALVINZED YELLOW DICHROMATE					BRIGHT FINISH				
7. SHANK TYPE	ANNULAR GROOVED					ANNULAR GROOVED				
8. POINT TYPE	DIAMOND					DIAMOND				
9. METHOD OF ATTACHMENT	THREADED FRICTION					THREADED FRICTION				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)
	0.106	1/2	1/16	The nail	1/2	0.106	1/2	1/16	The nail	1/2
	0.106	5/8	1/16	5/8	5/8	0.106	5/8	1/16	5/8	5/8
	0.106	3/4	1/16	must	3/4	0.106	3/4	1/16	must	3/4
	0.106	7/8	1/16	pass	7/8	0.106	7/8	1/16	pass	7/8
	0.106	1	1/16	thru	1	0.106	1	1/16	thru	1
	0.106	1 1/4	1/4	the	1	0.106	1 1/4	1/4	the	1
	0.120	1 1/2	1/2	plywood	1	0.120	1 1/2	1/2	plywood	1
	0.120	1 3/4	3/4	by	1	0.120	1 3/4	3/4	by	1
	0.120	2	1	a	1	0.120	2	1	a	1
	0.120	2 1/2	1 1/2	1/4"	1	0.120	2 1/2	1 1/2	1/4"	1
	0.120	3	2		1	0.120	3	2		1
11. HEAD SHAPE	ROUND					ROUND				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.037					0.037				
DIAMETER	1.000					1.000				
13. PLATES										
A. REQUIRED (yes/no)	NO					NO				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
	PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	NO					NO				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NO					NO				
SPECIAL TOOL NEEDED (optional/required)	NO					NO				
OTHER	MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	224					224				
2-INCH PINE PLANK	190					190				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					NO				
18. ACCEPTED BY THE FOLLOWING CODES	APA, FFN-105B					APA, FFN-105B				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

SIMPLEX					SIMPLEX					SIMPLEX				
ORIGINAL ROUND METAL CAP B/RL					ORIGINAL ROUND METAL CAP B/EGYD					ORIGINAL ROUND METAL CAP B/B				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					CARBON STEEL					CARBON STEEL				
RUST-LOK					YELLOW DICHROMATE					BRIGHT FINISH				
BARBED					BARBED					BARBED				
DIAMOND					DIAMOND					DIAMOND				
FRICTION					FRICTION					FRICTION				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)
0.106	1/2	1/16	The	1/2	0.106	1/2	1/16	The	1/2	0.106	1/2	1/16	The	1/2
0.106	5/8	1/16	nail	5/8	0.106	5/8	1/16	nail	5/8	0.106	5/8	1/16	nail	5/8
0.106	3/4	1/16	must	3/4	0.106	3/4	1/16	must	3/4	0.106	3/4	1/16	must	3/4
0.106	7/8	1/16	pass	7/8	0.106	7/8	1/16	pass	7/8	0.106	7/8	1/16	pass	7/8
0.106	1	1/16	thru	1	0.106	1	1/16	thru	1	0.106	1	1/16	thru	1
0.106	1 1/4	1/4	the	1	0.106	1 1/4	1/4	the	1	0.106	1 1/4	1/4	the	1
0.120	1 1/2	1/2	plywood	1	0.120	1 1/2	1/2	plywood	1	0.120	1 1/2	1/2	plywood	1
0.120	1 3/4	3/4	by	1	0.120	1 3/4	3/4	by	1	0.120	1 3/4	3/4	by	1
0.120	2	1	a	1	0.120	2	1	a	1	0.120	2	1	a	1
0.120	2 1/2	1 1/2	1/4"	1	0.120	2 1/2	1 1/2	1/4"	1	0.120	2 1/2	1 1/2	1/4"	1
0.120	3	2		1	0.120	3	2		1	0.120	3	2		1
ROUND					ROUND					ROUND				
0.037					0.037					0.037				
1.000					1.000					1.000				
NO					NO					NO				
YES					YES					YES				
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
NO					NO					NO				
NO					NO					NO				
NO					NO					NO				
MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
99					99					99				
67					67					67				
NO					NO					NO				
APA, FFN-105B					APA, FFN-105B					APA, FFN-105B				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SIMPLEX					SIMPLEX				
2. PRODUCT NAME	INSULATION ROUND METAL CAP AG/RL					INSULATION ROUND METAL CAP AG/EGYD				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL					CARBON STEEL				
6. COATING TYPE	RUST-LOK					ELECTRO GALVANIZED YELLOW DICHROMATE				
7. SHANK TYPE	ANNULAR GROOVED					ANNULAR GROOVED				
8. POINT TYPE	DIAMOND					DIAMOND				
9. METHOD OF ATTACHMENT	THREADED FRICTION					THREADED FRICTION				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.120	3	2	The	1	0.120	3	2	The	1
	0.120	3 1/2	2 1/2	nail	1	0.120	3 1/2	2 1/2	nail	1
	0.120	4	3	must	1	0.120	4	3	must	1
	0.120	5	4	pass	1	0.120	5	4	pass	1
	0.120	6	5	thru	1	0.120	6	5	thru	1
	0.120	7	6	the	1	0.120	7	6	the	1
	0.120	8	7	plywood by a 1/4"	1	0.120	8	7	plywood by a 1/4"	1
11. HEAD SHAPE	ROUND					ROUND				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.037					0.037				
DIAMETER	1.000					1.000				
13. PLATES										
A. REQUIRED (yes/no)	NO					NO				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
	PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
	PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	NO					NO				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NO					NO				
SPECIAL TOOL NEEDED (optional/required)	NO					NO				
OTHER	MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	224					224				
2-INCH PINE PLANK	273					273				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					NO				
18. ACCEPTED BY THE FOLLOWING CODES	APA, FFN-105B					APA, FFN-105B				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

SIMPLEX					SIMPLEX					SIMPLEX				
INSULATION ROUND METAL CAP AG/B					INSULATION ROUND METAL CAP B/RL					INSULATION ROUND METAL CAP B/EGYD				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					CARBON STEEL					CARBON STEEL				
BRIGHT FINISH					RUST-LOK					ELECTRO GALVANIZED YELLOW DICHROMATE				
ANNULAR GROOVED					BARBED					BARBED				
DIAMOND					DIAMOND					DIAMOND				
THREADED FRICTION					FRICTION					FRICTION				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)
0.120	3	2	The	1	0.120	3	2	The	1	0.120	3	2	The	1
0.120	3 1/2	2 1/2	nail	1	0.120	3 1/2	2 1/2	nail	1	0.120	3 1/2	2 1/2	nail	1
0.120	4	3	must	1	0.120	4	3	must	1	0.120	4	3	must	1
0.120	5	4	pass	1	0.120	5	4	pass	1	0.120	5	4	pass	1
0.120	6	5	thru	1	0.120	6	5	thru	1	0.120	6	5	thru	1
0.120	7	6	the	1	0.120	7	6	the	1	0.120	7	6	the	1
0.120	8	7	plywood by a 1/4"	1	0.120	8	7	plywood by a 1/4"	1	0.120	8	7	plywood by a 1/4"	1
ROUND					ROUND					ROUND				
0.037					0.037					0.037				
1.000					1.000					1.000				
NO					NO					NO				
YES					YES					YES				
Column 1		Column 2	Column 3		Column 1		Column 2	Column 3		Column 1		Column 2	Column 3	
Shape		Dimensions (inches)	Material		Shape		Dimensions (inches)	Material		Shape		Dimensions (inches)	Material	
PARABOLIC		2	GALVALUME		PARABOLIC		2	GALVALUME		PARABOLIC		2	GALVALUME	
PARABOLIC		3	GALVALUME		PARABOLIC		3	GALVALUME		PARABOLIC		3	GALVALUME	
NO					NO					NO				
NO					NO					NO				
NO					NO					NO				
MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
224					99					99				
273					92					92				
NO					NO					NO				
APA, FFN-105B					APA, FFN-105B					APA, FFN-105B				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SIMPLEX					SIMPLEX				
2. PRODUCT NAME	INSULATION ROUND METAL CAP B/B					SQUARE HEAD METAL CAP B/EGYD				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL					CARBON STEEL				
6. COATING TYPE	BRIGHT FINISH					ELECTRO GALVANIZED YELLOW DICHROMATE				
7. SHANK TYPE	BARBED					BARBED				
8. POINT TYPE	DIAMOND					DIAMOND				
9. METHOD OF ATTACHMENT	FRICTION					FRICTION				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.120	3	2	The	1	0.106	3/4	1/16	The	3/4
	0.120	3 1/2	2 1/2	nail	1	0.106	7/8	1/16	nail	7/8
	0.120	4	3	must	1	0.106	1	1/16	must	1
	0.120	5	4	pass	1	0.106	1 1/4	1/4	pass	1
	0.120	6	5	thru	1	0.106	1 1/2	1/2	thru	1
	0.120	7	6	the	1	0.106	1 3/4	3/4	the	1
	0.120	8	7	plywood by a 1/4"	1				plywood by a 1/4"	
11. HEAD SHAPE	ROUND					ROUND				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.037					0.037				
DIAMETER	1.000					1.000				
13. PLATES										
A. REQUIRED (yes/no)	NO					NO				
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
	PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
	PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	NO					NO				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NO					NO				
SPECIAL TOOL NEEDED (optional/required)	NO					NO				
OTHER	MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	99					99				
2-INCH PINE PLANK	92					113				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					NO				
18. ACCEPTED BY THE FOLLOWING CODES	APA, FFN-105B					APA, FFN-105B				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

SIMPLEX					SIMPLEX					SIMPLEX				
SQUARE HEAD METAL CAP B/B					ECONOMY ROUND METAL CAP B/B					FLEX-CAP PLASTIC CAP AG/RL				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					CARBON STEEL					CARBON STEEL / HIGH DENSITY POLYETHYLENE PLASTIC				
BRIGHT FINISH					BRIGHT FINISH					RUST-LOK				
BARBED					BARBED					ANNULAR GROOVED				
DIAMOND					DIAMOND					DIAMOND				
FRICTION					FRICTION					THREADED FRICTION				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.106	3/4	1/16	The nail	3/4	0.106	1/2	1/16	The nail	1/2	0.099	3/4	1/16	The nail	3/4
0.106	7/8	1/16	must	7/8	0.106	5/8	1/16	must	5/8	0.099	7/8	1/16	must	7/8
0.106	1	1/16	pass	1	0.106	3/4	1/16	pass	3/4	0.099	1	1/16	pass	1
0.106	1 1/4	1/4	thru	1	0.106	7/8	1/16	thru	7/8	0.099	1 1/4	1/4	thru	1
0.106	1 1/2	1/2	the plywood	1	0.106	1	1/16	the plywood	1	0.099	1 1/2	1/2	the plywood	1
0.106	1 3/4	3/4	by a 1/4"	1	0.106	1 1/4	1/4	by a 1/4"	1	0.099	1 3/4	3/4	by a 1/4"	1
					0.120	1 1/2	1/2		1	0.106	2	1		1
					0.120	1 3/4	3/4		1	0.106	2 1/2	1 1/2		1
					0.120	2	1		1	0.106	3	2		1
					0.120	2 1/2	1 1/2		1					
					0.120	3	2		1					
ROUND					ROUND					ROUND				
0.037					0.037					0.125				
1.000					1.000					1.000				
NO					NO									
YES					YES									
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
NO					NO					NO				
NO					NO					NO				
NO					NO					NO				
MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
99					99					72				
113					92					72				
NO					NO					NO				
APA, FFN-105B					APA, FFN-105B					APA, FFN-105B				
YES					YES					YES				
X					X					X				

Roof Fasteners: Wood Decks

1. COMPANY NAME	SIMPLEX					SIMPLEX				
2. PRODUCT NAME	FLEX-CAP PLASTIC CAP AG/EGYD					FLEX-CAP PLASTIC CAP AG/B				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL / HIGH DENSITY POLYETHYLENE PLASTIC					CARBON STEEL / HIGH DENSITY POLYETHYLENE PLASTIC				
6. COATING TYPE	ELECTRO GALVANIZED YELLOW DICHROMATE					BRIGHT FINISH				
7. SHANK TYPE	ANNULAR GROOVED					ANNULAR GROOVED				
8. POINT TYPE	DIAMOND					DIAMOND				
9. METHOD OF ATTACHMENT	THREADED FRICTION					THREADED FRICTION				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
	0.099	3/4	1/16	The nail	3/4	0.099	3/4	1/16	The nail	3/4
	0.099	7/8	1/16	must	7/8	0.099	7/8	1/16	must	7/8
	0.099	1	1/16	pass	1	0.099	1	1/16	pass	1
	0.099	1 1/4	1/4	thru	1	0.099	1 1/4	1/4	thru	1
	0.099	1 1/2	1/2	the	1	0.099	1 1/2	1/2	the	1
	0.099	1 3/4	3/4	plywood	1	0.099	1 3/4	3/4	plywood	1
	0.106	2	1	by	1	0.106	2	1	by	1
	0.106	2 1/2	1 1/2	a	1	0.106	2 1/2	1 1/2	a	1
	0.106	3	2	1/4"	1	0.106	3	2	1/4"	1
11. HEAD SHAPE	ROUND					ROUND				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.125					0.125				
DIAMETER	1.000					1.000				
13. PLATES										
A. REQUIRED (yes/no)										
B. AVAILABLE FROM MANUFACTURER (yes/no)										
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
	Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
	PARABOLIC	2	GALVALUME			PARABOLIC	2	GALVALUME		
	PARABOLIC	3	GALVALUME			PARABOLIC	3	GALVALUME		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	NO					NO				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NO					NO				
SPECIAL TOOL NEEDED (optional/required)	NO					NO				
OTHER	MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER					MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER				
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	72					72				
2-INCH PINE PLANK	72					72				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	NO					NO				
18. ACCEPTED BY THE FOLLOWING CODES	APA, FFN-105B					APA, FFN-105B				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED	X					X				

NA=not applicable

Roof Fasteners: Wood Decks

SIMPLEX					TRU-FAST CORPORATION					TRU-FAST CORPORATION				
COIL ROOFING NAILS					HD DRILL POINT STAINLESS STEEL					TP				
U.S.					U.S.					U.S.				
X					X					X				
X					X					X				
X					X					X				
CARBON STEEL					STAINLESS STEEL (TRIMRITE ALLOY #S-42010)					CARBON STEEL C-1022				
ELECTRO GALVANIZED					NA					TRU-KOTE PC-3 (FLUOROCARBON PAINT)				
SMOOTH					THREADED					THREADED				
DIAMOND					DOUBLE FLUTE SELF-DRILLING					GIMLET				
FRICTION					THREADED					THREADED				
Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5	Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)	Shank Dia-meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.135	7/8	1/16	The	7/8	0.180	1 1/2	1	1	1	0.150	1 5/8	5/8	1	1
0.135	1	1/8	nail	1	0.180	2	1 1/2	1	1	0.150	2 1/4	1 1/4	1	1
0.135	1 1/4	1/4	must	1	0.180	3	2 1/2	1	1	0.150	2 7/8	1 7/8	1	1
0.135	1 1/2	1/2	pass	1	0.180	4	3 1/2	1	1	0.150	3 3/4	2 3/4	1	1
0.135	1 3/4	3/4	thru	1	0.180	5	4 1/2	1	1	0.150	4 1/2	3 1/4	1	1
			the		0.180	6	5 1/2	1	1	0.150	5	4	1	1
			plywood		0.180	7	6 1/2	1	1	0.150	6	5	1	1
			by		0.180	8	7 1/2	1	1					
			a		0.180	10	9 1/2	1	1					
			1/4"		0.180	12	11 1/2	1	1					
ROUND					#10 TRUSS PHILLIPS #3					#10 TRUSS PHILLIPS #3				
0.037					0.105					0.110				
0.250					0.440					0.390				
YES					YES									
YES														
Column 1	Column 2	Column 3			Column 1	Column 2	Column 3			Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material			Shape	Dimensions (inches)	Material		
ROUND	1-3	GALVANIZED			ROUND	2	GALVALUME			ROUND	2	GALVALUME		
					ROUND	3	GALVALUME			ROUND	3	GALVALUME		
					ROUND	3	PLASTIC			ROUND	3	PLASTIC		
NO					REQUIRED					REQUIRED				
NO					OPTIONAL					OPTIONAL				
ALL BRANDS OF PNEUMATIC NAIL GUNS														
60					495					636				
60					517					938				
NO					YES					YES				
NONE					FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
YES					YES					YES				
X														

Roof Fasteners: Wood Decks

1. COMPANY NAME	TRU-FAST CORPORATION					TRU-FAST CORPORATION				
2. PRODUCT NAME	DP					HD (HEAVY DUTY) #14				
3. COUNTRY OF MANUFACTURE	U.S.					U.S.				
4. USED WITH:										
A. INSULATION ATTACHMENT	X					X				
B. BUILT-UP MEMBRANES	X					X				
C. SINGLE-PLY MEMBRANES	X					X				
5. MATERIAL TYPE	CARBON STEEL C-1022					CARBON STEEL C-1022				
6. COATING TYPE	TRU-KOTE PC-3 (FLUOROCARBON PAINT)					TRU-KOTE PC-3 (FLUOROCARBON PAINT)				
7. SHANK TYPE	THREADED					THREADED				
8. POINT TYPE	DOUBLE FLUTE SELF-DRILLING					DOUBLE FLUTE SELF-DRILLING				
9. METHOD OF ATTACHMENT	THREADED					THREADS				
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)	Column 1 Shank Dia- meters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration, Plywood (inches)	Column 5 Required Deck Penetration, Wood (inches)
	0.160	1 5/8	5/8	1	1	0.180	1 1/2	1/2	1	1
	0.160	2 1/4	1 1/4	1	1	0.180	2	1	1	1
	0.160	2 7/8	1 7/8	1	1	0.180	3	2	1	1
	0.160	3 1/4	2 1/4	1	1	0.180	4	3	1	1
	0.160	3 3/4	2 3/4	1	1	0.180	5	4	1	1
	0.160	4 1/2	3 1/4	1	1	0.180	6	5	1	1
	0.160	5	4	1	1	0.180	7	6	1	1
	0.160	6	5	1	1	0.180	8	7	1	1
	0.160	7	6	1	1	0.180	10	9	1	1
	0.160	8	7	1	1	0.180	12	11	1	1
11. HEAD SHAPE	#10 TRUSS PHILLIPS #3					TRUSS #3 PHILLIPS				
12. HEAD DIMENSIONS (inches)										
THICKNESS	0.105					0.105				
DIAMETER	0.440					0.440				
13. PLATES										
A. REQUIRED (yes/no)						YES				
B. AVAILABLE FROM MANUFACTURER (yes/no)						YES				
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material			Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		
	ROUND	2	GALVALUME			ROUND	2	GALVALUME		
	ROUND	3	GALVALUME			ROUND	3	GALVALUME		
	ROUND	3	PLASTIC			ROUND	3	PLASTIC		
15. INSTALLATION EQUIPMENT										
SCREW GUN (optional/required)	REQUIRED					REQUIRED				
INSTALLATION TOOL WITH SCREW GUN (optional/required)	OPTIONAL					OPTIONAL				
SPECIAL TOOL NEEDED (optional/required)										
OTHER										
16. AVERAGE PULLOUT RESISTANCE (lbs.)										
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS)										
3/4-INCH PLYWOOD	566					495				
2-INCH PINE PLANK	1,248					517				
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no)	YES					YES				
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY					FM, METRO.-DADE COUNTY				
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES					YES				
20. SEE APPENDIX IF CHECKED										

NA=not applicable

Roof Fasteners: Wood Decks

U .S. INTEC				
DRILL-TEC CTP				
U.S.				
X				
X				
X				
CARBON STEEL				
FLUOROPOLYMER PAINT				
THREADED				
THREADED, SELF-TAPPING				
MECHANICAL				
Column 1	Column 2	Column 3	Column 4	Column 5
Shank Dia- meters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration, Plywood (inches)	Required Deck Penetration, Wood (inches)
0.150	1 5/8	5/8	1	1
0.150	2 1/4	1 1/4	1	1
0.150	2 7/8	1 7/8	1	1
0.150	3 3/4	2 3/4	1	1
0.150	4 1/2	3 1/2	1	1
0.150	5	4	1	1
0.150	6	5	1	1
0.150	7	6	1	1
0.150	8	7	1	1
TRUSS #3 PHILLIPS				
0.110				
0.390				
YES				
YES				
Column 1	Column 2	Column 3		
Shape	Dimensions (inches)	Material		
ROUND	2.7	GALVALUME		
ROUND	3	PLASTIC		
REQUIRED				
OPTIONAL				
OPTIONAL				
636				
938				
YES				
FM, METRO.-DADE COUNTY				
YES				

Roof Fasteners: Concrete Decks

1. COMPANY NAME	CARLISLE SYNTEC INCORPORATED				CARLISLE SYNTEC INCORPORATED			
2. PRODUCT NAME	HP FASTENER				HP CONCRETE SPIKE			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES					X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	CARBON STEEL				CARBON STEEL			
6. COATING TYPE	EPOXY ELECTRODEPOSITION				EPOXY ELECTRODEPOSITION			
7. SHANK TYPE	SINGLE LEAD, BUTTRESS THREAD							
8. POINT TYPE	NA				NA			
9. METHOD OF ATTACHMENT	THREADED				SHANK COMPRESSION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.180	1 3/4	1/2	1 1/4	0.240	1 1/2	1/4	1 1/4
	0.180	2 1/4	1	1 1/4	0.240	2	3/4	1 1/4
	0.180	2 3/4	1 1/2	1 1/4	0.240	2 1/2	1 1/4	1 1/4
	0.180	3 1/4	2	1 1/4	0.240	3	1 3/4	1 1/4
	0.180	3 3/4	2 1/2	1 1/4	0.240	3 1/2	2 1/4	1 1/4
	0.180	4 1/4	3	1 1/4	0.240	4	2 3/4	1 1/4
	0.180	5	3 3/4	1 1/4	0.240	4 1/2	3 1/4	1 1/4
	0.180	6	4 3/4	1 1/4	0.240	5	3 3/4	1 1/4
					0.240	5 1/2	4 1/4	1 1/4
					0.240	6	4 3/4	1 1/4
					0.240	6 1/2	5 1/4	1 1/4
					0.240	7	5 3/4	1 1/4
					0.240	7 1/2	6 1/4	1 1/4
					0.240	8	6 3/4	1 1/4
					0.240	8 1/2	7 1/4	1 1/4
					0.240	9	7 3/4	1 1/4
					0.240	9 1/2	8 1/4	1 1/4
					0.240	10	8 3/4	1 1/4
					0.240	10 1/2	9 1/4	1 1/4
					0.240	11	9 3/4	1 1/4
					0.240	12	10 3/4	1 1/4
					0.240	13	11 3/4	1 1/4
					0.240	14	12 3/4	1 1/4
					0.240	15	13 3/4	1 1/4
					0.240	16	14 3/4	1 1/4
11. HEAD SHAPE	WAFER				TRUSS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.150				0.110			
DIAMETER	0.430				0.440			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	SQUARE W/ ROUNDED CORNERS	2 7/8	GALVALUME		SQUARE W/ ROUNDED CORNERS	2 7/8	GALVALUME	
	ROUND	2	PLASTIC					
	ROUND	2	GALVALUME		ROUND	2	GALVALUME	
	ROUND	3	PLASTIC		ROUND	2 3/8	GALVALUME	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED							
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)					SDS SPIKE HAMMER (OPTIONAL)			
OTHER					HAMMER (REQUIRED)			
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)								
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM				FM			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Concrete Decks

CARLISLE SYNTEC INCORPORATED				CELOTEX CORP.				CELOTEX CORP.			
HD 14-10 FASTENER				ANCHORBOND #14				ANCHORBOND #15 HEAVY DUTY			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
CARBON STEEL				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
EPOXY ELECTRODEPOSITION				ORGANIC FLUOROPOLYMERS				ORGANIC FLUOROPOLYMERS			
SINGLE LEAD, V THREAD				SPIRAL THREAD				SPIRAL THREAD			
SINGLE EDGE DRILL POINT				SELF-DRILLING				SELF-DRILLING			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.190	2	1	1	0.238	1 1/4	1/4	1	0.238	1 1/4	1/4	1
0.190	3	2	1	0.238	1 5/8	5/8	1	0.238	2	1	1
0.190	4	3	1	0.238	1 7/8	1 1/4	1	0.238	3	2	1
0.190	5	4	1	0.238	2 7/8	1 7/8	1	0.238	4	3	1
0.190	6	5	1	0.238	3 1/4	2 1/4	1	0.238	5	4	1
0.190	7	6	1	0.238	3 3/4	2 3/4	1	0.238	6	5	1
0.190	8	7	1	0.238	4 1/2	3 1/2	1	0.238	7	6	1
0.190	9	8	1	0.238	5	4	1	0.238	8	7	1
0.190	10	9	1	0.238	6	5	1	0.238	10	9	1
0.190	11	10	1	0.238	7	6	1	0.238	12	11	1
0.190	12	11	1	0.238	8	7	1	0.238	14	13	1
								0.238	16	15	1
TRUSS				#3 PHILLIPS FLAT TRUSS				#3 PHILLIPS FLAT TRUSS			
0.115				0.109				0.109			
0.435				0.438				0.438			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
SQUARE W/ ROUNDED CORNERS	2 7/8	GALVALUME		HEXAGONAL	2 7/8	STAINLESS STEEL		HEXAGONAL	2 7/8	STAINLESS STEEL	
ROUND	2	PLASTIC		HEXAGONAL	2 7/8	GALVALUME		HEXAGONAL	2 7/8	GALVALUME	
ROUND	2	GALVALUME		HEXAGONAL	3	PLASTIC		HEXAGONAL	2	GALVALUME	
ROUND	3	PLASTIC		ROUND	2	GALVALUME					
ROUND	2 3/8	GALVALUME									
REQUIRED				REQUIRED				REQUIRED			
				HAMMER DRILL (REQUIRED)				HAMMER DRILL (REQUIRED)			
				959				935			
YES				YES				YES			
FM				FM				FM			
YES				YES				YES			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	CONSTRUCTION FASTENERS, INC.				CONSTRUCTION FASTENERS, INC.			
2. PRODUCT NAME	DEKFAST #14				DEKFAST #15 HI-STRENGTH			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				HARDENED CARBON STEEL			
6. COATING TYPE	ORGANIC				ORGANIC			
7. SHANK TYPE	SPIRAL THREAD				SPIRAL THREAD			
8. POINT TYPE	SELF-DRILLING				SELF-DRILLING			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.238	1 1/4	1/4	1	0.264	1 1/4	1/4	1
	0.238	1 5/8	5/8	1	0.264	2	1	1
	0.238	2 1/4	1 1/4	1	0.264	3	2	1
	0.238	2 7/8	1 7/8	1	0.264	4	3	1
	0.238	3 1/4	2 1/4	1	0.264	5	4	1
	0.238	3 3/4	2 3/4	1	0.264	6	5	1
	0.238	4 1/2	3 1/2	1	0.264	7	6	1
	0.238	5	4	1	0.264	8	7	1
	0.238	6	5	1	0.264	10	9	1
	0.238	7	6	1	0.264	12	11	1
	0.238	8	7	1	0.264	14	13	1
	0.238	10	9	1	0.264	16	15	1
	0.238	12	11	1	0.264	18	17	1
					0.264	20	19	1
					0.264	22	21	1
					0.264	24	23	1
					0.264	26	25	1
11. HEAD SHAPE	#3 PHILLIPS FLAT TRUSS				#3 PHILLIPS TRUSS			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.109				0.109			
DIAMETER	0.438				0.438			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	HEXAGONAL	2 7/8	GALVALUME		HEXAGONAL	2 7/8	GALVALUME	
	HEXAGONAL	3	PLASTIC		ROUND	2	GALVALUME	
	ROUND	2	GALVALUME		ROUND	2 1/2	GALVALUME	
	ROUND	2	NYLON					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	HAMMER DRILL (REQUIRED)				HAMMER DRILL (REQUIRED)			
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	959				935			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Concrete Decks

DURO LAST INC.				FIRESTONE BUILDING PRODUCTS				FIRESTONE BUILDING PRODUCTS			
DURO LAST SCREWS #14				FIRESTONE HEAVY DUTY				FIRESTONE CONCRETE DRIVE			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
STEEL				SAE 1022, HEAT TREATED				1038-1040 HARDENED STEEL			
FLUOROCARBON				FLUOROCARBON				FLUOROCARBON			
SPIRAL THREAD				BUTTRESS THREAD				SHANK COMPRESSION			
SELF-DRILLING				DRILL POINT							
THREADED				THREADED							
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.190	1 3/4	3/4	1	0.264	1 1/4	1/4	1	0.250	1 1/2	1/4	1 1/4
0.190	2	1	1	0.264	2	1	1	0.250	2	3/4	1 1/4
0.190	2.5	1.5	1	0.264	3	2	1	0.250	2 1/2	1 1/4	1 1/4
0.190	3	2	1	0.264	4	3	1	0.250	3	1 3/4	1 1/4
0.190	3.5	2.5	1	0.264	5	4	1	0.250	3 1/2	2 1/4	1 1/4
0.190	4	3	1	0.264	6	5	1	0.250	4	2 3/4	1 1/4
0.190	4.5	3.5	1	0.264	7	6	1	0.250	4 1/2	3 1/4	1 1/4
0.190	5	4	1	0.264	8	7	1	0.250	5	3 3/4	1 1/4
0.190	5.5	4.5	1	0.264	10	9	1	0.250	5 1/2	4 1/4	1 1/4
0.190	6	5	1	0.264	12	11	1	0.250	6	4 3/4	1 1/4
0.190	7	6	1	0.264	14	13	1	0.250	6 1/2	5 1/4	1 1/4
0.190	8	7	1					0.250	7	5 3/4	1 1/4
0.190	9	8	1					0.250	7 1/2	6 1/4	1 1/4
0.190	10	9	1					0.250	8	6 3/4	1 1/4
0.190	11	10	1								
0.190	12	11	1								
TRUSS				ROUND MUSHROOM #3 PHILLIPS				NAIL-TYPE			
0.103				0.110				0.110			
0.438				0.437				0.422			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	POLYCARBONATE		HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME		HEX (INSULATION) ROUND (IN-SEAM)	2 7/8 2	GALVALUME GALVALUME	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL								SDS SPIKE DRIVER (OPTIONAL)			
								HAMMER DRILL (REQUIRED)			
1.285				810				1,000			
YES				YES				YES			
FM, ICBO, BOCA, SBCCI				FM, ICBO, UL, SBCCI				FM, ICBO, UL, SBCCI			
YES				YES				YES			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	GAF MATERIALS CORP.				GAF MATERIALS CORP.			
2. PRODUCT NAME	GAFTITE CD-10/EVERGUARD SPIKE				FLUTED CONCRETE NAIL			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				HARDENED CARBON STEEL			
6. COATING TYPE	CR-10 FLUOROCARBON				CR-10 FLUOROCARBON			
7. SHANK TYPE					SPIRAL FLUTED			
8. POINT TYPE	DIAMOND STARTER POINT				DIAMOND			
9. METHOD OF ATTACHMENT	SHANK EXPANSION				FRICTION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	2	1	1	0.215	1 1/8	1/8	1
	0.215	2 1/2	1 1/2	1	0.215	1 1/2	1/2	1
	0.215	3	2	1	0.215	2	1	1
	0.215	3 1/2	2 1/2	1	0.215	2 1/2	1 1/2	1
	0.215	4	3	1	0.215	3	2	1
	0.215	4 1/2	3 1/2	1	0.215	3 1/2	2 1/2	1
	0.215	5	4	1	0.215	4	3	1
	0.215	5 1/2	4 1/2	1	0.215	4 1/2	3 1/2	1
	0.215	6	5	1	0.215	5	4	1
	0.215	6 1/2	5 1/2	1	0.215	5 1/2	4 1/2	1
	0.215	7	6	1	0.215	6	5	1
	0.215	7 1/2	6 1/2	1	0.215	6 1/2	5 1/2	1
	0.215	8	7	1	0.215	7	6	1
	0.215	8 1/2	7 1/2	1	0.215	7 1/2	6 1/2	1
	0.215	9	8	1	0.215	8	7	1
	0.215	9 1/2	8 1/2	1				
	0.215	10	9	1				
	0.215	10 1/2	9 1/2	1				
	0.215	11	10	1				
	0.215	11 1/2	10 1/2	1				
	0.215	12	11	1				
11. HEAD SHAPE	ROUND				ROUND			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.105				0.125			
DIAMETER	0.435				0.410			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	STEEL		ROUND	2	STEEL	
	ROUND	2	PLASTIC		ROUND	2	PLASTIC	
	ROUND	2	STAINLESS STEEL		ROUND	2	STAINLESS STEEL	
	ROUND	3	STEEL		ROUND	3	STEEL	
	ROUND	3	PLASTIC		ROUND	3	PLASTIC	
	ROUND	3	STAINLESS STEEL		ROUND	3	STAINLESS STEEL	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	HAMMER DRILL				HAMMER DRILL			
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	1,164				600			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, UL, ICBO, METRO.-DADE COUNTY				FM, UL, ICBO, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED					X			

NA=not applicable

Roof Fasteners: Concrete Decks

GAF MATERIALS CORP.				HILTI INC.				HILTI INC.			
GAFTITE #14-10 (C. STEEL)				HILTI FASTENERS #12				HILTI FASTENERS #12 S.S.			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HARDENED CARBON STEEL				CARBON STEEL C-1022				STAINLESS STEEL (TRIMRITE ALLOY #S42010)			
CR-10 FLUOROCARBON				TRU-KOTE PC-3 (FLOUOROCARBON PAINT)							
THREADED				THREADED				THREADED			
PINCH, SELF-DRILLING				DOUBLE FLUTESELF-DRILLING				SELF-DRILLING			
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.190	1 1/4	1/4	1	0.160	1 5/8	1 1/8	1/2	0.160	1 5/8	1 1/8	1
0.190	1 3/4	3/4	1	0.160	2 1/4	1 3/4	1/2	0.160	2 1/4	1 3/4	1
0.190	2	1	1	0.160	2 7/8	2 3/8	1/2	0.160	2 7/8	2 3/8	1
0.190	3	2	1	0.160	3 1/4	2 3/4	1/2	0.160	3 3/4	3 1/2	1
0.190	4	3	1	0.160	3 3/4	3 1/2	1/2	0.160	4 1/2	4	1
0.190	5	4	1	0.160	4 1/2	4	1/2	0.160	5	4 1/2	1
0.190	6	5	1	0.160	5	4 1/2	1/2	0.160	6	5 1/2	1
0.190	7	6	1	0.160	6	5 1/2	1/2	0.160	7	6 1/2	1
0.190	8	7	1	0.160	7	6 1/2	1/2	0.160	8	7 1/2	1
0.190	9	8	1	0.160	8	7 1/2	1/2	0.160	10	9 1/2	1
0.190	10	9	1	0.160	10	9 1/2	1/2	0.160	12	11 1/2	1
0.190	11	10	1								
0.190	12	11	1								
0.190	14	13	1								
0.190	16	15	1								
0.201	17	16	1								
0.201	18	17	1								
0.201	20	19	1								
0.201	21	20	1								
0.201	22	21	1								
0.201	24	23	1								
ROUND TRUSS, #3 PHILLIPS				TRUSS #3 PHILLIPS, 1/4 HEX WASHER				#10 TRUSS, PHILLIPS #3			
0.110				0.105				0.105			
0.435				0.440				0.440			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	STEEL		ROUND	2	G90 GALVANIZED		ROUND	2	G90 GALVANIZED	
ROUND	2	PLASTIC		ROUND	3	G90 GALVANIZED		ROUND	3	G90 GALVANIZED	
ROUND	2	STAINLESS STEEL		ROUND	3	CO-POLYMER PLASTIC		ROUND	3	CO-POLYMER PLASTIC	
ROUND	3	STEEL		ROUND	2	GALFAN		ROUND	2	GALFAN	
ROUND	3	PLASTIC		ROUND	3	GALFAN		ROUND	3	GALFAN	
ROUND	3	STAINLESS STEEL									
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL											
HAMMER DRILL (REQUIRED)				CARBIDE DRILL BIT (REQUIRED)				CARBIDE DRILL BIT (REQUIRED)			
800				1,285				1,285			
YES				YES				YES			
FM, UL, ICBO, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			
X											

Roof Fasteners: Concrete Decks

1. COMPANY NAME	HILTI INC.				HILTI INC.			
2. PRODUCT NAME	HILTI FASTENERS #14				HILTI FASTENERS #10			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	CARBON STEEL C-1022				CARBON STEEL C-1022			
6. COATING TYPE	TRU-KOTE PC-3 (FLOUROCARBON PAINT)				TRU-KOTE PC-3 (FLOUROCARBON PAINT)			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	DOUBLE FLUTESELF-DRILLING				GIMLET			
9. METHOD OF ATTACHMENT	THREADED				THREADED			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.180	1 1/2	1	1/2	0.150	1 5/8	1 1/8	1/2
	0.180	2	1 1/2	1/2	0.150	2 1/4	1 3/4	1/2
	0.180	3	2 1/2	1/2	0.150	2 7/8	2 3/8	1/2
	0.180	4	3 1/2	1/2	0.150	3 3/4	3 1/2	1/2
	0.180	5	4 1/2	1/2	0.150	4 1/2	4	1/2
	0.180	6	5 1/2	1/2	0.150	5	4 1/2	1/2
	0.180	7	6 1/2	1/2	0.150	6	5 1/2	1/2
	0.180	8	7 1/2	1/2				
	0.180	10	9 1/2	1/2				
	0.180	12	11 1/2	1/2				
11. HEAD SHAPE	TRUSS #3 PHILLIPS				#10 TRUSS, PHILLIPS #3			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.105				0.110			
DIAMETER	0.440				0.390			
13. PLATES								
A. REQUIRED (yes/no)								
B. AVAILABLE FROM MANUFACTURER (yes/no)								
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	G90 GALVANIZED		ROUND	2	G90 GALVANIZED	
	ROUND	3	G90 GALVANIZED		ROUND	3	G90 GALVANIZED	
	ROUND	3	CO-POLYMER PLASTIC		ROUND	3	CO-POLYMER PLASTIC	
	ROUND	2	GALFAN		ROUND	2	GALFAN	
	ROUND	3	GALFAN		ROUND	3	GALFAN	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	CARBIDE DRILL BIT (REQUIRED)				CARBIDE DRILL BIT (REQUIRED)			
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	799				799			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, BOCA, ICBO, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)								
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Concrete Decks

HILTI INC.				ITW BUILDDEX				ITW BUILDDEX			
X-IR FASTENER				# 14 ROOFGRIP				KING-CON			
LIECHTENSTEIN				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
POLYETHYLENE/AISI 1061				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
DACROMET 360				CLIMASEAL				CLIMASEAL			
SMOOTH				MODIFIED STANDARD THREAD				PARTIALLY SPIRAL FLUTED			
BALLISTIC				X-POINT				NAIL			
POWDER-ACTUATED				THREADED				FRICTION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.177	1 1/16	0 – 1/8	1	0.245	1 1/2	1/2	1	0.250	1 1/8	1/8	1 1/4
0.177	1 7/16	1 1/2	1	0.245	2	1	1	0.250	1 1/2	1/4	1 1/4
0.177	1 5/8	2 – 2 1/2	1	0.245	3	2	1	0.250	2	3/4	1 1/4
0.177	2 5/8	2 1/2 – 3 1/2	1	0.245	4	3	1	0.250	2 1/2	1 1/4	1 1/4
0.177	3	3 1/2 – 4 3/4	1	0.245	5	4	1	0.250	3	1 3/4	1 1/4
				0.245	6	5	1	0.250	3 1/2	2 1/4	1 1/4
				0.245	7	6	1	0.250	4	2 3/4	1 1/4
				0.245	8	7	1	0.250	4 1/2	3 1/4	1 1/4
								0.250	5	3 3/4	1 1/4
								0.250	5 1/2	4 1/4	1 1/4
								0.250	6	4 3/4	1 1/4
								0.250	7	5 3/4	1 1/4
								0.250	8	6 3/4	1 1/4
								0.250	9	7 3/4	1 1/4
								0.250	10	8 3/4	1 1/4
DOME				#3 PHILLIPS PAN HEAD				ROUND			
0.062				0.118				0.100			
0.312				0.448				0.440			
INTEGRAL WITH FASTENER				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	POLYAMIDE		SQUARE	3 X 3	GALVALUME		ROUND	2	GALVALUME	
ROUND	3	POLYAMIDE		GEARLOCK	3	POLYOLEFIN		SQUARE	3	GALVALUME	
OVAL	1 1/2 X 3	POLYAMIDE		ROUND	2	GALVALUME					
OVAL	1 1/2 X 3	CARBON STEEL									
				REQUIRED							
POWDER ACTUATED TOOL				DRILL BIT WITH ROTARY HAMMER				HAMMER DRILL			
270				1,110				1,031			
YES				YES				YES			
FM				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
YES				YES				YES			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	ITW BUILDEX				JOHNS MANVILLE INTERNATIONAL INC.			
2. PRODUCT NAME	#15 ROOFGRIP				CD-10			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X							
C. SINGLE-PLY MEMBRANES	X							
5. MATERIAL TYPE	HARDENED CARBON STEEL				HARDENED CARBON STEEL			
6. COATING TYPE	CLIMASEAL				CR-10			
7. SHANK TYPE	THREADED				SPLIT SHANK			
8. POINT TYPE	SELF-DRILLING				45-DEGREE DIAMOND STARTER			
9. METHOD OF ATTACHMENT	THREADED				SHANK EXPANSION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.260	1 1/4	1/4	1	0.215	2	1	1
	0.260	2	1	1	0.215	2 1/2	1 1/2	1
	0.260	3	2	1	0.215	3	2	1
	0.260	4	3	1	0.215	3 1/2	2 1/2	1
	0.260	5	4	1	0.215	4	3	1
	0.260	6	5	1	0.215	4 1/2	3 1/2	1
	0.260	7	6	1	0.215	5	4	1
	0.260	8	7	1	0.215	5 1/2	4 1/2	1
	0.260	10	9	1	0.215	6	5	1
	0.260	12	11	1	0.215	7	6	1
	0.260	14	13	1	0.215	8	7	1
					0.215	9	8	1
11. HEAD SHAPE	#3 PHILLIPS PAN HEAD				ROUND			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.118				0.125			
DIAMETER	0.448				0.435			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	GALVALUME		ROUND	3	PLASTIC	
	SQUARE	3	GALVALUME					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)					REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	HAMMER DRILL				HAMMER DRILL			
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	1,157				1,164			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM				FM, UL, ICBO, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Concrete Decks

NATIONAL NAIL CORPORATION				OLYMPIC MANUFACTURING GROUP				OLYMPIC MANUFACTURING GROUP			
ARDOX H.T. GALVANIZED CONCRETE				FLUTED CONCRETE NAIL				OLYMPIC FASTENER #14-10 (C.STEEL)			
CANADA				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HARDENED STEEL				HARDENED CARBON STEEL				HARDENED CARBON STEEL			
HOT-DIPPED GALVANIZED				CR-10 FLUOROCARBON				CR-10 FLUOROCARBON			
SPIRAL FLUTED				SPIRAL FLUTED				THREADED			
DIAMOND				DIAMOND				PINCH, SELF-DRILLING OR TAPEX			
FRICTION				FRICTION				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.212	1 1/8	1/2	1	0.215	1 1/8	1/8	1	0.190	1 1/4	1/4	1
0.212	1 1/2	3/4	1	0.215	1 1/2	1/2	1	0.190	1 3/4	3/4	1
0.212	2	1 1/4	1	0.215	2	1	1	0.190	2	1	1
0.212	2 1/2	1 3/4	1	0.215	2 1/2	1 1/2	1	0.190	3	2	1
0.212	3	2 1/4	1	0.215	3	2	1	0.190	4	3	1
0.212	3 1/2	2 3/4	1	0.215	3 1/2	2 1/2	1	0.190	5	4	1
0.212	4	3 1/4	1	0.215	4	3	1	0.190	6	5	1
0.212	4 1/2	3 3/4	1	0.215	4 1/2	3 1/2	1	0.190	7	6	1
0.212	5	4 1/4	1	0.215	5	4	1	0.190	8	7	1
0.212	5 1/2	4 3/4	1	0.215	5 1/2	4 1/2	1	0.190	9	8	1
0.212	6	5 1/4	1	0.215	6	5	1	0.190	10	9	1
0.212	6 1/2	5 3/4	1	0.215	6 1/2	5 1/2	1	0.190	11	10	1
0.212	7	6 1/4	1	0.215	7	6	1	0.190	12	11	1
0.225	8	6 3/4	1	0.215	7 1/2	6 1/2	1	0.190	14	13	1
0.225	9	7 1/4	1	0.215	8	7	1	0.190	16	15	1
0.225	10	7 3/4	1					0.201	17	16	1
0.225	12	8 1/4	1					0.201	18	17	1
								0.201	20	19	1
								0.201	21	20	1
								0.201	22	21	1
								0.201	24	23	1
COMMON TYPE				ROUND				ROUND TRUSS, #3 PHILLIPS			
0.09375				0.125				0.110			
0.4375				0.425				0.435			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	3	PLASTIC		ROUND	2	STEEL		ROUND	2	STEEL	
				ROUND	2	PLASTIC		ROUND	2	PLASTIC	
				ROUND	2	STAINLESS STEEL		ROUND	2	STAINLESS STEEL	
				ROUND	3	STEEL		ROUND	3	STEEL	
				ROUND	3	PLASTIC		ROUND	3	PLASTIC	
				ROUND	3	STAINLESS STEEL		ROUND	3	STAINLESS STEEL	
				ROUND	3 1/2	STEEL		ROUND	3 1/2	STEEL	
ROTARY DRILL AND HAMMER				HAMMER DRILL				HAMMER DRILL (REQUIRED)			
600				600				800			
NO				YES				YES			
FM, UL, ICBO, METRO-DADE COUNTY				FM, UL, ICBO, METRO-DADE COUNTY				FM, UL, ICBO, METRO-DADE COUNTY			
NO				YES				YES			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	OLYMPIC MANUFACTURING GROUP				POWERS FASTENERS			
2. PRODUCT NAME	OLYMPIC CD-10				POWERS RAWL 3/16" SPIKE			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED CARBON STEEL				HEAT TREATED CARBON STEEL			
6. COATING TYPE	CR-10 FLUOROCARBON				PERMA-SEAL FLUOROPOLYMER			
7. SHANK TYPE					NA			
8. POINT TYPE	DIAMOND STARTER POINT				NA			
9. METHOD OF ATTACHMENT	SHANK EXPANSION				PRE-EXPANDED SHANK COMPRESSION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	2	1	1	0.190	1	1/8	7/8
	0.215	2 1/2	1 1/2	1	0.190	1 1/4	3/8	7/8
	0.215	3	2	1	0.190	1 1/2	1/4	1 1/4
	0.215	3 1/2	2 1/2	1	0.190	2	3/4	1 1/4
	0.215	4	3	1	0.190	2 1/2	1 1/4	1 1/4
	0.215	4 1/2	3 1/2	1	0.190	3	1 3/4	1 1/4
	0.215	5	4	1	0.190	3 1/2	2 1/4	1 1/4
	0.215	5 1/2	4 1/2	1	0.190	4	2 3/4	1 1/4
	0.215	6	5	1	0.190	4 1/2	3 1/4	1 1/4
	0.215	6 1/2	5 1/2	1	0.190	5	3 3/4	1 1/4
	0.215	7	6	1	0.190	5 1/2	4 1/4	1 1/4
	0.215	7 1/2	6 1/2	1	0.190	6	4 3/4	1 1/4
	0.215	8	7	1	0.190	7	5 3/4	1 1/4
	0.215	8 1/2	7 1/2	1	0.190	8	6 3/4	1 1/4
	0.215	9	8	1	0.190	9	7 3/4	1 1/4
	0.215	9 1/2	8 1/2	1	0.190	10	8 3/4	1 1/4
	0.215	10	9	1				
	0.215	10 1/2	9 1/2	1				
	0.215	11	10	1				
	0.215	11 1/2	10 1/2	1				
	0.215	12	11	1				
11. HEAD SHAPE	ROUND				MUSHROOM			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.125				0.110			
DIAMETER	0.435				0.445			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	STEEL		ROUND			
	ROUND	2	PLASTIC		BARBED	2	GALVALUME	
	ROUND	2	STAINLESS STEEL		ROUND	3	GALVALUME	
	ROUND	3	STEEL		ROUND	3	STAINLESS STEEL	
	ROUND	3	PLASTIC		ROUND	3	PLASTIC	
	ROUND	3	STAINLESS STEEL					
	ROUND	3 1/2	STEEL					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	HAMMER DRILL				HAMMER DRILL (REQUIRED)			
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	1,164				975			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, UL, ICBO, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Concrete Decks

POWERS FASTENERS				POWERS FASTENERS				POWERS FASTENERS			
POWERS RAWL 1/4" SPIKE				POWERS RAWL #14 DECK SCREW				POWERS RAWL #15 DECK SCREW			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
HEAT TREATED CARBON STEEL				CASE HARDENED CARBON STEEL				CASE HARDENED CARBON STEEL			
PERMA-SEAL FLUOROPOLYMER				PERMA-SEAL FLUOROPOLYMER				PERMA-SEAL FLUOROPOLYMER			
NA				SPIRAL THREAD				SPIRAL THREAD			
NA				DRILL TYPE				RICOH "S" POINT			
PRE-EXPANDED SHANK COMPRESSION				THREADED				THREADED			
Column 1 Shank Diameters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 1 Shank Diameters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)	Column 1 Shank Diameters Available (inches)	Column 2 Shank Lengths Available (inches)	Column 3 Fastening Range, Max. Total Thickness (inches)	Column 4 Required Deck Penetration (inches)
0.240	1	1/8	7/8	0.238	1 5/8	1/8	1 1/2	0.264	1 1/4		1 1/2
0.240	1 1/4	3/8	7/8	0.238	2 1/4	3/4	1 1/2	0.264	2	1/2	1 1/2
0.240	1 1/2	1/4	1 1/4	0.238	2 7/8	1 3/8	1 1/2	0.264	3	1 1/2	1 1/2
0.240	2	3/4	1 1/4	0.238	3 3/4	2 1/4	1 1/2	0.264	4	2 1/2	1 1/2
0.240	2 1/2	1 1/4	1 1/4	0.238	4 1/2	3	1 1/2	0.264	5	3 1/2	1 1/2
0.240	3	1 3/4	1 1/4	0.238	5	3 1/2	1 1/2	0.264	6	4 1/2	1 1/2
0.240	3 1/2	2 1/4	1 1/4	0.238	6	4 1/2	1 1/2	0.264	7	5 1/2	1 1/2
0.240	4	2 3/4	1 1/4	0.238	7	5 1/2	1 1/2	0.264	8	6 1/2	1 1/2
0.240	4 1/2	3 1/4	1 1/4	0.238	8	6 1/2	1 1/2	0.264	10	8 1/2	1 1/2
0.240	5	3 3/4	1 1/4	0.238	10	8 1/2	1 1/2	0.264	12	10 1/2	1 1/2
0.240	5 1/2	4 1/4	1 1/4	0.238	12	10 1/2	1 1/2	0.264	14	12 1/2	1 1/2
0.240	6	4 3/4	1 1/4					0.264	16	14 1/2	1 1/2
0.240	6 1/2	5 1/4	1 1/4								
0.240	7	5 3/4	1 1/4								
0.240	7 1/2	6 1/4	1 1/4								
0.240	8	6 3/4	1 1/4								
0.240	9	7 3/4	1 1/4								
0.240	10	8 3/4	1 1/4								
0.240	11	9 3/4	1 1/4								
0.240	12	10 3/4	1 1/4								
0.240	13	11 3/4	1 1/4								
0.240	14	12 3/4	1 1/4								
MUSHROOM				PHILLIPS FLAT TRUSS HEAD #3 RECESS				PHILLIPS TRUSS HEAD #3 RECESS			
0.110				0.118				0.130			
0.422				0.448				0.448			
YES				YES				YES			
YES				YES				YES			
Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material		Column 1 Shape	Column 2 Dimensions (inches)	Column 3 Material	
ROUND BARBED	2	GALVALUME		ROUND BARBED	2	GALVALUME		ROUND BARBED	2	GALVALUME	
ROUND	3	GALVALUME		ROUND	3	GALVALUME		ROUND	3	GALVALUME	
ROUND				ROUND	3	STAINLESS STEEL		ROUND	3	STAINLESS STEEL	
BARBED	3	STAINLESS STEEL		ROUND	3	PLASTIC		ROUND	3	PLASTIC	
ROUND	3	PLASTIC									
				REQUIRED				REQUIRED			
				STAND-UP TOOL (OPTIONAL)				STAND-UP TOOL (OPTIONAL)			
HAMMER DRILL (REQUIRED)				HAMMER DRILL (REQUIRED)				HAMMER DRILL (REQUIRED)			
1,100				960				1,015			
YES				YES				YES			
FM, METRO--DADE COUNTY				FM				FM			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	SFS STADLER INC.				SFS STADLER INC.			
2. PRODUCT NAME	INSUL-FIXX #14-10				STADLER SPIKE			
3. COUNTRY OF MANUFACTURE	U.S.							
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES					X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	HARDENED STEEL				HARDENED STEEL			
6. COATING TYPE	TUFF-TITE II				PERMASEAL			
7. SHANK TYPE	SPIRAL THREAD							
8. POINT TYPE	DRILL POINT				NA			
9. METHOD OF ATTACHMENT	THREADED				COMPRESSION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.190	1 1/4	1/4	1	0.187	1 1/2	1/4	1 1/4
	0.190	2	1	1	0.187	2	3/4	1 1/4
	0.190	3	2	1	0.187	2 1/2	1 1/4	1 1/4
	0.190	4	3	1	0.187	3	1 3/4	1 1/4
	0.190	5	4	1	0.187	3 1/2	2 1/4	1 1/4
	0.190	6	5	1	0.187	4	2 3/4	1 1/4
	0.190	7	6	1	0.187	4 1/2	3 1/4	1 1/4
	0.190	8	7	1	0.187	5	3 3/4	1 1/4
	0.190	10	9	1	0.187	5 1/2	4 1/4	1 1/4
	0.190	12	11	1	0.187	6	4 3/4	1 1/4
	0.190	14	13	1	0.187	6 1/2	5 1/4	1 1/4
	0.190	16	15	1	0.187	7	5 3/4	1 1/4
					0.187	7 1/2	6 1/4	1 1/4
					0.187	8	6 3/4	1 1/4
					0.187	9	7 3/4	1 1/4
					0.187	10	8 3/4	1 1/4
11. HEAD SHAPE	ROUND WITH #3 PHILLIPS TRUSS				ROUND			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.103				0.110			
DIAMETER	0.425				0.422			
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	3	GALVALUME		ROUND	3	GALVALUME	
	ROUND	2	GALVALUME		ROUND	2	GALVALUME	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED							
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)					SDS SPIKE DRIVER (OPTIONAL)			
OTHER					HAMMER (REQUIRED)			
16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	648				1,100			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X							

NA=not applicable

Roof Fasteners: Concrete Decks

SFS STADLER INC.				SFS STADLER INC.				SIMPLEX			
STADLER SPIKE				EXTRA LOAD FASTENER HD				ZANCHOR DRIVE NAIL EGS-PIN			
				U.S.				U.S.			
X				X							
X				X				X			
X				X				X			
HARDENED STEEL				HARDENED STEEL				ZINC (ZAMAK 7)			
PERMASEAL				TUFF-TITE II				ZINC			
				THREADED				ELECTRO GALVANIZED CARBON STEEL			
NA				DRILL POINT				BLUNT			
COMPRESSION				THREADED				SLEEVE EXPANSION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Sleeve Diameters Available (inches)	Sleeve Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.240	1 1/2	1/4	1 1/4	0.205	1 1/4	3/4	1	1/4	3/4	1/4	1/2
0.240	2	3/4	1 1/4	0.205	2	1	1	3/16	7/8	3/8	1/2
0.240	2 1/2	1 1/4	1 1/4	0.205	3	2	1	1/4	1	1/8	7/8
0.240	3	1 3/4	1 1/4	0.205	4	3	1	1/4	1 1/4	3/8	7/8
0.240	3 1/2	2 1/4	1 1/4	0.205	5	4	1	1/4	1 1/2	5/8	7/8
0.240	4	2 3/4	1 1/4	0.205	6	5	1	1/4	2	1 1/8	7/8
0.240	4 1/2	3 1/4	1 1/4	0.205	8	7	1				
0.240	5	3 3/4	1 1/4	0.205	10	9	1				
0.240	5 1/2	4 1/4	1 1/4	0.205	12	11	1				
0.240	6	4 3/4	1 1/4	0.205	14	13	1				
0.240	6 1/2	5 1/4	1 1/4	0.205	16	15	1				
0.240	7	5 3/4	1 1/4								
0.240	8	6 3/4	1 1/4								
0.240	9	7 3/4	1 1/4								
0.240	10	8 3/4	1 1/4								
0.240	12	10 3/4	1 1/4								
0.240	14	12 3/4	1 1/4								
ROUND				ROUND WITH #3 PHILLIPS				MUSHROOM			
0.110				0.103				0.125			
0.422				0.425				0.550			
YES				YES				NO			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	3	GALVALUME		ROUND	3	GALVALUME		PARABOLIC	2	GALVALUME	
ROUND	2	GALVALUME		ROUND	2	GALVALUME		PARABOLIC	3	GALVALUME	
SDS SPIKE DRIVER (OPTIONAL)				REQUIRED				NA			
HAMMER (REQUIRED)				HAMMER DRILL OR IMPACT				NA			
								TERMINATION BARS CAN BE USED (OPTIONAL)			
								1/4" DRILL BIT AND DRILL (REQUIRED)			
1,100				1,345				648, N/A, 937, 1151, 1184, 1272			
YES				YES				YES			
FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY				DADE COUNTY			
YES				YES				YES			
				X				X			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	SIMPLEX				SIMPLEX			
2. PRODUCT NAME	ZANCHOR DRIVE NAIL SS-PIN				MASONRY ROUND METAL CAP			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT					X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
5. MATERIAL TYPE	ZINC (ZAMAK 7)				HARDENED CARBON STEEL			
6. COATING TYPE	ZINC				NA			
7. SHANK TYPE	STAINLESS STEEL				FLUTED			
8. POINT TYPE	BLUNT				DIAMON			
9. METHOD OF ATTACHMENT	SLEEVE EXPANSION				FLUTED FRICTION			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Sleeve Diameters Available (inches)	Sleeve Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Shank Range, Max. Total Thickness (inches)	Shank~ Deck Penetration (inches)
	1/4	3/4	1/4	1/2	0.148	3/4	-	3/4
	3/16	7/8	3/8	1/2	0.148	7/8	-	7/8
	1/4	1	1/8	7/8	0.148	1	-	1
	1/4	1 1/4	3/8	7/8	0.148	1 1/4	1/4	1
	1/4	1 1/2	5/8	7/8	0.148	1 1/2	1/2	1
	1/4	2	1 1/8	7/8	0.148	1 3/4	3/4	1
					0.148	2	1	1
					0.148	2 1/2	1 1/2	1
					0.148	3	2	1
					0.148	3 1/2	2 1/2	1
					0.148	4	3	1
11. HEAD SHAPE	MUSHROOM				ROUND			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.125				0.037			
DIAMETER	0.550				1.000			
13. PLATES								
A. REQUIRED (yes/no)	NO				NO			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	PARABOLIC	2	GALVALUME		PARABOLIC	2	GALVALUME	
	PARABOLIC	3	GALVALUME		PARABOLIC	3	GALVALUME	
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	NA				NA			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NA				NA			
SPECIAL TOOL NEEDED (optional/required)	TERMINATION BARS CAN BE USED (OPTIONAL)				N/A			
OTHER	1/4" DRILL BIT AND DRILL (REQUIRED)				MAGNETIC POLE HAMMER OR REGULAR ROOFING HAMMER			
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	648, N/A, 937, 1151, 1184, 1272				NA			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				NO			
18. ACCEPTED BY THE FOLLOWING CODES	DADE COUNTY				NONE			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Concrete Decks

TRI-PLY				TRU-FAST CORPORATION				TRU-FAST CORPORATION			
TRI-FAST DP				EHD (EXTRA HEAVY DUTY) #15				CF TAP GRIP			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X								X			
CARBON STEEL				CARBON STEEL C-1022				CARBON STEEL C-1022			
TRU-KOTE				TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)				TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)			
THREADED				THREADED				THREADED			
				DOUBLE FLUTE SELF-DRILLING							
THREADED				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.180	1 1/4	1/4	1	0.204	1 1/4	3/4	1/2	0.180	1 1/4	1/4	1
0.180	1 3/4	3/4	1	0.204	2	1 1/2	1/2	0.180	1 3/4	3/4	1
0.180	2 1/4	1 1/4	1	0.204	3	2 1/2	1/2	0.180	2 1/4	1 1/4	1
0.180	2 3/4	1 3/4	1	0.204	4	3 1/2	1/2	0.180	2 3/4	1 3/4	1
0.180	3 1/4	2 1/4	1	0.204	5	4 1/2	1/2	0.180	3 1/4	2 1/4	1
0.180	3 3/4	2 3/4	1	0.204	6	5 1/2	1/2	0.180	3 3/4	2 3/4	1
0.180	4 1/4	3 1/4	1	0.204	7	6 1/2	1/2	0.180	4 1/4	3 1/4	1
0.180	5	4	1	0.204	8	7 1/2	1/2	0.180	5	4	1
0.180	6	5	1	0.204	9	8 1/2	1/2	0.180	6	5	1
0.180	7	6	1	0.204	10	9 1/2	1/2	0.180	7	6	1
0.180	8	7	1	0.204	11	10 1/2	1/2	0.180	8	7	1
				0.204	12	11 1/2	1/2	0.180	5 1/2	4 1/2	1
				0.204	14	13 1/2	1/2	0.180	6 1/2	5 1/2	1
				0.204	16	15 1/2	1/2	0.180	7 1/2	6 1/2	1
				0.204	18	17 1/2	1/2				
				0.204	20	19 1/2	1/2				
MODIFIED PHILLIPS #3				TRUSS #3 PHILLIPS				MODIFIED PHILLIPS #3			
0.118				0.105				0.118			
0.445				0.440				0.445			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	GALVALUME		ROUND	2	GALVALUME		ROUND	2	GALVALUME	
ROUND	3	GALVALUME		ROUND	3	GALVALUME		ROUND	3	GALVALUME	
ROUND	3	PLASTIC		ROUND	3	PLASTIC		ROUND	3	PLASTIC	
REQUIRED				REQUIRED				REQUIRED			
OPTIONAL				OPTIONAL				OPTIONAL			
925				925				925			
YES				YES				YES			
0				FM, METRO.-DADE COUNTY				YES			
YES				YES				YES			

Roof Fasteners: Concrete Decks

1. COMPANY NAME	TRU-FAST CORPORATION				U.S. INTEC			
2. PRODUCT NAME	HD (HEAVY DUTY) #14				DRILL-TEC TAP GRIP			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X							
5. MATERIAL TYPE	CARBON STEEL C-1022				CARBON STEEL			
6. COATING TYPE	TRU-KOTE PC-3 (FLUOROPOLYMER PAINT)				FLUOROPOLYMER PAINT			
7. SHANK TYPE	THREADED				THREADED			
8. POINT TYPE	DOUBLE FLUTE SELF-DRILLING							
9. METHOD OF ATTACHMENT	THREADED				MECHANICAL			
10. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.180	1 1/2	1/2	1	0.180	1 1/4	1/4	1
	0.180	2	1	1	0.180	1 3/4	3/4	1
	0.180	3	2	1	0.180	2 1/4	1 1/4	1
	0.180	4	3	1	0.180	2 3/4	1 3/4	1
	0.180	5	4	1	0.180	3 1/4	2 1/4	1
	0.180	6	5	1	0.180	3 3/4	2 3/4	1
	0.180	7	6	1	0.180	4 1/4	3 1/4	1
	0.180	8	7	1	0.180	5	4	1
	0.180	10	9	1	0.180	6	5	1
	0.180	12	11	1	0.180	7	6	1
	0.180	9	8	1	0.180	8	7	1
	0.180	11	10	1				
11. HEAD SHAPE	TRUSS #3 PHILLIPS				RECESSED SQUARE			
12. HEAD DIMENSIONS (inches)								
THICKNESS	0.105							
DIAMETER	0.440							
13. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
14. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	GALVALUME		ROUND	2.7	GALVALUME	
	ROUND	3	GALVALUME		ROUND	3	PLASTIC	
	ROUND	3	PLASTIC					
15. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)					REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	REQUIRED				OPTIONAL			
SPECIAL TOOL NEEDED (optional/required)	OPTIONAL							
OTHER								
16. AVERAGE PULLOUT RESISTANCE (lbs.)								
(FM TINIUS OLSEN PULLOUT RESISTANCE TESTS, 3,000 PSI AGED 28 DAYS)	740				925			
17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CLASS I CONCRETE ROOF CONSTRUCTION (yes/no)	YES				YES			
18. ACCEPTED BY THE FOLLOWING CODES	FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

THIS PAGE INTENTIONALLY LEFT BLANK

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	CARLISLE SYNTEC INCORPORATED				CARLISLE SYNTEC INCORPORATED			
2. PRODUCT NAME	HP SPEED-LOCK TOGGLE BOLT				HP TOGGLE BOLT			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES								
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	CARBON STEEL				CARBON STEEL			
7. COATING TYPE	ZINC-BASED PRIMER, FLUOROPOLYMER COATING				ZINC RICH COATING, LOCKING ADHESIVE			
8. SHANK TYPE	THREADED				THREADED			
9. POINT TYPE	NA				NA			
10. METHOD OF ATTACHMENT	TOGGLE BOLT PLUS WING THROUGH PREDRILLED HOLE				TOGGLE BOLT PLUS WING THROUGH PREDRILLED HOLE			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	4	2 1/2	1 1/2	0.215	4	2 1/2	1 1/2
	0.215	6	4 1/2	1 1/2	0.215	6	4 1/2	1 1/2
	0.215	7	5 1/2	1 1/2	0.215	7	5 1/2	1 1/2
	0.215	8	6 1/2	1 1/2	0.215	8	6 1/2	1 1/2
	0.215	9	7 1/2	1 1/2	0.215	10	8 1/2	1 1/2
	0.215	10	8 1/2	1 1/2	0.215	12	10 1/2	1 1/2
	0.215	12	10 1/2	1 1/2	0.215	14	12 1/2	1 1/2
	0.215	14	12 1/2	1 1/2	0.215	16	14 1/2	1 1/2
	0.215	16	14 1/2	1 1/2				
12. HEAD SHAPE	ROUND TRUSS WITH #3 PHILLIPS				ROUND TRUSS WITH #3 PHILLIPS			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.110				0.110			
DIAMETER	0.435				0.435			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	SQUARE W/ ROUNDED CORNERS ROUND	2 7/8 2	GALVALUME GALVALUME		SQUARE W/ ROUNDED CORNERS ROUND	2 7/8 2	GALVALUME GALVALUME	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE								
B. GYPSUM								
C. CEMENTITIOUS WOOD FIBER								
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE								
B. GYPSUM								
C. CEMENTITIOUS WOOD FIBER								
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

CARLISLE SYNTec INCORPORATED				CARLISLE SYNTec INCORPORATED				CARLISLE SYNTec INCORPORATED			
HP LIGHTWEIGHT FASTENER				HP NTB WITH & WITHOUT WIRE FASTENER				HP LITE-DECK			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
NYLON				NYLON				HARDENED CARBON STEEL			
NA				NA				EPOXY ELECTRODEPOSITION			
SPIRAL THREAD				SPIRAL THREAD				THREADED			
GIMLET				GIMLET				PINCH			
THREADED, SUBSTRATE COMPACTION				THREADED WITH & WITHOUT WIRES				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.430	2	1/2	1 1/2	0.4375	2 1/2	1	1 1/2	0.310	3	1	2
0.430	2 1/2	1	1 1/2	0.4375	3	1 1/2	1 1/2	0.310	4	2	2
0.430	3	1 1/2	1 1/2	0.4375	3 1/2	2	1 1/2	0.310	5	3	2
0.430	3 1/2	2	1 1/2	0.4375	4	2 1/2	1 1/2	0.310	6	4	2
0.430	4	2 1/2	1 1/2	0.4375	4 1/2	3	1 1/2	0.310	7	5	2
0.430	4 1/2	3	1 1/2	0.4375	5	3 1/2	1 1/2	0.310	8	6	2
0.430	5	3 1/2	1 1/2	0.4375	5 1/2	4	1 1/2	0.310	9	7	2
0.430	5 1/2	4	1 1/2	0.4375	6	4 1/2	1 1/2	0.310	10	8	2
0.430	6	4 1/2	1 1/2	0.4375	6 1/2	5	1 1/2	0.310	12	10	2
0.430	6 1/2	5	1 1/2	0.4375	7	5 1/2	1 1/2				
0.430	7	5 1/2	1 1/2	0.4375	7 1/2	6	1 1/2				
0.430	7 1/2	6	1 1/2	0.4375	8	6 1/2	1 1/2				
0.430	8	6 1/2	1 1/2	0.4375	8 1/2	7	1 1/2				
0.430	8 1/2	7	1 1/2	0.4375	9	7 1/2	1 1/2				
0.430	9	7 1/2	1 1/2	0.4375	9 1/2	8	1 1/2				
0.430	9 1/2	8	1 1/2	0.4375	10	8 1/2	1 1/2				
0.430	10	8 1/2	1 1/2								
ROUND, 1/4-IN. RECESS				DOUBLE HEX				ROUND #3 PHILLIPS			
0.120				0.100				0.558			
1.00				1.00							
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND BARBE	2	GALVALUME		ROUND BARBE	2	CARBON STEEL		ROUND	3	CARBON STEEL	
ROUND BARBE	3	GALVALUME		ROUND BARBE	3	CARBON STEEL					
				OPTIONAL				REQUIRED			
				ELIMINATOR TOOL (OPTIONAL)							
IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)				IMPACT WRENCH/ELIMINATOR (OPTIONAL)							
FM				FM				FM			
				FM				FM			
				FM							
YES				YES				YES			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	CELOTEX CORP.				CONSTRUCTION FASTENERS INC.			
2. PRODUCT NAME	ANCHORBOND AUGUR FASTENERS				DEKLITE			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	NYLON				NYLON			
7. COATING TYPE	NA				NA			
8. SHANK TYPE	SPIRAL THREAD				SPIRAL THREAD			
9. POINT TYPE	GIMLET				GIMLET			
10. METHOD OF ATTACHMENT	THREADED, SUBSTRATE COMPACTION				THREADED, SUBSTRATE COMPACTION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.430	2	1/2	1 1/2	0.687	2	1/2	1 1/2
	0.430	2 1/2	1	1 1/2	0.687	2 1/2	1	1 1/2
	0.430	3	1 1/2	1 1/2	0.687	3	1 1/2	1 1/2
	0.430	3 1/2	2	1 1/2	0.687	3 1/2	2	1 1/2
	0.430	4	2 1/2	1 1/2	0.687	4	2 1/2	1 1/2
	0.430	4 1/2	3	1 1/2	0.687	4 1/2	3	1 1/2
	0.430	5	3 1/2	1 1/2	0.687	5	3 1/2	1 1/2
	0.430	5 1/2	4	1 1/2	0.687	5 1/2	4	1 1/2
	0.430	6	4 1/2	1 1/2	0.687	6	4 1/2	1 1/2
	0.430	6 1/2	5	1 1/2	0.687	6 1/2	5	1 1/2
	0.430	7	5 1/2	1 1/2	0.687	7	5 1/2	1 1/2
	0.430	7 1/2	6	1 1/2	0.687	7 1/2	6	1 1/2
	0.430	8	6 1/2	1 1/2	0.687	8	6 1/2	1 1/2
	0.430	8 1/2	7	1 1/2	0.687	8 1/2	7	1 1/2
	0.430	9	7 1/2	1 1/2	0.687	9	7 1/2	1 1/2
	0.430	9 1/2	8	1 1/2	0.687	9 1/2	8	1 1/2
	0.430	10	8 1/2	1 1/2	0.687	10	8 1/2	1 1/2
12. HEAD SHAPE	ROUND, 1/4-IN. RECESS				ROUND, 1/4-IN. RECESS			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.120				0.120			
DIAMETER	1.00				1.00			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND BARBE	2	GALVALUME		ROUND BARBE	2	GALVALUME	
	HEX BARBED	2 7/8	GALVALUME		ROUND BARBE	3	GALVALUME	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)				IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)			
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	450				365			
B. GYPSUM	450				540			
C. CEMENTITIOUS WOOD FIBER	450				440			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE					FM, METRO.-DADE COUNTY			
B. GYPSUM					FM, METRO.-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER					FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

ES PRODUCTS INC.				ES PRODUCTS INC.				ES PRODUCTS INC.			
HARDENED DO-ALL LOC-NAIL				INSULDECK LOC-NAIL				TWIN LOC-NAIL			
U.S.				U.S.				U.S.			
X				X				X			
								X			
								X			
X				X				X			
HARDENED COLD-ROLLED STEEL				COLD-ROLLED STEEL				COLD-ROLLED STEEL			
ZINC PLATED				GALVALUME (AZ-55)				GALVALUME (AZ-55)			
SPLIT, SERRATED				DOUBLE THICKNESS HALF-ROUND				TUBE			
TWO SHARP POINTS				FINE, SHARP				WEDGE			
SPREAD OF SERRATED SHANKS				AUTOMATIC KNEE-BEND GRIPPING				DIVERGING WIRE LEGS			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.240	1 3/8	1 1/4	1 1/8	0.230	1 7/8	1 1/4	1 1/8	NA	1.8	NA	1

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	ES PRODUCTS INC.				ES PRODUCTS INC.			
2. PRODUCT NAME	FM-75 BASE PLY FASTENER				NAIL-TITE TYPE A			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X							
B. GYPSUM					X			
C. CEMENTITIOUS WOOD FIBER								
5. USED WITH:								
A. INSULATION ATTACHMENT								
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES								
6. MATERIAL TYPE	STEEL				CARBON STEEL			
7. COATING TYPE	HOT-DIPPED G-90 GALVANIZED & URETHANE				ZINC PLATED			
8. SHANK TYPE	TWO-PIECE RECTANGULAR				TAPERED CONE			
9. POINT TYPE	NA				ROUND			
10. METHOD OF ATTACHMENT	SHANK EXPANSION				CONICAL EXTENDING LEGS			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	NA	1 1/5	NA	NA	NA	1 1/2	1/16	1 7/16
12. HEAD SHAPE	ROUND				ROUND			
13. HEAD DIMENSIONS (inches)								
THICKNESS					0.015			
DIAMETER	2.70				1.7			
14. PLATES								
A. REQUIRED (yes/no)	NO				NO			
B. AVAILABLE FROM MANUFACTURER (yes/no)					NA			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	NA	NA	NA		NA	NA	NA	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	MAGNETIC DRIVER (REQUIRED)				MAGNETIC DRIVER (REQUIRED)			
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	90 MIN				NA			
B. GYPSUM	NA				159			
C. CEMENTITIOUS WOOD FIBER	NA				NA			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	FM, METRO-DADE COUNTY							
B. GYPSUM	NA				UL, FM, METRO-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER	NA							
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

ES PRODUCTS INC.				ES PRODUCTS INC.				ES PRODUCTS INC.			
NAIL-TITE TYPE R				ES-90 BASE PLY FASTENER				ES-60 BASE PLY FASTENER			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
				X				X			
CARBON STEEL				STEEL				STEEL			
ZINC PLATED				HOT DIPPED G-90 GALVANIZED				HOT DIPPED G-90 GALVANIZED			
TAPERED CONE				TWO-PIECE RECTANGULAR				TWO-PIECE RECTANGULAR			
ROUND				NA				NA			
CONICAL EXTENDING LEGS				SHANK EXPANSION				SHANK EXPANSION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
NA	1	1/16	15/16	NA	1 7/10	NA	NA	NA	1 7/10	NA	NA
ROUND				ROUND				ROUND			
0.015				2.75				1.20			
1.7											
NO				NO				NO			
NA				NO				NO			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
NA	NA	NA		NA	NA	NA		ROUND	2 3/4	GALVALUME	
MAGNETIC DRIVER (REQUIRED)				MAGNETIC DRIVER (REQUIRED)				MAGNETIC DRIVER (REQUIRED)			
NA				90 MIN.				90 MIN.			
159				NA				NA			
NA				NA				NA			
UL, FM, METRO-DADE COUNTY				NA				NA			
				NA				NA			
YES				YES				YES			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	ES PRODUCTS INC.				ES PRODUCTS INC.			
2. PRODUCT NAME	ES-45 BASE PLY FASTENER				FM-90 BASE PLY FASTENER			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM								
C. CEMENTITIOUS WOOD FIBER								
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES								
6. MATERIAL TYPE	STEEL				STEEL			
7. COATING TYPE	HOT DIPPED G-90 GALVANIZED				HOT DIPPED G-90 GALVANIZED & URETHANE COATING			
8. SHANK TYPE	TWO-PIECE RECTANGULAR				TWO-PIECE RECTANGULAR			
9. POINT TYPE	NA				NA			
10. METHOD OF ATTACHMENT	SHANK EXPANSION				SHANK EXPANSION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	NA	1 1/5	NA	NA	NA	1 7/10	NA	NA
12. HEAD SHAPE	ROUND				ROUND			
13. HEAD DIMENSIONS (inches)								
THICKNESS	1.20				2.75			
DIAMETER								
14. PLATES								
A. REQUIRED (yes/no)	NO				NO			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2 3/4	GALVANIZED STEEL					
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER	MAGNETIC DRIVER (REQUIRED)				MAGNETIC DRIVER (REQUIRED)			
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	90 MIN.				90 MIN.			
B. GYPSUM	NA				NA			
C. CEMENTITIOUS WOOD FIBER	NA				NA			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE					FM, UL, METRO-DADE COUNTY			
B. GYPSUM	NA				FM, UL, METRO-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER	NA				NA			
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

ES PRODUCTS INC.				ES PRODUCTS INC.				FIRESTONE BUILDING PRODUCTS			
FM-60 BASE PLY FASTENER				FM-45 BASE PLY FASTENER				FIRESTONE POLYMER FASTENERS			
U.S.				U.S.				U.S.			
X				X				X			
								X			
								X			
X				X				X			
				X				X			
STEEL				STEEL				GLASS-REINFORCED NYLON			
HOT DIPPED G-90 GALVANIZED & URETHANE COATING				HOT DIPPED G-90 GALVANIZED & URETHANE COATING				NA			
TWO-PIECE RECTANGULAR				TWO-PIECE RECTANGULAR				TAPERED ROOT, SPIRAL THREAD			
NA				NA				GIMLET			
SHANK EXPANSION				SHANK EXPANSION				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
NA	1 7/10	NA	NA	NA	1 1/5	NA	NA	0.675	2	1/2	1 1/2
								0.675	2 1/2	1	1 1/2
								0.675	2 3/4	1 1/4	1 1/2
								0.675	3	1 1/2	1 1/2
								0.675	3 1/2	2	1 1/2
								0.675	4	2 1/2	1 1/2
								0.675	4 1/2	3	1 1/2
								0.675	5	3 1/2	1 1/2
								0.675	5 1/2	4	1 1/2
								0.675	6	4 1/2	1 1/2
								0.675	6 1/2	5	1 1/2
								0.675	7	5 1/2	1 1/2
								0.675	7 1/2	6	1 1/2
								0.675	8	6 1/2	1 1/2
								0.675	8 1/2	7	1 1/2
								0.675	9	7 1/2	1 1/2
									9 1/2	8	1 1/2
									10	8 1/2	1 1/2
									11	9 1/2	1 1/2
									12	10 1/2	1 1/2
									13, 14	11 1/2, 12 1/2	1 1/2
ROUND				ROUND				ROUND, INTERNAL 1/4-IN. SQUARE DRIVE			
1.20				1.20				0.140			
								1.0			
NO				NO				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2 3/4	GALVALUME		ROUND	2 3/4	GALVALUME		ROUND (INSULATION) ROUND (IN-SEAM)	3	GALVALUME	
									2	GALVALUME	
MAGNETIC DRIVER (REQUIRED)				MAGNETIC DRIVER (REQUIRED)				IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)			
90 MIN.				90 MIN.				NA			
NA				NA				600			
NA				NA				450			
FM, UL, METRO-DADE COUNTY				FM, METRO-DADE COUNTY				NA			
FM, UL, METRO-DADE COUNTY				NA				FM			
NA				NA				FM			
YES				YES				YES			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	GAF MATERIALS CORPORATION				GAF MATERIALS CORPORATION			
2. PRODUCT NAME	TOGGLE BOLT (STAINLESS STEEL)				TOGGLE BOLT (CARBON STEEL)			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X							
6. MATERIAL TYPE	STAINLESS STEEL				CARBON STEEL			
7. COATING TYPE	NA				CR-10 FLUOROCARBON			
8. SHANK TYPE	THREADED				THREADED			
9. POINT TYPE	NA				NA			
10. METHOD OF ATTACHMENT	TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE				TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	4	2 1/2	1 1/2	0.215	4	2 1/2	1 1/2
	0.215	6	4 1/2	1 1/2	0.215	6	4 1/2	1 1/2
	0.215	7	5 1/2	1 1/2	0.215	7	5 1/2	1 1/2
	0.215	8	6 1/2	1 1/2	0.215	8	6 1/2	1 1/2
	0.215	10	8 1/2	1 1/2	0.215	10	8 1/2	1 1/2
	0.215	12	10 1/2	1 1/2	0.215	12	10 1/2	1 1/2
	0.215	14	12 1/2	1 1/2	0.215	14	12 1/2	1 1/2
	0.215	16	14 1/2	1 1/2	0.215	16	14 1/2	1 1/2
	0.215	18	16 1/2	1 1/2	0.215	18	16 1/2	1 1/2
	0.215	20	18 1/2	1 1/2	0.215	20	18 1/2	1 1/2
	0.215	22	20 1/2	1 1/2	0.215	22	20 1/2	1 1/2
	0.215	24	22 1/2	1 1/2	0.215	24	22 1/2	1 1/2
12. HEAD SHAPE	ROUND TRUSS WITH #3 PHILLIPS				ROUND TRUSS WITH #3 PHILLIPS			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.110				0.110			
DIAMETER	0.435				0.435			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	STAINLESS STEEL		ROUND	2	STAINLESS STEEL	
	ROUND	3	STAINLESS STEEL		ROUND	3	STAINLESS STEEL	
	ROUND	2	STEEL		ROUND	2	STEEL	
	ROUND	2	PLASTIC		ROUND	2	PLASTIC	
	ROUND	3	STEEL		ROUND	3	STEEL	
	ROUND	3	PLASTIC		ROUND	3	PLASTIC	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	600				600			
B. GYPSUM	600				600			
C. CEMENTITIOUS WOOD FIBER	600				600			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY			
B. GYPSUM	FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER								
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

GAF MATERIALS CORPORATION				GAF MATERIALS CORPORATION				GAF MATERIALS CORPORATION			
IRON-LOK TOGGLE BOLT				GAFTITE LITE-DECK				GAFTITE BASE SHEET FASTENER			
U.S.				U.S.				U.S.			
X								X			
X				X							
X				X							
X				X							
X				X				X			
X				X				X			
CARBON STEEL				HARDENED CARBON STEEL				STEEL			
ENDURION, WITH IRON-LOK ADHESIVE				CR-10 FLUOROCARBON				G-90 HOT DIPPED GALVANIZED OR CR-10 FLUOROCARBON			
THREADED				THREADED				SPLIT BODY			
NA				PINCH				NA			
TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE				THREADED				SHANK EXPANSION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.215	4	2 1/2	1 1/2	0.310	3	1	2	NA	1.81	NA	NA
0.215	6	4 1/2	1 1/2	0.310	4	2	2		1.20		
0.215	7	5 1/2	1 1/2	0.310	5	3	2				
0.215	8	6 1/2	1 1/2	0.310	6	4	2				
0.215	10	8 1/2	1 1/2	0.310	8	6	2				
0.215	12	10 1/2	1 1/2	0.310	9	7	2				
0.215	14	12 1/2	1 1/2	0.310	10	8	2				
0.215	16	14 1/2	1 1/2	0.310	12	10	2				
0.215	18	16 1/2	1 1/2								
0.215	20	18 1/2	1 1/2								
0.215	22	20 1/2	1 1/2								
0.215	24	22 1/2	1 1/2								
ROUND TRUSS WITH #3 PHILLIPS				ROUND #3 PHILLIPS				RECTANGULAR WITH ROUNDED CORNERS			
0.110				0.558				1 X 1.3			
0.435											
YES				YES				NO			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	STEEL		ROUND	3	STEEL		ROUND	2 3/4	G-90 GALVANIZED AND GALVALUME	
ROUND	2	PLASTIC									
ROUND	2	STAINLESS STEEL									
ROUND	3	STEEL									
ROUND	3	PLASTIC									
ROUND	3	STAINLESS STEEL									
REQUIRED				REQUIRED				MALLET (REQUIRED)			
600				NA				40 MIN.			
600				450				40 MIN.			
600				450				NA			
								FM, UL, METRO-DADE COUNTY			
								NA			
								NA			
YES				YES				NO			
X				X							

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	GAF MATERIALS/N.T.B. FASTENERS				HILTI INC.			
2. PRODUCT NAME	TOGGLE-LESS MAGNUM/EVERGUARD POLYMER				HILTI TOGGLE BOLT			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	NYLON				CARBON STEEL (C1008)			
7. COATING TYPE	NA				ZINC PLATED			
8. SHANK TYPE	SPIRAL THREAD				THREADED			
9. POINT TYPE	NA				NA			
10. METHOD OF ATTACHMENT	THREADED, SPIN WELD WITH AND WITHOUT WIRES				PREDRILL HOLE			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.4375	2 1/2	1	1 1/2	0.215	4	2 3/4	1 1/4
	0.4375	3	1 1/2	1 1/2	0.215	5	3 3/4	1 1/4
	0.4375	3 1/2	2	1 1/2	0.215	6	4 3/4	1 1/4
	0.4375	4	2 1/2	1 1/2	0.215	7	5 3/4	1 1/4
	0.4375	4 1/2	3	1 1/2	0.215	8	6 3/4	1 1/4
	0.4375	5	3 1/2	1 1/2	0.215	9	7 3/4	1 1/4
	0.4375	5 1/2	4	1 1/2	0.215	10	8 3/4	1 1/4
	0.4375	6	4 1/2	1 1/2	0.215	11	9 3/4	1 1/4
	0.4375	6 1/2	5	1 1/2	0.215	12	10 3/4	1 1/4
	0.4375	7	5 1/2	1 1/2	0.215	13	11 3/4	1 1/4
	0.4375	7 1/2	6	1 1/2	0.215	14	12 3/4	1 1/4
	0.4375	8	6 1/2	1 1/2	0.215	15	13 3/4	1 1/4
	0.4375	8 1/2	7	1 1/2	0.215	16	14 3/4	1 1/4
	0.4375	9	7 1/2	1 1/2	0.215	17	15 3/4	1 1/4
	0.4375	9 1/2	8	1 1/2	0.215	18	16 3/4	1 1/4
	0.4375	10	8 1/2	1 1/2	0.215	19	17 3/4	1 1/4
					0.215	20	18 3/4	1 1/4
					0.215	22	20 3/4	1 1/4
					0.215	23	21 3/4	1 1/4
					0.215	24	22 3/4	1 1/4
12. HEAD SHAPE	DOUBLE HEX				TRUSS			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.100				0.111			
DIAMETER	1.0				0.437			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND WITH SPIKES	2	NYLON		ROUND	2	G-90 GALVANIZED	
	ROUND WITH SPIKES	2	CARBON STEEL		ROUND	3	G-90 GALVANIZED	
	ROUND WITH SPIKES	3	CARBON STEEL		ROUND	3	CO-POLY PLASTIC	
					ROUND	2	GALFAN	
					ROUND	3	GALFAN	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	OPTIONAL				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)	AIR WRENCH OR HANDSET TOLL (OPTIONAL)							
OTHER	ELECTRIC IMPACT WRENCH/ELIMINATOR (OPTIONAL)							
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	375				480/590			
B. GYPSUM	450				476/600			
C. CEMENTITIOUS WOOD FIBER	450				476/600			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	FM							
B. GYPSUM	FM							
C. CEMENTITIOUS WOOD FIBER	FM							
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X							

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

ITW BUILDDEX				ITW BUILDDEX				ITW BUILDDEX			
POLYMER GYPTEC				LITE WEIGHT CONCRETE FASTENER				1.2 LITE WEIGHT CONCRETE FASTENER			
U.S.				U.S.				U.S.			
				X				X			
X								X			
X											
X											
X				X				X			
X				X				X			
GLASS-FILLED NYLON				G-90 STEEL				G-90 STEEL			
NA				GRAY POLYMER				BLACK POLYMER			
THREADED AUGER				TWO-PIECE RECTANGULAR				TWO-PIECE RECTANGULAR			
TAPERED				NA				NA			
THREADED				SHANK EXPANSION				SHANK EXPANSION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.430	2 3/4	1 1/4	1 1/2	NA	1.7	NA	NA	NA	1.2	NA	NA
0.430	3	1 1/2	1 1/2								
0.430	3 1/2	2	1 1/2								
0.430	4	2 1/2	1 1/2								
0.430	4 1/2	3	1 1/2								
0.430	5	3 1/2	1 1/2								
0.430	5 1/2	4	1 1/2								
0.430	6	4 1/2	1 1/2								
0.430	6 1/2	5	1 1/2								
0.430	7	5 1/2	1 1/2								
0.430	7 1/2	6	1 1/2								
0.430	8	6 1/2	1 1/2								
ROUND, 1/4-INCH SQUARE RECESS				ROUND				ROUND			
0.130											
1.00				1.1				1.1			
YES				NO				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
SQUARE ROUND	3 X 3 2	GALVALUME GALVALUME		ROUND	2.7	GALVALUME		ROUND	2.7	GALVALUME	
REQUIRED											
7/16-IN. DRILL BIT (REQUIRED FOR GYPSUM)				BX LITE DRIVE				BX LITE DRIVE			
NA				140							
518											
422											
NA				FM, METRO.-DADE COUNTY				FM, METRO.-DADE COUNTY			
FM, METRO.-DADE COUNTY											
FM, METRO.-DADE COUNTY											
YES				YES				YES			
				X				X			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	JOHNS MANVILLE INTERNATIONAL INC.				JOHNS MANVILLE INTERNATIONAL INC.			
2. PRODUCT NAME	NTB				LWC CR BASE SHEET FASTENERS			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE					X			
B. GYPSUM	X							
C. CEMENTITIOUS WOOD FIBER	X							
5. USED WITH:								
A. INSULATION ATTACHMENT	X							
B. BUILT-UP MEMBRANES					X			
C. SINGLE-PLY MEMBRANES					X			
6. MATERIAL TYPE	NYLON				STEEL			
7. COATING TYPE	NA				CR-10			
8. SHANK TYPE	SPIRAL THREAD				TWO-PIECE RECTANGULAR			
9. POINT TYPE	NA				NA			
10. METHOD OF ATTACHMENT	THREADED, SPIN WELD W/ & W/O WIRES				SHANK EXPANSION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.4375	2 1/2	1 1/4	1 1/2	NA	1.75	NA	1.75
	0.4375	3	1 1/2	1 1/2				
	0.4375	3 1/2	2	1 1/2				
	0.4375	4	2 1/2	1 1/2				
	0.4375	4 1/2	3	1 1/2				
	0.4375	5	3 1/2	1 1/2				
	0.4375	5 1/2	4	1 1/2				
	0.4375	6	4 1/2	1 1/2				
	0.4375	6 1/2	5	1 1/2				
	0.4375	7	5 1/2	1 1/2				
	0.4375	7 1/2	6	1 1/2				
	0.4375	8	6 1/2	1 1/2				
12. HEAD SHAPE	DOUBLE HEX				SQUARE, ROUND			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.10				NA			
DIAMETER	1.00				1 1/8, 2 3/4			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES, NO			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND WITH SPIKES	2	NYLON		ROUND	2 3/4	GALVALUME	
	ROUND WITH SPIKES	3	CARBON STEEL					
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	OPTIONAL				NA			
INSTALLATION TOOL WITH SCREW GUN (optional/required)					NA			
SPECIAL TOOL NEEDED (optional/required)	AIR WRENCH OR HANDSET TOOL (OPTIONAL)				NA			
OTHER	ELECTRIC IMPACT WRENCH/ELIMINATOR (OPTIONAL)				Mallet			
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	375				40 MIN.			
B. GYPSUM	450							
C. CEMENTITIOUS WOOD FIBER	450							
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE					FM, METRO-DADE COUNTY			
B. GYPSUM	FM, METRO-DADE COUNTY							
C. CEMENTITIOUS WOOD FIBER	FM, METRO-DADE COUNTY							
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

OLYMPIC MANUFACTURING GROUP/N.T.B. FASTENERS				OLYMPIC MANUFACTURING GROUP				OLYMPIC MANUFACTURING GROUP			
N.T.B. MAGNUM WITH & WITHOUT WIRES				TOGGLE BOLT (STAINLESS STEEL)				TOGGLE BOLT (CARBON STEEL)			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
NYLON				STAINLESS STEEL				CARBON STEEL			
NA				NA				CR-10 FLUOROCARBON			
SPIRAL THREAD				THREADED				THREADED			
NA				NA				NA			
THREADED, SPIN WELD WITH AND WITHOUT WIRES				TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE				TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.4375	2 1/2	1	1 1/2	0.215	4	2 1/2	1 1/2	0.215	4	2 1/2	1 1/2
0.4375	3	1 1/2	1 1/2	0.215	6	4 1/2	1 1/2	0.215	6	4 1/2	1 1/2
0.4375	3 1/2	2	1 1/2	0.215	7	5 1/2	1 1/2	0.215	7	5 1/2	1 1/2
0.4375	4	2 1/2	1 1/2	0.215	8	6 1/2	1 1/2	0.215	8	6 1/2	1 1/2
0.4375	4 1/2	3	1 1/2	0.215	10	8 1/2	1 1/2	0.215	10	8 1/2	1 1/2
0.4375	5	3 1/2	1 1/2	0.215	12	10 1/2	1 1/2	0.215	12	10 1/2	1 1/2
0.4375	5 1/2	4	1 1/2	0.215	14	12 1/2	1 1/2	0.215	14	12 1/2	1 1/2
0.4375	6	4 1/2	1 1/2	0.215	16	14 1/2	1 1/2	0.215	16	14 1/2	1 1/2
0.4375	6 1/2	5	1 1/2	0.215	18	16 1/2	1 1/2	0.215	18	16 1/2	1 1/2
0.4375	7	5 1/2	1 1/2	0.215	20	18 1/2	1 1/2	0.215	20	18 1/2	1 1/2
0.4375	7 1/2	6	1 1/2	0.215	22	20 1/2	1 1/2	0.215	22	20 1/2	1 1/2
0.4375	8	6 1/2	1 1/2	0.215	24	22 1/2	1 1/2	0.215	24	22 1/2	1 1/2
0.4375	8 1/2	7	1 1/2								
0.4375	9	7 1/2	1 1/2								
0.4375	9 1/2	8	1 1/2								
0.4375	10	8 1/2	1 1/2								
DOUBLE HEX				ROUND TRUSS WITH #3 PHILLIPS				ROUND TRUSS WITH #3 PHILLIPS			
0.100				0.110				0.110			
1.0				0.435				0.435			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND WITH SPIKES	2	NYLON		ROUND	2	STAINLESS STEEL		ROUND	2	STEEL	
ROUND				ROUND	3	STAINLESS STEEL		ROUND	2	PLASTIC	
ROUND				ROUND	2	STEEL		ROUND	2	STAINLESS STEEL	
WITH SPIKES	3	CARBON STEEL		ROUND	2	PLASTIC		ROUND	3	STEEL	
				ROUND	3	STEEL		ROUND	3	PLASTIC	
				ROUND	3	PLASTIC		ROUND	3	STAINLESS STEEL	
				ROUND	3 1/2	STEEL		ROUND	3 1/2	STEEL	
OPTIONAL				REQUIRED				REQUIRED			
ELIMINATOR TOOL (OPTIONAL)											
ELECTRIC IMPACT WRENCH/ELIMINATOR (OPTIONAL)											
375				600				600			
450				600				600			
400				600				600			
FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY			
FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY				FM, METRO-DADE COUNTY			
FM, METRO-DADE COUNTY											
YES				YES				YES			
X				X				X			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	OLYMPIC MANUFACTURING GROUP				OLYMPIC MANUFACTURING GROUP			
2. PRODUCT NAME	IRON-LOK TOGGLE BOLT				LITE-DECK			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X							
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	CARBON STEEL				HARDENED CARBON STEEL			
7. COATING TYPE	CR-10, WITH IRON-LOK ADHESIVE				CR-10 FLUOROCARBON			
8. SHANK TYPE	THREADED				THREADED			
9. POINT TYPE	NA				PINCH			
10. METHOD OF ATTACHMENT	TOGGLE BOLT PLUS WING THRU PREDRILLED HOLE				THREADED			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.215	4	2 1/2	1 1/2	0.310	3	1	2
	0.215	6	4 1/2	1 1/2	0.310	4	2	2
	0.215	7	5 1/2	1 1/2	0.310	5	3	2
	0.215	8	6 1/2	1 1/2	0.310	6	4	2
	0.215	10	8 1/2	1 1/2	0.310	8	6	2
	0.215	12	10 1/2	1 1/2	0.310	9	7	2
	0.215	14	12 1/2	1 1/2	0.310	10	8	2
	0.215	16	14 1/2	1 1/2	0.310	12	10	2
	0.215	18	16 1/2	1 1/2				
	0.215	20	18 1/2	1 1/2				
	0.215	22	20 1/2	1 1/2				
	0.215	24	22 1/2	1 1/2				
12. HEAD SHAPE	ROUND TRUSS WITH #3 PHILLIPS				ROUND #3 PHILLIPS			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.110							
DIAMETER	0.435				0.558			
14. PLATES								
A. REQUIRED (yes/no)	YES				YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	STEEL		ROUND	3	STEEL	
	ROUND	2	PLASTIC					
	ROUND	2	STAINLESS STEEL					
	ROUND	3	STEEL					
	ROUND	3	PLASTIC					
	ROUND	3	STAINLESS STEEL					
	ROUND	3 1/2	STEEL					
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	REQUIRED				REQUIRED			
INSTALLATION TOOL WITH SCREW GUN (optional/required)								
SPECIAL TOOL NEEDED (optional/required)								
OTHER								
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	600				NA			
B. GYPSUM	600				450			
C. CEMENTITIOUS WOOD FIBER	600				450			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	FM, METRO-DADE COUNTY				FM, UL, METRO-DADE COUNTY			
B. GYPSUM	FM, METRO-DADE COUNTY				FM, UL, METRO-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER					FM, UL, METRO-DADE COUNTY			
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

OLYMPIC FASTENING GROUP				POWERS FASTENERS				POWERS FASTENERS			
OLYMPIC BASE SHEET FASTENER				POWERS RAWL SPEED-LOCK TOGGLE				POWERS RAWL POWERLITE			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
STEEL				CARBON STEEL & STAINLESS STEEL				DUPONT ZYTEL NYLON			
G-90 HOT DIPPED GALVANIZED AND CR-10 FLUOROCARBON				PERMA-SEAL FLUOROPOLYMNER (ON CARBON STEEL BOLT ONLY)				NA			
SPLIT BODY				ANNULAR THREAD				HIGH THREAD WITH TAPERED ROOT			
NA				NA				SHARP			
SHANK EXPANSION				CLAMPING				THREADED, SUBSTRATE COMPACTION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
NA	1.75 1.20	NA	NA	0.250	5	3 1/2	1 1/2	0.675	2	1/2	1 1/2
				0.250	6	4 1/2	1 1/2	0.675	2 1/2	1	1 1/2
				0.250	7	5 1/2	1 1/2	0.675	3	1 1/2	1 1/2
				0.250	8	6 1/2	1 1/2	0.675	3 1/2	2	1 1/2
				0.250	9	7 1/2	1 1/2	0.675	4	2 1/2	1 1/2
				0.250	10	8 1/2	1 1/2	0.675	4 1/2	3	1 1/2
				0.250	12	10 1/2	1 1/2	0.675	5	3 1/2	1 1/2
				0.250	14	12 1/2	1 1/2	0.675	5 1/2	4	1 1/2
								0.675	6	4 1/2	1 1/2
								0.675	6 1/2	5	1 1/2
								0.675	7	5 1/2	1 1/2
								0.675	7 1/2	6	1 1/2
								0.675	8	6 1/2	1 1/2
								0.675	8 1/2	7	1 1/2
RECTANGULAR WITH ROUNDED CORNERS				PHILLIPS FLAT HEAD #3 RECESS				1/4" SQUARE DRIVE RECESS			
1 X 1.3				0.042 0.426				0.134 1.000			
NO YES				YES YES				YES YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2 3/4	G-90 GALVANIZED AND GALVALUME		ROUND	3	GALVALUME		ROUND BARBED ROUND BARBED	2 3	GALVALUME GALVALUME	
OPTIONAL				OPTIONAL				OPTIONAL			
P090, P060 MALLET (REQUIRED)				APPROPRIATE DRILL & BIT FOR BASE MATERIAL (REQUIRED)				APPR. DRILL & BIT FOR BASE MAT'L / IMPACT WRENCH (REQUIRED)			
40 MIN.				995				540			
NA				620				595			
NA				570				595			
FM, UL, METRO.-DADE COUNTY FM, UL, METRO.-DADE COUNTY NA				FM FM FM				FM FM FM			
YES				YES				YES			
X				X				X			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	SFS STADLER INC.				SFS STADLER INC.			
2. PRODUCT NAME	INSUL-LITE				FM-90 BASE PLY			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X							
C. CEMENTITIOUS WOOD FIBER	X							
5. USED WITH:								
A. INSULATION ATTACHMENT	X							
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	NYLON				STEEL			
7. COATING TYPE	NA				HOT DIPPED G90 GALVANIZED & URETHANE			
8. SHANK TYPE	SPIRAL THREAD				TWO-PIECE RECTANGULAR			
9. POINT TYPE	GIMLET				NA			
10. METHOD OF ATTACHMENT	SUBSTRATE COMPACTION				SHANK EXPANSION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.430	2	1/2	1 1/2	NA	1 7/10	NA	NA
	0.430	2 1/2	1	1 1/2				
	0.430	3	1 1/2	1 1/2				
	0.430	3 1/2	2	1 1/2				
	0.430	4	2 1/2	1 1/2				
	0.430	4 1/2	3	1 1/2				
	0.430	5	3 1/2	1 1/2				
	0.430	5 1/2	4	1 1/2				
	0.430	6	4 1/2	1 1/2				
	0.430	7	5 1/2	1 1/2				
	0.430	8	6 1/2	1 1/2				
	0.430	9	7 1/2	1 1/2				
	0.430	10	8 1/2	1 1/2				
12. HEAD SHAPE	ROUND				ROUND			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.120							
DIAMETER	1.00				2.75			
14. PLATES								
A. REQUIRED (yes/no)	YES				NO			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES				YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	ROUND	2	GALVALUME					
	BARBED	3	GALVALUME					
	ROUND							
	BARBED							
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)								
INSTALLATION TOOL WITH SCREW GUN (optional/required)					MAGNETIC DRIVER (REQUIRED)			
SPECIAL TOOL NEEDED (optional/required)								
OTHER	IMPACT WRENCH							
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	280				90 MIN			
B. GYPSUM	600				NA			
C. CEMENTITIOUS WOOD FIBER	450				NA			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	FM				FM, METRO-DADE COUNTY			
B. GYPSUM	FM							
C. CEMENTITIOUS WOOD FIBER	FM							
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED								

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

SFS STADLER INC.				SFS STADLER INC.				SIMPLEX			
TPR-THE PEEL RIVET				BASE-LOK				BASE-LOC			
ISRAEL				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
ALUMINUM ALLOY				NYLON				CAPRON NYLON GLASS FIBER RESIN			
NA				NA				NA			
HOLLOW RIVET BODY				HIGH PROFILE THREAD				HIGH PROFILE SPIRAL THREAD			
PIERCING MANDRELL				DRILL				SPADE SHOVEL DRILL POINT			
CLAMPING				THREADED				THREADED			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.250	1 1/4	1/4	1	0.562	1 5/8	NA	1 1/2	0.562	1.7	0.0625	1.5
0.250	2	1	1								
0.250	3	2	1								
0.250	4	3	1								
0.250	5	4	1								
0.250	6	5	1								
0.250	7	6	1								
0.250	8	6	1								
0.250	9	8	1								
0.250	10	9	1								
LOW PROFILE MUSHROOM				ROUND				ROUND			
0.075				0.059				0.125			
0.480				3.000				1.000			
YES				NO				NA			
YES								NA			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
ROUND	2	GALVALUME						NA	NA	NA	
ROUND	3	GALVALUME									
OPTIONAL				REQUIRED				REQUIRED WITH CLUTCH			
REQUIRED				OPTIONAL				OPTIONAL			
								NA			
509				186				186			
507				165				191.5			
374											
FM				FM				FM, DADE COUNTY			
FM								DADE COUNT			
FM				FM, METRO.-DADE COUNTY				FM, DADE COUNT			
YES				YES				YES			
								X			

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	SIMPLEX				SIMPLEX			
2. PRODUCT NAME	TUBE-LOK RL				TUBE-LOK EGYD			
3. COUNTRY OF MANUFACTURE	U.S.				U.S.			
4. DECK TYPE								
A. LIGHTWEIGHT CONCRETE	X				X			
B. GYPSUM	X				X			
C. CEMENTITIOUS WOOD FIBER	X				X			
5. USED WITH:								
A. INSULATION ATTACHMENT	X				X			
B. BUILT-UP MEMBRANES	X				X			
C. SINGLE-PLY MEMBRANES	X				X			
6. MATERIAL TYPE	CARBON STEEL				CARBON STEEL			
7. COATING TYPE	RUST-LOK				ELECTRRO GALVANIZED YELLOW DICHROMATE			
8. SHANK TYPE	BARBED				BARBED			
9. POINT TYPE	CHISEL				CHISEL			
10. METHOD OF ATTACHMENT	FISH HOOK & FRICTION				FISH HOOK & FRICTION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.168	1	0	1	0.168	1	0	1
	0.168	1 3/4	1/4	1 1/2	0.168	1 3/4	1/4	1 1/2
	0.168	2 1/2	1	1 1/2	0.168	2 1/2	1	1 1/2
	0.168	3	1 1/2	1 1/2	0.168	3	1 1/2	1 1/2
	0.168	3 1/2	2	1 1/2	0.168	3 1/2	2	1 1/2
	0.168	4 1/2	3	1 1/2	0.168	4 1/2	3	1 1/2
	0.168	5 1/2	4	1 1/2	0.168	5 1/2	4	1 1/2
	0.168	6 1/2	5	1 1/2	0.168	6 1/2	5	1 1/2
12. HEAD SHAPE	ROUND				ROUND			
13. HEAD DIMENSIONS (inches)								
THICKNESS	0.037				0.037			
DIAMETER	1.000				1.000			
14. PLATES								
A. REQUIRED (yes/no)	NO							
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES							
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
	PARABOLIC	2	GALALUME		PARABOLIC	2	GALALUME	
	PARABOLIC	3	GALVALUME		PARABOLIC	3	GALVALUME	
16. INSTALLATION EQUIPMENT								
SCREW GUN (optional/required)	NA				NA			
INSTALLATION TOOL WITH SCREW GUN (optional/required)	NA				NA			
SPECIAL TOOL NEEDED (optional/required)	NA				NA			
OTHER	NA				NA			
17. AVERAGE PULLOUT RESISTANCE (lbs.)								
A. LIGHTWEIGHT CONCRETE	120.2				120.2			
B. GYPSUM	364.8				364.8			
C. CEMENTITIOUS WOOD FIBER	115.0				115.0			
18. ACCEPTED BY THE FOLLOWING CODES								
A. LIGHTWEIGHT CONCRETE	DADE COUNTY				DADE COUNTY			
B. GYPSUM	DADE COUNTY				DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER	DADE COUNTY				DADE COUNTY			
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES				YES			
20. SEE APPENDIX IF CHECKED	X				X			

NA=not applicable

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

SIMPLEX				TRI-PLY				TRU-FAST CORPORATION			
TUBE-LOK B				DEKLITE				TL (TECTUM LIGHTWEIGHT)			
U.S.				U.S.				U.S.			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
X				X				X			
CARBON STEEL				NYLON				DUPONT ZYTEL NYLON			
BRIGHT				NA				NA			
BARBED				SPIRAL THREADED				SPIRAL THREAD			
CHISEL				GIMLET				GIMLET			
FISH HOOK & FRICTION				THREADED				THREADED, SUBSTRATE COMPACTION			
Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4	Column 1	Column 2	Column 3	Column 4
Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
0.168	1	0	1	0.750	2 1/2	3/4	1 3/4	0.430	2	1/2	1 1/2
0.168	1 3/4	1/4	1 1/2	0.750	3	1 1/4	1 3/4	0.430	2 1/2	1	1 1/2
0.168	2 1/2	1	1 1/2	0.750	3 1/2	1 3/4	1 3/4	0.430	3	1 1/2	1 1/2
0.168	3	1 1/2	1 1/2	0.750	4	2 1/4	1 3/4	0.430	3 1/2	2	1 1/2
0.168	3 1/2	2	1 1/2	0.750	4 1/2	2 3/4	1 3/4	0.430	4	2 1/2	1 1/2
0.168	4 1/2	3	1 1/2	0.750	5	3 1/4	1 3/4	0.430	4 1/2	3	1 1/2
0.168	5 1/2	4	1 1/2	0.750	5 1/2	3 3/4	1 3/4	0.430	5	3 1/2	1 1/2
0.168	6 1/2	5	1 1/2	0.750	6	4 1/4	1 3/4	0.430	5 1/2	4	1 1/2
				0.750	6 1/2	4 3/4	1 3/4	0.430	6	4 1/2	1 1/2
				0.750	7	5 1/4	1 3/4	0.430	6 1/2	5	1 1/2
				0.750	7 1/2	5 3/4	1 3/4	0.430	7	5 1/2	1 1/2
				0.750	8	6 1/4	1 3/4	0.430	7 1/2	6	1 1/2
				0.750	8 1/2	6 3/4	1 3/4	0.430	8	6 1/2	1 1/2
				0.750	9	7 1/4	1 3/4	0.430	8 1/2	7	1 1/2
				0.750	9 1/2	7 3/4	1 3/4	0.430	9	7 1/2	1 1/2
				0.750	10	8 1/4	1 3/4	0.430	9 1/2	8	1 1/2
								0.430	10	8 1/2	1 1/2
ROUND				ROUND				ROUND, 1/4-IN. RECESS			
0.037				0.125				0.120			
1.000				1.0				1.00			
YES				YES				YES			
YES				YES				YES			
Column 1	Column 2	Column 3		Column 1	Column 2	Column 3		Column 1	Column 2	Column 3	
Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material		Shape	Dimensions (inches)	Material	
PARABOLIC	2	GALVALUME		ROUND	2	GALVALUME		ROUND BARBE	2	GALVALUME	
PARABOLIC	3	GALVALUME		HEX	2 7/8	GALVALUME		ROUND BARBE	3	GALVALUME	
								ROUND BARBE	2	STAINLESS STEEL	
								ROUND BARBE	3	STAINLESS STEEL	
NA				REQUIRED				IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)			
NA											
NA											
NA											
120.2				200				280			
364.8				400				600			
115.0				350/250				450			
DADE COUNTY								FM			
DADE COUNTY								FM			
DADE COUNTY								FM			
YES				YES				YES			
X											

Roof Fasteners: Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks

1. COMPANY NAME	U.S. INTEC			
2. PRODUCT NAME	DRILL-TEC LITE DECK			
3. COUNTRY OF MANUFACTURE	U.S.			
4. DECK TYPE				
A. LIGHTWEIGHT CONCRETE	X			
B. GYPSUM	X			
C. CEMENTITIOUS WOOD FIBER	X			
5. USED WITH:				
A. INSULATION ATTACHMENT	X			
B. BUILT-UP MEMBRANES				
C. SINGLE-PLY MEMBRANES				
6. MATERIAL TYPE	DUPONT ZYTEL NYLON			
7. COATING TYPE	NA			
8. SHANK TYPE	SPIRAL THREAD			
9. POINT TYPE	GIMLET			
10. METHOD OF ATTACHMENT	THREADED, SUBSTRATE COMPACTION			
11. DIAMETER, LENGTH, FASTENING RANGE, PENETRATION	Column 1	Column 2	Column 3	Column 4
	Shank Diameters Available (inches)	Shank Lengths Available (inches)	Fastening Range, Max. Total Thickness (inches)	Required Deck Penetration (inches)
	0.430	2		1 1/2
	0.430	2 1/2		1 1/2
	0.430	3		1 1/2
	0.430	3 1/2		1 1/2
	0.430	4		1 1/2
	0.430	4 1/2		1 1/2
	0.430	5		1 1/2
	0.430	5 1/2		1 1/2
	0.430	6		1 1/2
	0.430	6 1/2		1 1/2
	0.430	7		1 1/2
	0.430	7 1/2		1 1/2
	0.430	8		1 1/2
	0.430	8 1/2		1 1/2
	0.430	9		1 1/2
	0.430	9 1/2		1 1/2
	0.430	10		1 1/2
12. HEAD SHAPE	ROUND, 1/4-IN. RECESS			
13. HEAD DIMENSIONS (inches)				
THICKNESS	0.120			
DIAMETER	1.00			
14. PLATES				
A. REQUIRED (yes/no)	YES			
B. AVAILABLE FROM MANUFACTURER (yes/no)	YES			
15. PLATE SHAPE, DIMENSIONS, AND MATERIAL	Column 1	Column 2	Column 3	
	Shape	Dimensions (inches)	Material	
	ROUND BARBE	3	GALVALUME	
16. INSTALLATION EQUIPMENT				
SCREW GUN (optional/required)				
INSTALLATION TOOL WITH SCREW GUN (optional/required)				
SPECIAL TOOL NEEDED (optional/required)				
OTHER	IMPACT WRENCH, ELECTRIC DRILL (OPTIONAL)			
17. AVERAGE PULLOUT RESISTANCE (lbs.)				
A. LIGHTWEIGHT CONCRETE	280			
B. GYPSUM	600			
C. CEMENTITIOUS WOOD FIBER	450			
18. ACCEPTED BY THE FOLLOWING CODES				
A. LIGHTWEIGHT CONCRETE				
B. GYPSUM	FM, METRO.-DADE COUNTY			
C. CEMENTITIOUS WOOD FIBER	FM, METRO.-DADE COUNTY			
19. WARRANTY AVAILABLE FROM THE MANUFACTURER (yes/no)	YES			
20. SEE APPENDIX IF CHECKED				

NA=not applicable

Appendix, Roof Fasteners

BMCA INSULATION PRODUCTS, INC.

Lexusco clips are installed using a rubber mallet. No power tools or power sources are required. Lexusco clips hook under the deck, cannot back out, and are corrosion resistant. They are available in three sizes. Companion plates are required.

CELOTEX CORPORATION

Anchorbond #12 HWH requires recessed 2 7/8-inch plate only. Anchorbond #12 not available in #3 phillips head in 6-inch lengths.

CONSTRUCTION FASTENERS, INC., DEKFAST PRODUCT GROUP

Fasteners, steel decks: Dekfast #12 HWH requires recessed 2 7/8-inch hex plate only. Stainless steel (Trimrite) screws require special plates.

Fasteners, wood decks: one-quarter-inch penetration through the plywood is required on 3/4-in. plywood decks. Stainless steel (Trimrite) screws require special plates.

Fasteners, lightweight concrete decks: Deklite pull-out data is based on the following: (a) lightweight concrete, 2 1/2-in. penetration, (b) gypsum, 2-in. penetration, (c) cementitious wood fiber, 2-in. penetration.

GAF MATERIALS CORPORATION

For GAFTITE wood deck fasteners, 1/2-inch penetration is required through plywood.

The Fluted Concrete Nail is installed by driving into pre-drilled hole with carpenter or small sledge hammer (e.g., two lbs.). For GAFTITE Toggle Bolts (carbon and stainless steel) and Iron-Lok Toggle Bolt, pullout values are expected averages. Actual pullouts may vary. 1.2-in. base sheet fastener is recommended.

Iron-Lok Toggle Bolts can be used for any application, but primary use is for membrane attachment of mechanically fastened single-ply. Factory-applied adhesives on threads prevent loosening of toggle bolt assembly due to membrane flutter. Lite-Deck Fasteners can be used in specially designed batten strip.

GAFTITE #14-10 and #12-11 fasteners are available with a 1/4-in. hex head design.

GAF MATERIALS CORPORATION

For GAFTITE wood deck fasteners, 1/2-inch penetration is required through plywood.

The Fluted Concrete Nail is installed by driving into pre-drilled hole with carpenter or small sledge hammer (e.g., two lbs.). For GAFTITE Toggle Bolts (carbon and stainless steel) and Iron-Lok Toggle Bolt, pullout values are expected averages. Actual pullouts may vary. 1.2-in. base sheet fastener is recommended.

Iron-Lok Toggle Bolts can be used for any application, but primary use is for membrane attachment of mechanically fastened single-ply. Factory-applied adhesives on threads prevent loosening of toggle bolt assembly due to membrane flutter. Lite-Deck Fasteners can be used in specially designed batten strip.

GAFTITE #14-10 and #12-11 fasteners are available with a 1/4-in. hex head design.

ITW BUILDEX

ITW Buildex Accutrak roof insulation fastening tool installs fasteners and plates in a one-step continuous process. The Accutrak tool was designed exclusively to be used with ITW Buildex Accutrak fasteners and plates.

The ITW Buildex Lite Weight Concrete Fastening System combines new packaging that doubles as a carrying pouch, a stand-up magnetic driver, and an assembled fastener and plate.

The Hextra Plus and Roofgrip Plus systems combine the Hextra and Roofgrip fasteners with a 3" round galvalume plate in a preassembled form. The Accufast tool installs the preassembled parts from a stand-up position.

JOHNS MANVILLE INTERNATIONAL, INC.

The UltraFast fastener line is available as a pre-assembled as UltraFast ASAP (metal plate) and UltraFast ASAP (plastic plate) or as separate screws and plates.

NATIONAL NAIL CORP.

Round-Top and R/S Round Top round heads eliminate tearing or cutting of felt and/or insulation roofing material.

Plasti-Top fasteners are not to be used on hot built-up roofs or if application temperatures exceed 190 F for more than two minutes.

Plasti-Cap fasteners are not to be used on hot built-up roofs or if application temperatures exceed 170 F for more than three minutes.

Ardox H.T. Galvanized Concrete Fasteners are available in 50-lb. cartons or 100-count packages.

OLYMPIC MANUFACTURING GROUP, INC.

For Olympic wood deck fasteners, 1/2-inch penetration is required through plywood.

The Fluted Concrete Nail is installed by driving into pre-drilled hole with carpenter or small sledge hammer (e.g., two lbs.). For Olympic Toggle Bolts (carbon and stainless steel) and Iron-Lok Toggle Bolt, pullout values are expected averages. Actual pullouts may vary.

Iron-Lok Toggle Bolts can be used for any application, but primary use is for membrane attachment of mechanically fastened single-ply membranes. Factory-applied adhesives on threads prevent loosening of toggle bolt assembly due to membrane flutter. Lite-Deck Fasteners can be used in specially designed batten strip.

Olympic #14-10 and #12-11 fasteners are available with a 1/4-in. hex head design.

Base Sheet Fastener and Plate are also available assembled.

For gypsum, the 1.2-in. base sheet fastener is recommended.

POWERS RAWL, POWERS FASTENERS, INC.

The Woodie and specially designed Woodie plates are for attachment of insulation, single-ply membranes, or standing-seam metal roofing clips to oriented strand board (OSB) or plywood roof decks.

#12 Hex Washer Head Deck Screws may be used with Powers Rawl 3-in. round recessed plates only.

Speed Lock Toggles may be used for all deck types and are preassembled with 3-in. round plates for insulation attachment.

#12 Deck Screws are also available preassembled to insulation plates.

For further details and technical information on roofing fasteners and other anchoring and fastening systems, please consult the Powers Rawl Fastening Systems Design Manual published by Powers Fasteners, Inc.

Steel Deck: deck screws should penetrate through a minimum 3/4" per FMRC 1-29.

Wood Deck: deck screws should penetrate through a minimum 1/4" in plywood decks that are 3/4" thick per FMRC 1-29.

SIMPLEX NAILS & FASTENERS, INC.

Abbreviation Chart:

Shank Type / Nail Finish

- B/ = Barbed Shank is recommended when it is installed into a hard species of wood, or if a high pull out resistance is not desired
- AG/ = Annular Grooved is recommended when it is installed into any type of wood, or if the appropriate building codes require a high pull out resistance
- /B = Bright Finish is recommended if it will not be exposed to a corrosive environment.
- /EGYD = Electro Galvanized Yellow Dichromate is recommended if it is exposed to a moderately corrosive environment
- /RL = Rust-Lok is recommended if it is exposed to a highly corrosive environment
- EGS- = Electro Galvanized Steel is recommended if it is exposed to a moderately corrosive environment
- SS- = Stainless Steel is recommended if it is exposed to a highly corrosive environment

Wood Deck Nails:

The 3/4" plywood average pull out resistance was performed by the American Plywood Association in accordance to the American Plywood Association's testing procedure. The average pullout resistance in a nominal 2" pine plank was done in the Simplex Nails & Fasteners Testing Lab. Rust-Lok is the priority coating that will pass the thousand hour salt spray rust test.

Original Round Metal Caps Nails are unique to the roofing industry due to the fact that it is the only cap nail that has the nail and the cap welded together to prevent the nail from backing through the roofing membrane. These nails are used to secure base sheets to the deck, flashing behind counter flashing, back nailing of roof membrane, thin insulation to a wood deck and various other miscellaneous roofing tasks.

Insulation Round Metal Cap Nails are designed with wider shanks and longer lengths in order to install all types of roofing insulation into wood decks.

Economy Round Metal Cap Nails is designed to be less expensive by using friction to hold the

shank to the cap instead of welding the shank to the cap. It should be used in situations that would not permit the nail to back through the roofing membrane.

Square Head Metal Cap Nails are designed to be strong and economical. It has an extra strong cap welded to the shank.

Plex-Cap Plastic Cap Nails are designed to be affordable and increase the rupture values of softer building products. It should be used to secure roofing felt, insulation and polyfilm for temporary roofing to wood decks.

Coil Roofing Nails are designed with a high wire that will allow it to fit all types of pneumatic nail guns. They have 120 nails per coils and 60 coils per box.

Concrete Deck Nails:

The Zanchor Drive Nail's average pull out resistance was performed by Law Engineering, Inc. in accordance to the ASTM E-488-90 testing procedure using 4,000 psi concrete.

Zanchor Drive Nails are designed to fit in to a pre-drilled 1/4" hole and with a termination bar or the Simplex 2" & 3" plate in order to hold the base flashing, base sheet or insulation board into structural concrete, brick or mortar.

Masonry Round Metal Cap Nails are designed with a wide fluted hardened steel shank, welded to a hardened steel cap. They should be used to secure flashing behind counter flashing and various other miscellaneous roofing tasks into bricks or masonry joints.

Lightweight Concrete, Gypsum, or Cementitious Wood Fiber Decks Nails:

Base-Loks are designed to give a superior hold for base sheets while minimizing the destruction to the deck, by requiring less fasteners than any equivalent method. The Base-Lok's average pull out resistance was performed by Trinity Engineering, Inc. in accordance with Dade County Protocol PA 105 (A) and 117 (A) testing procedure. The Base-Lok has been tested with most of the leading base sheets for its rupture value and these results are available from Simplex upon request. Base-Loks should be used to secure base sheets to low and steep sloped cementitious wood fiber, gypsum, cellular and lightweight concrete decks with the use of a clutched slow speed drill and a standard 1/4" hex head bit.

Tube-Loks are designed to secure felts, base sheets, insulation, shingles, slate, to low and steep sloped cementitious wood fiber, gypsum, cellular and lightweight concrete decks. The Tube-Lok's average pull out resistance was performed accordance with Dade County Protocol PA 117 (A) testing procedure. Complete installation instruction are available from Simplex upon request.