

National Roofing Contractors Association

LOW-SLOPE

Roofing Materials Guide

2004-05

Volume 1:

Section 1—Roof Coverings

Section 2—Rigid Board Insulation



2004-05

LOW-SLOPE ROOFING

MATERIALS GUIDE

VOLUME 1

SECTION 1: ROOF COVERINGS

SECTION 2: RIGID BOARD INSULATION

The information source for low-slope roof membranes; insulation boards; roof cements, adhesives and coatings; roof fastener products; and membrane warranties for commercial roof designers, specifiers, installers, manufacturers and users.



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Introduction

The National Roofing Contractors Association's (NRCA's) 2004-05 *Low-slope Roofing Materials Guide* is a comprehensive report about commercial, industrial and institutional low-slope roof covering, rigid board insulation, fastener, and cement, adhesive and coating products currently on the market in the United States. The Guide also provides pertinent information about the warranties offered for most membrane roof systems.

NRCA publishes the guide biennially as a service to the roofing industry. The objective of the guide is to provide information that will be helpful to users in determining which specific manufacturers' products will best 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 guide's first edition was published in 1983. From its inception until 1992, it was titled 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 term "commercial low-slope" distinguished it from a companion publication, the *Residential Steep-Slope Roofing Materials Guide*, which was first published in November 1992. The *Residential Steep-Slope Roofing Materials Guide* provided information about asphalt shingle, clay and concrete tile, wood shake and shingle, fiber-cement and synthetic shingle, slate, architectural metal panel and underlayment products, as well as asphalt shingle warranties.

When applied to the U.S. roofing market, the terms "commercial low-slope" and "residential steep-slope" are by no means definitive. Low-slope roofing products commonly are used on nonresidential 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 products are commonly used on residential buildings and are sometimes used on nonresidential buildings.

Beginning in 1999, the titles of these guides changed to the *Low-slope Roofing Materials Guide* and the *Steep-slope Roofing Materials Guide*. The reason for these title changes and division of product categories is for consistency

with other NRCA publications, including *The NRCA Roofing and Waterproofing Manual*.

Low-slope roofing products are those primarily intended for roofs with slopes of 3:12 (14 degrees) or less. Built-up, polymer modified bitumen, single-ply, spray polyurethane foam-based and structural metal panel roof systems fit this category.

Steep-slope roofing products are defined as those primarily intended for roofs with slopes greater than 3:12 (14 degrees). Asphalt shingle, fiber-cement and synthetic, clay and concrete tile, wood shake and shingle, slate and architectural metal panel roof systems fit this category.

In publishing the *Low-slope Roofing Materials Guide*, NRCA maintains a policy of objectivity in its reporting of data. To be listed, nothing is required from manufacturers other than to adhere to the prescribed reporting format. Any manufacturer of a product in the product categories included in the guide can be listed by submitting information 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. Manufacturers interested in having their products listed in future editions of the guide are encouraged to contact NRCA at:

National Roofing Contractors Association
Attention: Roofing Materials Guide
10255 West Higgins Road, Suite 600
Rosemont, Illinois 60018-5607

NRCA exercises due care in accurately reporting the data supplied by product manufacturers. NRCA does not audit test procedures used to arrive at the reported data, nor assume responsibility for the accuracy or completeness of the data submitted. The presence or absence of a listing of products or manufacturers in the guide does not imply NRCA's approval or disapproval of the products or companies, nor does NRCA recommend that any specific materials be used or not.

NRCA does not develop standards itself, but instead, works toward and supports the improvements of existing standards and 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 the values of the reference standards, documents, recommendations or criteria does not necessarily imply that they will or will not produce acceptable roof systems.

How The Guide Is Organized

The *Low-slope Roofing Materials Guide* is divided into two volumes containing six primary sections.

Volume 1 contains:

- Section 1: Roof Coverings
- Section 2: Rigid Board Insulation

Volume 2 contains:

- Section 3: Roof Fasteners
- Section 4: Roof Cements, Adhesives and Coatings
- Section 5: Roof Membrane Warranties
- Section 6: Incomplete Data

There is a general index listing all product manufacturers included in the guide and the locations of their specific product listings at the end of this introductory section. Also, a listing of all product manufacturers and the locations of their specific products is provided at the beginning of each section, except for Section 6: Incomplete Data.

There is also an introduction to information for each section at the beginning of each section. The introduction to Section 1: Roof Coverings encompasses built-up, polymer modified bitumen, single-ply, spray polyurethane foam-based and metal panel roof system products.

Finally, there are separate appendices at the end of Section 1: Roof Coverings, Section 2: Rigid Board Insulation, Section 3: Roof Fasteners and Section 4: Roof Cements, Adhesives and Coatings. The purpose of these appendices is to provide manufacturer-supplied information that expands 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”.

When reviewing the data in the guide, users should keep in mind that the format is designed to facilitate side-by-side product comparisons. For this reason, listing companies can only

respond to existing items of requested information; they cannot add their own items. Footnoting is not permitted in guide listings; companies instead may expand on or clarify information by providing copy for the appendix.

Product Listings with Incomplete Data

Product manufacturers included in the guide are encouraged to provide NRCA with listing information for their products that is as complete as possible for publication in the guide. When manufacturers submit product information (e.g., test results) that is incomplete, these specific products have been omitted from the detailed listing sections of the guide. Manufacturers and products with incomplete product listing information are included in a new section of the guide, entitled Section 6: Incomplete Data.

NRCA has established this policy regarding manufacturers’ product listings with incomplete data at the request of users of the guide, who are clearly seeking detailed and complete product information from the guide and the companies listed.

Users of the guide who are interested in specific product information about a manufacturer’s product that is included in Section 6: Incomplete Data are encouraged to contact the product manufacturer directly. Manufacturers’ contact information is provided in the index section of the guide.

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| KARNAK CORPORATION 330 Central Avenue Clark, NJ 07066 732/388-0300 800/526-4236 FAX 732/388-9422 E-mail: info@karnakcorp.com Web site: www.karnakcorp.com | 58 101 | | | | | | | | | | | | | | | | | | | 547 590 634 | | 907 |
| KOKEM PRODUCTS INC. 4432 N.E. Davis Portland, OR 97213 503/235-9206 FAX 503/235-9206 E-mail: Web site: | | | | | | | | | | | | | | | | | | | | 551 637 | | |
| KOPPERS INC. 436 Seventh Avenue, #1650 Pittsburgh, PA 15219 412/227-25884 FAX: 412/227-2002 E-mail: Web site: www.koppers.com | 58 102 | 147 171 207 242 | | | | | | | | | | | 370 | | | | | 397 | 409 | 413 | | 812 |
| MBCI/NCI P.O. Box 38217 Houston, TX 77238 281/445-8555 FAX: 281/445-1791 E-mail Web site: www.mbc.com | | | | | | | | | | | | 339 | | | | | | | | | | |
| MERCHANT & EVANS INC. 308 Connecticut Drive Burlington, NJ 08016 609/387-3033 FAX 609/387-4838 E-mail: Web site: www.ziprib.com | | | | | | | | | | | | 343 | | | | | | | | | | |
| METACRYLICS ACRYLIC- POLYESTER ROOFING PRODUCTS 142 N. 27th Street San Jose, CA 95116 408/280-7733 FAX 408/280-6329 E-mail: Web site: www.metacrylics.com | | | | | | | | | | | | | | | | | | | | 551 592 637 | | |
| MULE HIDE PRODUCTS CO., INC. 2924 Wyetta Drive Beloit, WI 53511 608/365-3111 FAX: 608/365-7852 E-mail: Web site: | | | 251 260 | 269 279 | 282 284 | 292 297 | | | | | | | | | | | | | | | | 818 |
| NATIONAL NAIL CORP. 2964 Clydon, SW Grand Rapids, MI 49509 800/746-5659 FAX: 616/531-5970 E-mail: Web site: | | | | | | | | | | | | | | | | | | | | 456 478 | | |
| NEOGARD, DIV JONES BLAIR 2728 Empire Central, P.O. Box 35288 Dallas, TX 75235 800/321-6588 FAX 214/357-7532 E-mail: neogard@neogard.org Web site: www.neogard.com | | | | | | | | | | 325 | | | | | | | | | | | 554 639 | |

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| NORTH CAROLINA FOAM INDUSTRIES 1515 Carter St. P.O. Box 1528 Mount Airy, NC 27030 336/789-9161 FAX 336/789-9586 E-mail: roger.morrison@ncfi.com Web site: www.ncfi.com | | | | | | | | | 317 | | | | | | | | | | | | | | |
| OLYMPIC FASTENERS P.O. Box 508 153 Bowles Road Agawam, MI 01001 800/633-3800 413/789-0252 FAX: 413/789-1069 E-mail: info@olyfast.com | | | | | | | | | | | | | | | | | | | | | 435 457 478 499 | | |
| OWENS CORNING World Headquarters One Owens Corning Parkway Toledo , OH 43659 800/438-7465 E-mail: Web | | | | | | | | | | | | | | 386 | | | | | | | | | |
| PACTIV BUILDING PRODUCTS 2100 RiverEdge Parkway, Suite 175 Atlanta, GA 30328 678/589-7309 FAX: 678/589-7330 E-mail: Web site: www.pactivbuilding products.com | | | | | | | | | | | | | | 391 | | | | | | | | | |
| PERFORMANCE ROOF SYSTEMS 4800 Blue Parkway Kansas City, MO 64130 800/727-9872 FAX: 816/924-1542 E-mail: derbigumus.com Web site: | | 147 171 243 | | | | | | | 325 | | | | | | | | | | | | | | 830 |
| PETERSEN ALUMINUM 1005 Tonne Rd. Elk Grove Village, IL 60007 800/323-1960 FAX 800/722-7150 E-mail: www.pac-clad.com | | | | | | | | | | 345 | | | | | | | | | | | | | |
| PITTSBURGH CORNING CORP. 800 Presque Isle Drive Pittsburg, PA 15239 800/359-8433 FAX: 724/327-5890 E-mail: Web site: www.foamglasinsulation.com | | | | | | | | | | | 365 | | | | | | | | | | | | |
| PLASTIC COATINGS CORP. P.O. Box 1068 St. Albans, WV 25177 304/755-9151 FAX 304/755-0229 E-mail: jaxsan@msn.com Web site: | | | | | | | | | 325 | | | | | | | | | | | | | | |
| POWERS FASTENERS, INC. 2 Powers Square New Rochelle, NY 10801 914/235-6300 FAX: 914/576-6483 E-mail: info@powers.com Web site: | | | | | | | | | | | | | | | | | | | | | 438 459 479 502 | | |

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| R-MAX INC. 13524 Welch Road Dallas, TX 75244 972/387-4500 FAX: 972/387-4673 E-mail: Web site: www.rmaxinc.com | | | | | | | | | | | | 391 | | | | | | 409 | | | |
| REPUBLIC POWDERED METALS, INC. 2628 Pearl Road Medina, OH 44256 800/551-7981 FAX: 800/382-1218 Web site: www.rpmrepublic.com | | | | | | 286 288 | | | | | | | | | | | | | | 554 639 | 838 |
| ROOFING PRODUCTS INTERNATIONAL 57460 Dewitt St. Elkhart, IN 46517 800/628-2957 574/293-9096 FAX 574/294-3450 E-mail: Web site: www.roofingproductsint.com | | | | | 269 280 | | | | | | | | | | | | | | | | 842 |
| SARNAFIL INC. 100 Dan Road Canton, MA 02021 800/451-2504 or 781/828-5400 FAX: 781/828-3528 E-mail: webmaster@sarnafilus.com Web site: www.sarnafilus.com | | | | 252 261 | | | | | | | | | | | | | | | | | 846 |
| SEAMAN CORPORATION FiberTite Roofing Systems by Seaman 1000 Venture Blvd. Wooster, OH 44691 800/927-8578 FAX: 800/649-2737 Web site: www.fibertite.com | | | | | | | | 301 303 | 307 316 | | | | | | | | | | | | 850 |
| SFS INTEC, INC. Dekfast Products Group P.O. Box 6326 Wyomissing, PA 19610 610.790-2661 FAX: 610/376-0932 Web site: | | | | | | | | | | | | | | | | | | | 439 461 481 503 | | |
| SIMPLEX NAILS INC 100 Pettty Road Lawrenceville, GA 30043 770/822-5812 FAX: 770/822-6822 E-mal: Web site: www.simplex.com | | | | | | | | | | | | | | | | | | | 462 482 504 | | |
| SIPLAST INC. / ICOPAL 1111 Hwy. 67 South Arkadelphia, AR 71923 870/246-8094 FAX: 870/246-3696 E-mail: ustke@icopal.com Web site: | | | 149 209 243 | | | | | | | | | | | | | | | | | | 860 |
| SOMAY PRODUCTS, INC. 4301 N.W. 35th Avenue Miami, FL 33142-4382 305/633-6333 or 888/24-somay FAX 305/638-5524 E-mail: paint@somay.com Web site: www.somay.com | | | | | | | | | | | | | | | | | | | 555 641 | | |

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| SOPREMA, INC. 310 Quadral Drive Wadsworth, OH 44281 330/334-0066 800/356-3521 FAX 330/334-4289 E-mail: Web site: | | | 151 213 | | | | | | | | | | | | | | | | | | 848 |
| 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 E-mail: Web site: www.swepcousa.com | | 61 105 | | | | | | | | | | | | | | | | | | 555 593 641 | 868 |
| STEVENS ROOFING SYSTEMS J.P.S. Elastomerics Corp. 9 Sullivan Road Holyoke, MA 01040-2800 800/621-ROOF FAX 413/552-1198 E-mail: info@stvroof.com Web site: | | | | 252 261 | | 282 284 | 292 297 | | | | | | | | | | | | | | 804 |
| SWD URETHANE COMPANY 222 South Date St. Mesa, AZ 85210 480/969-8413 800/828-1394 FAX 480/461-6926 E-mail: whip@swdurethane.com Web site: www.swdurethane.com | | | | | | | | | 318 326 | | | | | | | | | | | | |
| T-CLEAR CORPORATION P. O. Box 416 Hamilton, OH 45012 800/544-7398 or 513/870-9243 FAX: 513/870-9606 E-mail: telesouth1.com Web site: | | | | | | | | | | | | | | 392 | | | | | | | |
| TEMPLE P O Drawer N Diboll, TX 75941 936/829-1254 800/231-6060 FAX: 800/426-7382 E-mail: gkeeling@temple.com Web site: www.temple.com | | | | | | | | | | | | | | | | | | 414 | | | |
| TOPCOAT DIVISION OF GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 800/766-3411 or 873/628-3000 FAX: 973/628-3451 Web site: www.gaf.com | | | | | | | | | | | | | | | | | | | | 557 645 | 661 |
| TREMCO INC. 3735 Green Rd. Beachwood, OH 44122-8069 216/292-5000 FAX: 216/766-5629 E-mail: Web site: www.tremcoroofing.com | 61 105 | 157 221 244 | | | | 282 285 286 288 | 301 303 | | | 348 | | | | | | | 410 415 | | 441 505 | 558 593 647 | 870 |
| TRU-FAST CORPORATION 02105 William County Road 12-C Bryan, OH 43506 800/443-9602 FAX: 419/636-1784 E-mail: tru-fast@bright.net Web site: trufast.com | | | | | | | | | | | | | | | | | | | | 441 469 484 | |

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| UMICORE BUILDING PRODUCTS USA 3120 Highwoods Blvd. Raleigh, NC 27604 919/874-7173 FAX: 919/874-7140 E-mail: info@vmzinc-us.com Web site: www.vmzinc-us.com | | | | | | | | | | | 349 | | | | | | | | | | | | | |
| UNIFLEX ROOFING SYSTEMS LLC 5000 Gateway Drive Medina, OH 44256 330/764-4725 FAX: 330/723-5337 E-mail: Web site: www.info@uniflexroof.com | | | | | | | | 326 | | | | | | | | | | | | | | | | |
| UNITED COATINGS 19011 E Cataldo Greenacres, WA 99016 509/926-7143 FAX 509/928-1116 E-mail: info@unitedcoatings Web site: www.unitedcoatings.com | | | | | | | | | | 327 | | | | | | | | | | | 561 651 | 662 | | |
| UNITED STEEL DECK INC. 25 DeForest Ave. P.O. Box 662 Summit, NJ 07901-0662 908/277-1617 FAX 908/277-1619 E-mail: heagler@ix.netcom.com | | | | | | | | | | | 349 | | | | | | | | | | | | | |
| U.S. INTEC INC. 1361 Alps Road Wayne, NJ 07470 973/628-3000 or 800/766-3411 FAX: 973/628-4167 E-mail: Web site: www.usintec.com | 63 108 | 157 173 223 244 | | | | | | | | | | | 371 | | | | | 398 | 411 | 415 | 445 471 486 516 | 561 595 651 | 878 | 662 |
| W P HICKMAN SYSTEMS INC. 30700 Solon Industrial Parkway Solon, OH 44139 440/248-7760 FAX 440/248-6524 E-mail: wphickman@wphickman.com Web site: www.wphickman.com | 62 120 | 159 173 225 | | | | | | | | | | | | | | | | | | | | 563 651 | 894 | 662 |

National Roofing Contractors Association

LOW-SLOPE

Roofing Materials Guide
2004-05



ROOF COVERINGS

Information about Section 1: Roof Coverings

General Information

Section 1: Roof Coverings in the 2004-05 edition of NRCA's *Low-slope Roofing Materials Guide* is divided into 11 primary sections based on roof covering product type. These primary sections are as follows:

- Built-up roofing
- Modified bitumen sheet membrane
- PVC single-ply membrane
- EPDM single-ply membrane
- CSPE single-ply membrane
- PIB single-ply membrane
- TPO single-ply membrane
- KEE single-ply membrane
- Other prefabricated sheet-applied membranes
- Spray polyurethane foam-based systems
- Metal panels

A specific description of each particular roof covering type and a general description of the specific information contained within each primary section are included at the conclusion of this General Information section.

An index of the manufacturers included in Section 1: Roof Coverings and locations of their specific products within this section immediately follows this Roof Coverings section.

Built-up Roofing

A built-up roof membrane is defined in *The NRCA Roofing and Waterproofing Manual, Fifth Edition* as "a continuous, semi-flexible roof membrane, consisting of plies of saturated felts, coated felts, fabrics or mats assembled in place with alternate layers of bitumen and surfaced with mineral aggregate, bituminous materials, a liquid-applied coating or a granule-surfaced cap sheet."

Information about built-up roofs is presented in the guide in two parts: Part 1—General Information, and Part 2 - Specifications.

Specific listing information included in part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Complies with (ASTM designation)
5. Product width

6. Manufacturers plant locations
7. Method of distribution
8. Number of regional locations
9. Licensed applicator agreement
10. Sales information contact
11. Technical information contact
12. See appendix

Reporting of compliance data in Item 4 is based upon the following American Society for Testing and Materials (ASTM) standards:

Base Sheets:

- ASTM D 4601, titled "Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing"
- ASTM D 4897, titled "Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing"
- ASTM D 2626, titled "Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing"

Ply Sheets:

- ASTM D 2178, titled "Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing"
- ASTM D 4990, titled "Standard Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing"
- ASTM D 226, titled "Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing"
- ASTM D 227, titled "Standard Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing"
- ASTM D 1668, titled "Standard Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing"
- ASTM D 5665, titled "Standard Specification for Thermoplastic Fabrics Used in Cold-Applied Roofing and Waterproofing"
- ASTM D 5726, titled "Standard Specification for Thermoplastic Fabric Used in Hot-Applied Roofing and Waterproofing"

Cap Sheets:

- ASTM D249, titled "Standard Specification for Asphalt Roll Roofing (Organic Felt) Saturated with Mineral Granules"
- ASTM D371, titled "Standard Specification for Asphalt Roll Roofing (Organic Felt) Surfaced with Mineral Granules; Wide Selvage"
- ASTM D 3909, titled "Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced With Mineral Granules"

In Part 2: Specifications, manufacturers listing information is provided based upon the following:

1. Company name
2. Specification number legend
3. Specification number
4. Hot and/or cold applied
5. Deck type
6. Slope requirement
7. Number of plies
8. Type of ply sheet
9. Interply adhesive
10. Surfacing
11. Flashing materials/method
12. Weight
13. Restricted regions
14. Test results
15. See appendix

Reporting of test result data in Item 14: Test Results per NBS BSS #55 is on the basis of the National Bureau of Standards (NBS) Building Science Series (BSS) #55, titled "Preliminary Criteria for Bituminous Membrane Roofing", dated 1974.

Warranty information for built-up membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding built-up membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Modified Bitumen Sheet Membrane

A modified bitumen sheet membrane is defined in *The NRCA Roofing and Waterproofing Manual, Fifth Edition* as a "composite sheet consisting of a polymer modified bitumen often reinforced with various types of mats or films, and sometimes surfaced films, foils or mineral granules." Polymer modified bitumen is further defined as "a bitumen modified through the inclusion of one or more polymers." The most common modifiers used in bitumen polymer modification are atactic polypropylene (APP) and styrene butadiene styrene (SBS).

Information about modified bitumen sheet products is presented in the guide in three parts: Part 1: General Information, Part 2: Test Results and Part 3: Modified Bitumen Specifications. Part 2: Test Results is further divided into two

sections based upon polymer modifier type, APP Modified Bitumen Part 2: Test Results and SBS Modified Bitumen Part 2: Test Results.

Specific listing information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Kinds of field surfacing required
5. Use in
6. Field joint lap method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact

In Part 2: Test Results for APP modified bitumen sheet products, specific listing information is as follows:

1. Company name
2. Product name
3. Product description
4. Complies with (ASTM designation)
5. Dimensions and masses of sheet materials
6. Physical properties
7. Reflectivity
8. See appendix

Reporting of test result data for Items 4, 5 and 6 is based upon the following American Society for Testing and Materials (ASTM) and Canadian General Standards Board (CGSB) standards:

- ASTM D 6222, titled "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements"
- ASTM D 6223, titled "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements".

- CGSB 37-GP-56M, titled “Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing”

Reporting on test result data for Item 7 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled “Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field”
- ASTM Standard E 903, titled “Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres”
- ASTM Standard C 1549, titled “Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer”
- ASTM Standard C 1731, titled “Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers”
- ASTM Standard E 408, titled “Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques”

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

In Part 2: Test Results for SBS modified bitumen sheet products, specific listing information is as follows:

1. Company name
2. Product name
3. Product description
4. Complies with (ASTM designation)
5. Dimensions and masses of sheet materials
6. Physical properties
7. Reflectivity
8. See appendix

Reporting of test result data for Items 4, 5 and 6 is based on the following American Society for Testing and Materials (ASTM) and Canadian General Standards Board (CGSB) standards:

- ASTM D 6162, titled “Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of

Polyester and Glass Fiber Reinforcements”

- ASTM D 6163, titled “Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements”
- ASTM D 6164, titled “Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements”
- CGSB 37-GP-56M, titled “Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing”

Reporting on test result data for Item 7 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled “Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field”
- ASTM Standard E 903, titled “Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres”
- ASTM Standard C 1549, titled “Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer”
- ASTM Standard C 1731, titled “Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers”
- ASTM Standard E 408, titled “Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques”

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

In Part 3: Modified Bitumen Specifications, manufacturers listing information is provided based upon the following:

1. Company name
2. Manufacturers specification number
3. Type of roof installation and substrate
4. Total number of plies
5. Base sheet description

6. Names of sheet products used in membrane

Warranty information for modified bitumen membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding modified bitumen membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

PVC Single-ply Membrane

A polyvinyl chloride (PVC) single-ply membrane is a factory-manufactured thermoplastic sheet consisting of a reinforcing fabric and a synthetic thermoplastic polymer prepared from vinyl chloride.

Information about PVC single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coating required
5. Use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Method of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name

2. Product name
3. Type (ASTM designation)
4. Thickness
5. Tensile strength
6. Breaking strength
7. Elongation
8. Seam strength
9. Retention of properties after heat aging
10. Tear resistance
11. Tear strength
12. Low temperature bend
13. Accelerated weathering
14. Linear dimensional change
15. Change in weight after water immersion
16. Puncture resistance
17. Reflectivity
18. See appendix

Reporting of test result data in Items 3 through 16 is based on American Society for Testing and Materials (ASTM) Standard D 4434-95, titled "Specification for Poly (Vinyl Chloride) Sheet Roofing."

Reporting on test result data for Item 17 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field"
- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Warranty information for PVC single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding PVC single-ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

EPDM Single-ply Membrane

An ethylene propylene diene monomer (EPDM), or terpolymer, single-ply membrane is factory-manufactured thermoset single-ply membrane that is principally composed of two components, ethylene and propylene. When these components are combined with diene, a flexible rubber matrix is formed. EPDM single-ply membranes are available in two types, non-reinforced and reinforced.

Information about EPDM single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coatings required
5. Use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Grade (ASTM designation)
4. Thickness
5. Breaking strength

6. Tensile strength
7. Elongation
8. Tensile set
9. Tear resistance
10. Tearing strength
11. Brittleness point
12. Ozone resistance
13. Heat aging
14. Water absorption
15. Factory seam strength
16. Weather resistance
17. Fabric adhesion
18. Reflectivity
19. See appendix

Reporting of test result data for Items 3 through 17 is based upon American Society for Testing and Materials (ASTM) Standard D 4637, titled "Specification for EPDM Sheet Used in Single-Ply Roof Membrane."

Reporting on test result data for Item 18 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field"
- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRRC) are met, indicate yes or no.

Warranty information for EPDM single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding EPDM single-

ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

CSPE Single-ply Membrane

A chlorosulfonated polyethylene (CSPE) single-ply membrane is factory-manufactured thermoset single-ply membrane that is principally composed of a synthetic rubber material commonly called Hypalon, which is a proprietary trade name of a compound developed by E.I. duPont de Nemours & Co., Inc.

Information about CSPE single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coating required
5. Use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Thickness
5. Breaking strength
6. Elongation
7. Tearing strength

8. Low temperature bend
9. Linear dimensional change
10. Ply adhesion
11. Hydrostatic resistance
12. Ozone resistance
13. Weather resistance
14. Reflectivity
15. See appendix

Reporting of test result data for Items 3 through 13 is based on American Society for Testing and Materials (ASTM) Standard D5019, titled "Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membrane."

Reporting on test result data for Item 14 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field"
- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Warranty information for CSPE single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding CSPE single-ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

PIB Single-ply Membrane

A polyisobutylene (PIB) single-ply membrane is factory-manufactured thermoset single-ply membrane that is composed of a butyl-based compound that is extruded into sheet form.

Information about PIB single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coating required
5. Use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Thickness
5. Breaking strength
6. Elongation
7. Tearing strength
8. Low temperature bend
9. Linear dimensional change
10. Fabric adhesion
11. Hydrostatic resistance
12. Ozone resistance
13. Weather resistance
14. Reflectivity
15. See appendix

Reporting of test result data for Items 3 through 13 is based on American Society for Testing and Materials (ASTM) Standard D 5019, titled "Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membrane."

Reporting on test result data for Item 14 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field"
- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Warranty information for PIB single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding PIB single-ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

TPO Single-ply Membrane

A thermoplastic olefin (TPO) is a factory manufactured thermoplastic single-ply membrane that is compounded from a blend of polypropylene and ethylene-propylene polymers. TPO single-ply membranes are available in two types, non-reinforced and reinforced.

Information about TPO single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coating required
5. For use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Country of origin and manufacture
16. Year of first commercial use
17. Manufacturing plant location(s)
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Thickness
5. Breaking strength
6. Elongation
7. Tearing strength
8. Brittleness point
9. Ozone resistance
10. Properties after heat aging
11. Linear dimensional change
12. Water absorption
13. Factory seam strength
14. Weather resistance
15. Reflectivity
16. See appendix

Reporting of test results data for Items 3 through 14 is based on American Society for Testing and Materials (ASTM) product standard D 6878-03, "Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing."

Reporting on test result data for Item 15 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field"
- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Users of the guide who are interested in additional information regarding TPO single-ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Warranty information for TPO single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

KEE Single-ply Membrane

A keotone ethylene ester (KEE) is a factory manufactured thermoplastic sheet consisting of a reinforcing fabric and a synthetic thermoplastic polymer.

Information about KEE single-ply membrane sheet products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description

4. Coating required
5. For use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available
15. Year of first commercial use
16. Number of squares installed
17. Manufacturing plant location(s)
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Thickness
5. Breaking strength
6. Elongation
7. Tearing strength
8. Linear dimensional change
9. Fabric adhesion
10. Retention of properties after heat aging
11. Low temperature bend
12. Change in weight after exposure in water
13. Factory seam strength
14. Hydrostatic resistance
15. Static puncture resistance
16. Dynamic puncture resistance
17. Accelerated weathering
18. Fungi resistance
19. Abrasion test
20. Reflectivity
21. See appendix

Reporting of test results data for Items 3 through 19 is based on American Society for Testing and Materials (ASTM) product standard D 6754, titled "Standard Specification for Keotone Ethylene Ester Based Sheet Roofing." Reporting on test result data for Item 20 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled "Standard Test Method for Measuring Solar

Reflectance of Horizontal and Low-slope Surfaces in the Field"

- ASTM Standard E 903, titled "Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres"
- ASTM Standard C 1549, titled "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer"
- ASTM Standard C 1731, titled "Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers"
- ASTM Standard E 408, titled "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques"

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Warranty information for KEE single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Other Prefab. Sheet-applied Membranes

Other prefabricated single-ply membrane products are sheet-applied membrane products that do not fit classifications as PVC, EPDM, CSPE, PIB, TPO or KEE products.

Information about other prefabricated single-ply membrane products is presented in the guide in two parts: Part 1: General Information and Part 2: Test Results.

Specific information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Coating required
5. Use in
6. Field lap joint method
7. Types of roof systems
8. Minimum slope required
9. Acceptable substrates
10. Restricted regions
11. Workable temperature range
12. Flashing material
13. Flashing method
14. Preformed accessories available

15. Country of origin and manufacture
16. Year of first commercial use
17. Number of squares installed
18. Methods of distribution
19. Number of regional locations
20. Licensed applicator agreement
21. Sales information contact
22. Technical information contact
23. See appendix

In Part 2: Test Results, specific information included is as follows:

1. Company name
2. Product name
3. Thickness
4. Tensile strength
5. Lap joint method
6. Elongation at break
7. Tensile set
8. Low temperature flexibility
9. Water absorption
10. Dimensional stability
11. Heat aging
12. Ozone resistance
13. Accelerated weathering
14. Dynamic impacting
15. Tear resistance
16. Tearing strength
17. Low temperature impact
18. Permeability
19. Dimensional change
20. Cone penetration
21. Reflectivity
22. See appendix

Reporting of test results data for Items 4 through 22 is based on recognized test methods. The specific test methods utilized are at the discretion of the listing manufacturers for their specific products; the specific test methods utilized by the manufacturers are listed within the test data.

Reporting on test result data for Item 22 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled “Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field”
- ASTM Standard E 903, titled “Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres”
- ASTM Standard C 1549, titled “Standard Test Method for Determination of Solar

Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer”

- ASTM Standard C 1731, titled “Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers”
- ASTM Standard E 408, titled “Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques”

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Warranty information for other prefabricated single-ply membrane roof systems is provided in Volume 2, Roof Membrane Warranties.

Users of the guide who are interested in additional information regarding other prefabricated single-ply membrane roof systems are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Spray Polyurethane Foam-based Systems

Spray polyurethane foam-based (SPF) roof systems consist of a two-part liquid that is spray-applied in the field to form an insulation base. Over this base, a protective coating is applied, which provides the weatherproofing component of the roof system. Information about SPF-based roof system products is presented in the guide in two parts: Part 1: Insulation and Part 2: Protective Coatings.

Specific information included in Part 1: insulation is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Application conditions
6. Recommended types of protective coatings
7. Protective coatings available from manufacturer
8. Fire resistance classification
9. Year of first commercial use
10. Number of squares installed
11. Manufacturer-qualified applicators required
12. Methods of distribution
13. Number of regional sales locations

14. Sales and technical information contacts
15. See appendix

Specific information included in Part 2: Protective Coatings is as follows:

1. Company name
2. Product name
3. Coating description
4. Name of base coat and top coat
5. Number of coating applications required
6. Required dry film thickness
7. Film cure time
8. Minimum slope required
9. Requirements for use
10. Flashing material
11. Application conditions
12. Application equipment requirements
13. Restricted regions
14. Restricted building uses
15. Recommended recoating schedule
16. Physical properties
17. UL 790, Class A
18. Foam insulation requirements
19. Foam available from manufacturer
20. Year of first commercial use
21. Number of squares installed
22. Manufacturer-qualified applicator required
23. Methods of distribution
24. Number of regional service locations
25. Sales and technical information contacts
26. Reflectivity
27. See appendix

Reporting on test result data for Item 26 is based on the following ASTM Standards:

- ASTM Standard E 1918, titled “Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-slope Surfaces in the Field”
- ASTM Standard E 903, titled “Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials using Intergrating Spheres”
- ASTM Standard C 1549, titled “Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer”
- ASTM Standard C 1731, titled “Standard Test Method for Determination of Emittance of Materials Near Roof Temperature Using Portable Emissometers”

- ASTM Standard E 408, titled “Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques”

If requirements for Energy Star Label or Cool Roof Rating Council (CRRC) are met, indicate yes or no.

Users of the guide who are interested in additional information regarding SPF-based roof systems are encouraged to refer to *The NRCA SPF-Based Roofing Manual* or *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Metal Roof Panel

Metal panel roof systems are traditionally divided into two categories: structural metal panels and architectural metal panels. Generally, structural metal panel roof systems are installed on low-slope roofs, that is roofs with slopes less than 3:12 (14 degrees).

Architectural metal panel roof systems are generally installed on steep-slope roof systems, that is roofs with slopes of 3:12 (14 degrees) or greater. Structural metal panel roof systems can support structural loads without being applied over separate roof decks. Architectural metal panel roof systems are applied over structural roof decks that resist structural loads.

Information about metal panel roof systems, both structural metal panels and architectural metal panels, is contained in the guide.

Specific information included is as follows:

1. Company name
2. Product name
3. Architectural/structural applications
4. Panel configuration
5. System requirements
6. Panel profile
7. Seam processing, height and sealant
8. Fastening method
9. Specialty applications
10. Manufacturer and product data
11. ASTM E 1646 water penetration
12. ASTM E 1680 air infiltration
13. FM/UL wind uplift ratings
14. See appendix

Users of the guide who are interested in additional information regarding metal panel roof systems are encouraged to refer to *The NRCA Metal Roofing Manual* or *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|--|------------------|--------------------------|------------|------------|----------|------------|-----|---------------------|--------------------------------------|-------------------|-----------------|
| ANDEK CORPORATION P O Box 392 850 Glen Avenue Moorestown, NJ 08057-0392 888/88ANDEK (26335) FAX: 888/44ANDEK (26335) E-mail: andekcorp@aol.com Web site: | | | | | | | | | 320 | | |
| BARRETT COMPANY 33 Stonehouse Road, P.O. Box 421 Millington, NJ 07946 908/647-0100 FAX: 908/647-0278 E-mail: infor@barrettroof.com Web site: www.barrettroofs.com | 41 70 | | | | | | | | | | |
| BERRIDGE MANUFACTURING CO. Roof Division Houston, TX 77026 713/223-4971 FAX: 713/433-0847 E-mail: sales@berridge.com Web site: www.berridge.com | | | | | | | | | | 330 | |
| BITEC INC. #2 Industrial Park Dr. Morrilton, AR 72110 800/535-8597 FAX 501/354-3019 Web site: www.bi-tec.com | | 125 162 176 230 | | | | | | | | | |
| BONDNOTE ROOFING SYSTEMS 4090 Pepperell Way Dublin, VA 24084 800/358-2160 FAX: 540/674-6511 E-mail: bcrtech@bondnote.com Web site: www.bondnote.com | | | 249 254 | | | | | 304 308 | | | |
| CARLISLE SYNTEC INC P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX 717/245-7245 Web site: www.carlisle-syntec.com | | | | 262 272 | | 290 294 | | 305 310 | | | |
| CERTAINTED / Roofing Prods. 750 E. Swedesford Rd P O Box 860 Valley Forge, PA 19482 800/233-8990 FAX: 610/341-7055 Web site: www.certaainteed.com | 42 72 | 126 163 179 231 | | | | | | | | | 906 |

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| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|---|------------------|--------------------------|-----|------------|------------|-----|-----|---------------------|--------------------------------------|-------------------|-----------------|
| CONKLIN CO. P.O. Box 155 Shakopee, MN 55379-0155 800/888-8838 FAX: 952/496-4285 E-mail: marketing@conklin.com Web site: www.conklin.com | | | | | 282 284 | | | | | 320 | |
| COOLEY ENGINEERED MEMBRANE INC. 50 Esten Avenue Box 939 Pawtucket, RI 02862-0939 401/724-0490 FAX: 401/726-8731 E-mail: cooleygroup.com | | | | | | | | | 305 310 | | 906 |
| CURVELINE INC. 1745 Monticello Court Ontario, CA 91761 909/947-6022 FAX 909/947-1510 E-mail: curveline@curveline.com Web site: www.met-tile.com | | | | | | | | | | | 335 |
| DIBITEN P.O. Box 5108 Denver, CO 80217-5108 800/342-4836 FAX 303/978-3904 E-mail: Web site: | | 129 164 232 | | | | | | | | | |
| DURO-LAST INC. 525 Morley Drive Saginaw, MI 48601 800/248-0280 (All U.S.) FAX 800/432-9331 E-mail: dlsagmi@concentric.com Web site: duro-last.com | | | | | | | | | 305 311 | | |
| ECOLOGY ROOF SYSTEMS 505 N. Tustin Avenue #188 Santa Ana, CA 92705 714/972-1001 FAX: 714/972-1079 Web site: www.ecologyroofsystems.com | 45 75 | 129 165 183 233 | | | | | | | 305 311 | | 906 |
| ERSYSTEMS Elastomeric Roofing Systems, Inc. 50 Medina Street Loretto, MN 55357-0056 612/479-6690 FAX: 612/479-6691 E-mail: ersinfo@ersystems.com Web site: www.ersystems.com | | | | 263 273 | | | | | 306 313 | 316 321 | |
| FIELDS COMPANY, LLC 2240 Taylor Way Tacoma, WA 98421 253/627-4098 FAX 253/383-2181 Web site: | 45 79 | | | | | | | | | | 906 |

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| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|--|------------------|--------------------------|------------|------------|----------|------------|------------|---------------------|--------------------------------------|-------------------|-----------------|
| FIRESTONE BUILDING PRODUCTS CO. 525 Congressional Blvd. Carmel, IN 46032 800/428-4442 Web site: www.firestonebp.com | 51 82 | 131 165 185 234 | | 263 274 | | 290 295 | 300 302 | | | | |
| FLEX MEMBRANE INTERNATIONAL, INC. Bethlehem Drive Morgantown, PA 19543 610/286-7788 FAX 610/286-7786 E-mail flexroof@compuserve.com | | 134 189 | 249 255 | | | 290 295 | 300 302 | 307 313 | | | |
| FOAM ENTERPRISES, INC. 13630 Watertower Circle Minneapolis, MN 55441 888/900-3626 or 763/559-9390 FAX: 763/559-0945 E-mail: foamnet@aol.com Web site: www.foamenterprises.com | | | | | | | | | 316 322 | | |
| FOLLANSBEE STEEL P.O. Box 610 Follansbee, WV 26037 800/624-6906 FAX 304/527-1269 E-mail: info@follansbeeroofing.com Web site: www.follansbeeroofing.com | | | | | | | | | | 335 | |
| GACO WESTERN, INC. P.O. Box 88698 Seattle, WA 98138-2698 800/456-4226 FAX 206/575-0587 E-mail: info@gaco.com Web site: www.gaco.com | | | | | | | | | 317 323 | | |
| GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 800/766-3411 FAX: 973/628-3451 Web site: www.gaf.com | 53 88 | 135 167 189 236 | 249 257 | 265 275 | | 291 295 | | | | | |
| GARDNER ASPHALT CORP. / APOC DIVISION P.O. Box 5449 Tampa, FL 33675-5449 FAX 813/248-6768 Web site: | | | | | | | | | 324 | | |
| GARLAND COMPANY INC. 3800 E. 91st Street Cleveland, OH 44105 216/641-7500 FAX 216/641-0633 Web site: | | 173 193 | | | | | | | | | 906 |

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|--|------------------|--------------------------|------------|------------|----------|------------|-----|---------------------|--------------------------------------|-------------------|-----------------|
| GENFLEX ROOFING SYSTEMS 1722 Indian Wood Circle, Suite A Maumee, OH 43537 800/442-4272 FAX: 419/891-4437 Web site: www.genflex.com | | | 250 257 | 265 276 | | 291 297 | | | | | |
| HENRY COMPANY 2911 Slauson Avenue Huntington Park, CA 90255 213/583-5000 FAX: 213/582-6429 E-mail: techservices@henry.com Web site: www.henry.com | 55 94 | 138 196 237 | | | | | | | | | |
| HONEYWELL INTERNATIONAL INC. 2000 Regency Parkway, Suite 225 Cary, NC 27511-8507 800/221-6490 FAX: 919/46-4720 E-mail: roofing@honeywell.com Web site: www.honeywellroofs.com | 56 96 | 141 169 238 | | | | | | | | | 906 |
| IKO INDUSTRIES 120 Hay Rd. Wilmington, DE 19809 302/764-3100 FAX 302/764-5852 Web site: www.iko.com | | 141 169 199 239 | | | | | | | | | 906 |
| INNOVATIVE METALS CO., INC. 2070 Steel Drive Tucker, GA 30084 770/908-1030 FAX 770/908-2264 E-mail: information@imetco.com Web site: | | | | | | | | | | | 336 |
| INTEGRAS METALS 455 85TH Ave., NW Minneapolis, MN 55433 763/717-7195 FAX: 763/717-7184 Web site: www.integrasmets.com | | | | | | | | | | | 337 |
| INTERNATIONAL DIAMOND SYSTEMS INC. P.O. Box 351950 Toledo, OH 43635 419/382-0111 FAX 419/382-3275 E-mail: internationaldiamond@att.net | | | | 267 277 | | | | | | | |
| JOHNS MANVILLE Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904 Web site: www.jm.com | 56 97 | 143 169 203 240 | 251 259 | 267 278 | | 292 297 | | | | | |

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|---|------------------|--------------------------|------------|------------|------------|------------|-----|---------------------|--------------------------------------|-------------------|-----------------|
| KARNAK CORPORATION 330 Central Avenue Clark, NJ 07066 732/388-0300 800/526-4236 FAX 732/388-9422 E-mail: info@karnak.com Web site: www.karnakcorp.com | 58 101 | | | | | | | | | | 906 |
| KOPPERS INC. 436 Seventh Avenue Pittsburgh, PA 15219 800/468-9629 412/227-2584 FAX: 412/227-2002 E-mail: info@koppers.com Web site: www.koppers.com | 58 102 | 147 171 207 242 | | | | | | | | | |
| MBCI/NCI P.O. Box 38217 Houston, TX 77238 281/445-8555 FAX 281/445-1791 Web site: www.mbc.com | | | | | | | | | | | 339 |
| MERCHANT & EVANS INC. 308 Connecticut Drive Burlington, NJ 08016 609/387-3033 FAX 609/387-4838 Web site: www.ziprib.com | | | | | | | | | | | 343 |
| MULE HIDE PRODUCTS CO., INC. 2924 Wyetta Drive Beloit, WI 53511 608/365-3111 FAX: 608/365-7852 Web site: | | | 251 260 | 269 279 | 282 284 | 292 297 | | | | | |
| NEOGARD, DIV JONES BLAIR 2728 Empire Central P.O. Box 35288 Dallas, TX 75235 800/321-6588 FAX 214/357-7532 E-mail: neogard@neogard.org Web site: www.neogard.com | | | | | | | | | | 325 | |
| NORTH CAROLINA FOAM IND. 1515 Carter St. P.O. Box 1528 Mount Airy, NC 27030 336/789-9161 FAX 336/789-9586 E-mail: roger.morrison@ncfi.com Web site: www.ncfi.com | | | | | | | | | | 317 | |
| PERFORMANCE ROOF SYSTEMS, INC. 4800 Blue Parkway Kansas City, MO 64130 800/727-9872 FAX: 816/924-1542 Web site: www.derbigumus.com | | 147 171 243 | | | | | | | | 325 | |

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|---|------------------|-------------------|------------|------------|------------|-----|------------|---------------------|--------------------------------------|-------------------|-----------------|
| PETERSON ALUMINUM 1005 Tonne Rd. Elk Grove, IL 60007 800/323-1960 FAX: 800/722-7150 E-mail: Web site: www.pac-clad.com | | | | | | | | | | | 345 |
| PLASTIC COATINGS CORP. P.O. Box 1068 St. Albans, WV 25177 304/755-9151 FAX 304/755-0229 E-mail: Web site: jascan@msn.com | | | | | | | | | | 325 | |
| REPUBLIC POWDERED METALS 2628 Pearl Road Medina, OH 44256 800/551-7081 FAX: 800/382-1218 E-mail: Web site: www.rpmrepublic.com | | | | | 286 288 | | | | | | |
| ROOFING PRODUCTS INTERNATIONAL 57460 Dewitt St. Elkhart, IN 46517 800/628-2957 574/293-9096 FAX 574/294-3450 Web site: www.roofingproductsint.com | | | | 269 280 | | | | | | | |
| SARNAFIL INC. 100 Dan Road Canton, MA 02021 800/451-2504 FAX: 781/828-3529 E-mail: webmaster@sarnafilus.com Web site: www.sarnafilus.com | | | 252 261 | | | | | | | | |
| SEAMAN CORPORATION FiberTite Roofing Systems by Seaman 1000 Venture Blvd. Wooster, OH 44691 800/927-8578 FAX: 800/649-2737 E-mail: fibertite.com | | | | | | | 301 303 | 307 316 | | | |
| SIPLAST / ICOPAL 1111 Hwy. 67 South Arkadelphia, AR 71923 870/246-8094 FAX: 870/246-3696 E-mail: ustkersey@siplast.com Web site: | | 149 209 243 | | | | | | | | | |

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA |
|---|------------------|-------------------|------------|------|--------------------------|------------|------------|---------------------|--------------------------------------|-------------------|-----------------|
| SOPREMA, INC. 310 Quadral Drive Wadsworth, OH 44281 330/334-0066 800/356-3521 FAX 330/334-4289 E-mail: Web site: | | | 151 213 | | | | | | | | |
| SOUTHWESTERN PETROLEUM P O Box 961005 Ft. Worth, TX 76161-0005 817/332-2336 FAX: 817/348-7286 E-mail: Web site: | 61 105 | | | | | | | | | | |
| STEVENS ROOFING SYSTEMS J.P.S. Elastomerics Corp. 9 Sullivan Road Holyoke, MA 01040-2800 800/621-ROOF FAX 413/552-1198 E-mail: info@stvroof.com | | | 252 261 | | 282 284 | 292 297 | | | | | |
| SWD URETHANE COMPANY 222 South Date St. Mesa, AZ 85210 480/969-8413 800/828-1394 FAX 480/461-6926 E-mail: whip@swdurethane.com Web site: www.swdurethane.com | | | | | | | | | 318 326 | | |
| TREMCO INC. 3735 Green Rd. Beachwood, OH 44122-8069 216/292-5000 FAX: 216/766-5629 Web site: www.tremcoroofing.com | 61 105 | 157 221 244 | | | 282 285 286 288 | | 301 303 | | | 348 | |
| UMICORE BUILDING PRODUCTS USA 3120 Highwoods Blvd. Raleigh, NC 27604 919/874-7173 FAX: 919/874-7140 Web site: www.v zinc-us.com | | | | | | | | | | 349 | |
| UNIFLEX ROOFING SYSTEMS LLC 5000 Gateway Drive Medina, OH 44256 330/764-4725 FAX: 330/723-5337 E-mail: info@uniflexroof.com | | | | | | | | | 326 | | |
| UNITED COATINGS 19011 E Cataldo Greenacres, WA 99016 509/926-7143 FAX 509/928-1116 E-mail: info@unitedcoatings Web site: www.unitedcoatings.com | | | | | | | | | 327 | | |

Index to Listed Roof Coverings

| | BUILT-UP ROOFING | MODIFIED BITUMEN | PVC | EPDM | CSPE/PIB | TPO | KEE | OTHER PREFABRICATED | SPRAY POLYURETHANE FOAM-BASED SYSTEM | METAL ROOF PANELS | INCOMPLETE DATA | |
|--|------------------|--------------------------|-----|------|----------|-----|-----|---------------------|--------------------------------------|-------------------|-----------------|-----|
| UNITED STEEL DECK INC. 25 DeForest Ave. P.O. Box 662 Summit, NJ 07901-0662 908/277-1617 FAX 908/277-1619 E-mail: heagler@ix.netcom.com | | | | | | | | | | | 349 | 658 |
| U.S. INTEC INC. 1361 Alps Road Wayne, NJ 07470 973/628-3000 or 800/766-3411 FAX: 973/628-3451 E-mail: Web site: www.gaf.com | 63 108 | 157 173 223 244 | | | | | | | | | | 904 |
| W P HICKMAN SYSTEMS INC. 30700 Solon Industrial Parkway Solon, OH 44139 440/248-7760 FAX 440/248-6524 E-mail: wphickman@wphickman.com Web site: www.wphickman.com | 65 120 | 159 173 225 | | | | | | | | | | |

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Built-up Roofing, Part 1 - General Information

| | | |
|---|--|--|
| 1. COMPANY NAME | BARRETT COMPANY | BARRETT COMPANY |
| 2. PRODUCT NAME | RAM-TOUGH POLY FELT 265VP | RAM-TOUGH RAM 30 |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | X |
| Ply Sheet | X | |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | X |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | X | X |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 39-1/2" | 39-1/2" |
| 6. MANUFACTURERS PLANT LOCATIONS | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT |
| 8. NUMBER OF REGIONAL LOCATIONS | 2 | 2 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 |
| 11. TECHNICAL INFORMATION CONTACT | TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--|--|--|--|--|--|
| BARRETT COMPANY | BARRETT COMPANY | BARRETT COMPANY | BARRETT COMPANY | BARRETT COMPANY | BARRETT COMPANY |
| RAM-TOUGH RAM GLASS 4 | RAM-TOUGH RAM GLASS 6 | RAM-TOUGH POLY FELT 155 VP | RAM-TOUGH RAM 32 | RAM-TOUGH RAM GLASS MAT | RAM-TOUGH RAM GLASS CAP SHEET |
| | | | X | | |
| X | X | X | | X | |
| | | | | | X |
| | | | X | | |
| | | | | | |
| | | | | | |
| | | | | | |
| X | X | | | | |
| | | | | | |
| | | | | X | |
| | | X | | | |
| | | | | | |
| | | | | | |
| | | | | | X |
| | | | | | |
| 36" | 36" | 39-1/2" | 36" | 12 " AND 36" | 36" |
| ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ | ALLENTOWN, PA GREENVILLE, SC MILLINGTON,NJ |
| DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT | DISTRIBUTOR DIRECT |
| 2 | 2 | 2 | 2 | 2 | 2 |
| YES | YES | YES | YES | YES | YES |
| DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 | DAVE HONZA 800/647-0100 |
| TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 | TECH SERVICE 800/647-0100 |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|---|--|
| 1. COMPANY NAME | BARRETT COMPANY | CERTAINTED CORPORATION |
| 2. PRODUCT NAME | RAM-TOUGH RAM 203 | FLINTGLAS CAP SHEET |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | |
| Ply Sheet | X | |
| Cap Sheet | X | X |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | X | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | X | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | X | X |
| 5. PRODUCT WIDTH | 36" | 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | ALLENTOWN, PA GREENVILLE, SC MILLINGTON, NJ | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTOR DIRECT | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 2 | 3 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | DAVE HONZA 800/647-0100 | 800/233-8990 |
| 11. TECHNICAL INFORMATION CONTACT | TECH SERVICE 800/647-0100 | 800/233-8990 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | X |

Built-up Roofing, Part 1 - General Information

| CERTAINTEED CORPORATION | CERTAINTEED CORPORATION | CERTAINTEED CORPORATION | CERTAINTEED CORPORATION | CERTAINTEED CORPORATION | CERTAINTEED CORPORATION |
|--|--|--|--|--|--|
| FLEXIGLAS PREMIUM CAP SHEET 960 | FLEXIGLAS BASE SHEET | GLASBASE BASE SHEET | ALL WEATHER / EMPIRE BASE SHEET | NO. 15 PERFORATED FELT | YOSEMITE BUFFER BASE SHEET |
| | | | | | |
| | X | X | X | X | |
| X | | | | | X |
| | | | | | |
| | TYPE II | TYPE II | | | |
| | | | | | |
| | | | X | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | TYPE II |
| | | | | | |
| | | | | | |
| 36" | 36" | 36" | 36" | 36" | 36" |
| CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 3 | 3 | 3 | 3 | 3 | 3 |
| YES | YES | YES | YES | YES | YES |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| X | X | X | X | X | X |

Built-up Roofing, Part 1 - General Information

| | | |
|---|--|--|
| 1. COMPANY NAME | CERTAINTED CORPORATION | CERTAINTED CORPORATION |
| 2. PRODUCT NAME | FLINTGLAS PLY SHEET TYPE IV | FLINTGLAS PLY SHEET TYPE VI |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | TYPE IV | TYPE VI |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA | CHESTER, PA LITTLE ROCK, AK LOS ANGELES, CA SHREVEPORT, LA SOUTHGATE, CA WILMINGTON, CA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 3 | 3 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | 800/233-8990 | 800/233-8990 |
| 11. TECHNICAL INFORMATION CONTACT | 800/233-8990 | 800/233-8990 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | X | X |

Built-up Roofing, Part 1 - General Information

| ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
|------------------------------|------------------------------|------------------------------|--------------------------|--------------------------|--------------------------|
| ERS 400-6 | ERS 401 | ERS 400 | F50 POLYSHIELD | F 52 GLASBASE 2 | F 54 GLASPLY 4 |
| | X | | X | X | |
| | | X | X | | X |
| | | | | | |
| TYPE II | TYPE I | | X | TYPE II | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | X | | TYPE IV |
| | | TYPE I | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | 40" | 36" | 36" |
| TUSCALOOSA, MI | TUSCALOOSA, MI | TUSCALOOSA, MI | TACOMA, WA | TACOMA, WA | TACOMA, WA |
| | | | | | |
| DIRECT | DIRECT | DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 4 | 4 | 4 | 15+ | 15+ | 15+ |
| YES | YES | YES | YES | YES | YES |
| ED NELSON 714/972-1001 | ED NELSON 714/972-1001 | ED NELSON 714/972-1001 | | | |
| BILL PFIEFER 714/972-1001 | BILL PFIEFER 714/972-1001 | BILL PFIEFER 714/972-1001 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|--------------------------|--------------------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. PRODUCT NAME | F 55 POLY SHIELD 2 | M 60 RUBRPOLY |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | X |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | X | X |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | X | X |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 40 | 40" |
| 6. MANUFACTURERS PLANT LOCATIONS | TACOMA, WA | TACOMA, WA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 15+ | 15+ |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | | |
| 11. TECHNICAL INFORMATION CONTACT | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| M 62 RUBRGLAS | M 64 RUBRPOLY 42 | M 66 RUBRGLAS 2 | M 68 GLASS RUBR CAP | M 69 POLY RUBR CAP | P 70 POLY ROOF |
| | | | | | |
| X | X | X | | | |
| X | X | X | | | X |
| | | | X | X | |
| | | | | | |
| X | X | X | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| X | X | X | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | TYPE II |
| | | | | | |
| | | | | | |
| | | | | | |
| 40" | 40" | 36" | 36" | 40" | 40" |
| TACOMA, WA | TACOMA, WA | TACOMA, WA | TACOMA, WA | TACOMA, WA | TACOMA, WA |
| | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 15+ | 15+ | 15+ | 15+ | 15+ | 15+ |
| YES | YES | YES | YES | YES | YES |
| | | | | | |
| B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|--------------------------|--------------------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. PRODUCT NAME | P 72 POLY ROOF 2 | P 74 POLYWEB |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | TYPE VII |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | TYPE II | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 40" | 6" |
| 6. MANUFACTURERS PLANT LOCATIONS | TACOMA, WA | TACOMA, WA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 15+ | 15+ |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | | |
| 11. TECHNICAL INFORMATION CONTACT | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

[illegible]

Built-up Roofing, Part 1 - General Information

| | | |
|---|--------------------------|--------------------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. PRODUCT NAME | G 362 GLASWEB | G 60 GLASWEB |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | TYPE I | TYPE III |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 6" |
| 6. MANUFACTURERS PLANT LOCATIONS | TACOMA, WA | TACOMA, WA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 15+ | 15+ |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | | |
| 11. TECHNICAL INFORMATION CONTACT | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| FIELDS COMPANY, LLC | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| G 62 GLASWEB | MB BASE M | VENTING BASE | PLY IV (4) M | PLY VI (6) M | SBS METAL FLASH AL |
| | | | | | |
| | X | X | | | |
| X | | | X | X | |
| | | | | | X |
| | | | | | |
| | TYPE II | | | | |
| | | TYPE II | | | |
| | | | | | |
| | | | | | X |
| | | | | | |
| | | | TYPE IV | TYPE VI | |
| | | | | | |
| | | | | | |
| TYPE I | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 6" | 39.4 | 39.4 | 39.4 | 39.4 | 39.4 |
| TACOMA, WA | INDIANAPOLIS, IN | INDIANAPOLIS, IN | INDIANAPOLIS, IN | INDIANAPOLIS, IN | INDIANAPOLIS, IN |
| | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTORS | DISTRIBUTORS |
| 15+ | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES |
| | REGIONAL SALES OFFICE | REGIONAL SALES OFFICE | REGIONAL SALES OFFICE | REGIONAL SALES OFFICE | REGIONAL SALES OFFICE |
| B. SHEIN 800/627-4098 | REGIONAL COORDINATOR | REGIONAL COORDINATOR | REGIONAL COORDINATOR | REGIONAL COORDINATOR | REGIONAL COORDINATOR |
| | X | | | | X |

Built-up Roofing, Part 1 - General Information

| | | |
|---|-----------------------------------|-----------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | SBS FLASHING | SBS CAP |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | |
| Ply Sheet | | |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | X | X |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 39.4 | 39.4 |
| 6. MANUFACTURERS PLANT LOCATIONS | INDIANAPOLIS, IN | INDIANAPOLIS, IN |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | REGIONAL SALES OFFICE | REGIONAL SALES OFFICE |
| 11. TECHNICAL INFORMATION CONTACT | REGIONAL COORDINATOR | REGIONAL COORDINATOR |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | X | X |

Built-up Roofing, Part 1 - General Information

| GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|------------------------------|------------------------------|----------------------------------|------------------------------|--|--------------------------------------|
| GAFGLAS PLY 4 | GAFGLAS FLEX PLY 6 | MINERAL SURFACED CAP SHEET | GAFGLAS #75 BASE SHEET | STRATAVENT PERFORATED BASE SHEET | STRATAVENT NAILABLE BASE SHEET |
| | | | X | X | |
| X | X | | | | |
| | | X | | | |
| | | | TYPE II | TYPE II | TYPE II |
| | | | | | |
| | | | | | |
| TYPE IV | TYPE VI | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | X | | | |
| 39-5/8" | 39-5/8" | 39-5/8" | 39-5/8" | 39-5/8" | 39-5/8" |
| | | | | | |
| | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES |
| REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|------------------------------|-------------------------------------|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | TRI PLY PLY 4 | GAFGLAS #80 ULTIMA BASE SHEET |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | X |
| Ply Sheet | X | |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | TYPE II |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | TYPE IV | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | | 39-5/8" |
| 6. MANUFACTURERS PLANT LOCATIONS | | |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | REGIONAL OFFICE | REGIONAL OFFICE |
| 11. TECHNICAL INFORMATION CONTACT | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--|--|--|--|--|--|
| HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. |
| #196 POLYESTER PLY SHEET | #604 25# FIBERGLASS BASE SHEET | #605 80# MIN SURFACE UNDERLAYMENT | #606 80# MIN SURFACE SBS BASE | #607 33# FIBERGLASS BASE SHEET | #608 #33 FIBERGLASS SBS BASE |
| | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | TYPE II | | | TYPE II | TYPE II |
| | | | | | |
| | | X | X | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| X | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | X | X | | |
| 40" | 36" | 36" | 36" | 36" | 36" |
| KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX | KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX | KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX | KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX | KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX | KINGMAN, AZ; ELK GROVE, CA HUNTINGTON PARK, CA BARTOW, FL INDIANAPOLIS, IN PORTLAND, OR KIMBERTON, PA ROCK HILL, SC GARLAND, TX |
| DISBTIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| | | | | | |
| YES | YES | YES | YES | YES | YES |
| J. HOLLERAN 800/598-7663 | J. HOLLERAN 800/598-7663 | J. HOLLERAN 800/598-7663 | J. HOLLERAN 800/598-7663 | J. HOLLERAN 800/598-7663 | J. HOLLERAN 800/598-7663 |
| S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 |
| X | X | X | X | X | X |

Built-up Roofing, Part 1 - General Information

| | | |
|---|---------------------------------------|---|
| 1. COMPANY NAME | HONEYWELL INTERNATIONAL, INC. | JOHNS MANVILLE |
| 2. PRODUCT NAME | BLACK ARMOR COAL TAR BUR SYSTEM | GLASPLY IV |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | |
| Ply Sheet | X | X |
| Cap Sheet | X | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | TYPE II | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | TYPE II | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | X | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | TYPE IV, VI | TYPE IV |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | X | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | X | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | | OKLAHOMA CITY, OK MACON, GA PITTSBURG, CA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTOR DIRECT | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 4 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | 800/221-6990 | REGIONAL OFFICE |
| 11. TECHNICAL INFORMATION CONTACT | 800/221-6990 | GUARANTEE SERVICES |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--|--|--|--|--|--|
| JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE |
| GLASPLY PREMIER | PERMA PLY 28 | GLASBASE | VENT SOLUTION | GLAS KAP | GLAS BASE PLUS |
| | | | | | |
| | X | X | X | | X |
| X | | | | | |
| | | | | X | |
| | | | | | |
| | TYPE II | TYPE I | | | TYPE II |
| | | | TYPE II | | |
| | | | | | |
| | | | | | |
| TYPE VI | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | X | |
| 36" | 36" | 36" | 36" | 36" | 36" |
| OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA | OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA | OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA | OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA | OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA | OKLAHOMA CITY, OK MACON, GA PITTSBURG,CA |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES |
| REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|---|--|
| 1. COMPANY NAME | JOHNS MANVILLE | KARNAK CORPORATION |
| 2. PRODUCT NAME | GLAS KAP PLUS | #31 FIBER GLASS MEMBRANE |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | X |
| Ply Sheet | | X |
| Cap Sheet | X | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | TYPE III |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 4, 6, 9, 12, 18, 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | OKLAHOMA CITY, OK MACON, GA PITTSBURG, CA | CLARK, NJ FT. LAUDERDALE, FL BROADVIEW, IL |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 7 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | NO |
| 10. SALES INFORMATION CONTACT | REGIONAL OFFICE | 800/526-4236 |
| 11. TECHNICAL INFORMATION CONTACT | GUARANTEE SERVICES | 800/526-4236 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--|--|--|----------------|--------------|---------------------|
| KARNAK CORPORATION | KARNAK CORPORATION | KARNAK CORPORATION | KOPPERS INC. | KOPPERS INC. | KOPPERS INC. |
| #34 UTILITY GRADE COTTON ASPHALT FABRIC | #3036 POLY MAT | #5548 RESAT MAT | TARRED FELT | TAR-GLAS | PREMIUM TAR-GLAS |
| X | X | X | | | |
| X | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | X | |
| | | | X | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | X |
| | | | | | |
| | | | | | |
| | | | | | |
| 4, 6, 9, 12, 18, 36" | | 4, 6, 9, 12, 18, 36" | 36" | 36" | 36" |
| CLARK, NJ FT. LAUDERDALE, FL BROADVIEW, IL | CLARK, NJ FT. LAUDERDALE, FL BROADVIEW, IL | CLARK, NJ FT. LAUDERDALE, FL BROADVIEW, IL | WOODWARD, AL | WOODWARD, AL | WOODWARD, AL |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 7 | 7 | 7 | 4 | 4 | 4 |
| NO | NO | NO | YES | YES | YES |
| 800/526-4236 | 800/526-4236 | 800/526-4236 | 800/558-2706 | 800/558-2706 | 800/558-2706 |
| 800/526-4236 | 800/526-4236 | 800/526-4236 | 800/468-9629 | 800/468-9629 | 800/468-9629 |
| | | | X | X | X |

Built-up Roofing, Part 1 - General Information

| | | |
|---|-----------------------|---------------------------|
| 1. COMPANY NAME | KOPPERS INC. | KOPPERS INC. |
| 2. PRODUCT NAME | ORGANIC BASE SHEET | GLASS FIBER BASE SHEET |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | X |
| Ply Sheet | | |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | X |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | X | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | WOODWARD, AL | WOODWARD, AL |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 4 | 4 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | 800/558-2706 | 800/558-2706 |
| 11. TECHNICAL INFORMATION CONTACT | 800/468-9629 | 800/468-9629 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | X | X |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|--|---|---|---|---|---|
| SOUTHWESTERN PETROLEUM CORPORATION | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. |
| ASPHALT ROLL ROOFING | BURMASTIC GLASS PLY - 33 LB/SQ | BURMASTIC GLASS PLY - 28 LB/SQ | BURMASTIC COMPOSITE PLY | BURMASTIC MODIFIED COMPOSITE PLY | BURMASTIC PREMIUM COMPOSITE PLY |
| | | | | | |
| | X | X | X | X | X |
| X | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | TYPE II | TYPE II | | | |
| | | | | | |
| | | | | | |
| | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| X | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 36" | 36" | 36" | 36" | 36" | 36" |
| | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 1 | 14 | 14 | 14 | 14 | 14 |
| NO | YES | YES | YES | YES | YES |
| P. DICKERSON 817/332-2336 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 |
| R. KLEINTOP 817/332-2336 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 |
| | X | X | X | X | X |

Built-up Roofing, Part 1 - General Information

| | | |
|---|---|---|
| 1. COMPANY NAME | TREMCO INC. | TREMCO INC. |
| 2. PRODUCT NAME | BURMASTIC MODIFIED PREMIUM COMPOSITE PLY | BURMASTIC SUPREME COMPOSITE PLY |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | X |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | X | X |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | X | X |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 36" |
| 6. MANUFACTURERS PLANT LOCATIONS | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT |
| 8. NUMBER OF REGIONAL LOCATIONS | 14 | 14 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 |
| 11. TECHNICAL INFORMATION CONTACT | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | X | X |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|---|---|---|---|---|-----------------------------------|
| TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | U.S. INTEC |
| BURMASTIC MODIFIED SUPREME COMPOSITE PLY | BURMASTIC 300 PLY SHEET | THERMGLASS TYPE IV | THERMGLAS PREMIUM VI | POLYTHERM | SUPREME ELIMNATOR NAILABLE |
| X | X | | | X | X |
| X | X | X | X | X | |
| | | | | | |
| | | | | | II |
| | | | | | II |
| | | | | | |
| X | X | | | X | |
| | | | | | |
| | | TYPE IV | TYPE VI | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| X | X | | | X | |
| | | | | | |
| | | | | | |
| | | | | | |
| 36" | 39-3/8" | 36" | 36" | 39-3/8" | 39-5/8" |
| CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | CLEVELAND, OH VERNON, CA MEDINA, OH TORONTO, ONTARIO | |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DISTRIBUTORS |
| 14 | 14 | 14 | 14 | 14 | 5 |
| YES | YES | YES | YES | YES | YES |
| LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | LOCAL REP. 216/292-5000 | REGIONAL OFFICE |
| PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | PRODUCT MNGMNT. 216/292-5000 | TECHNICAL SERVICE 800/624-6832 |
| X | X | X | X | X | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|-------------------------------------|-----------------------------------|
| 1. COMPANY NAME | U.S. INTEC | U.S. INTEC |
| 2. PRODUCT NAME | SUPREME ELIMINATOR PERFORATED | WORKHORSE ULTRA BASE |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | X | X |
| Ply Sheet | | |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | II | II |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | II | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 39-5/8" | 39-5/8" |
| 6. MANUFACTURERS PLANT LOCATIONS | | |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | REGIONAL OFFICE | REGIONAL OFFICE |
| 11. TECHNICAL INFORMATION CONTACT | TECHNICAL SERVICE 800/62496832 | TECHNICAL SERVICE 800/62496832 |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

| | | | | | |
|-----------------------------------|---------------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|
| U.S. INTEC | U.S. INTEC | W. P. HICKMAN SYSTEMS, INC. | W.P. HICKMAN SYSTEMS, INC. | W.P. HICKMAN SYSTEMS, INC. | W. P. HICKMAN SYSTEMS, INC. |
| WORKHORSE ULTRA CAP | WORKHORSE ULTRA CAP PREMIER 730 | BUR PLUS POLYESTER PLY | BUR PLUS POLYESTER 200 | BUR PLUS POLYESTER 250 | PIKA PLY CAP SHEET |
| | | | | | |
| | | | | | |
| X | X | X | X | X | X |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | TYPE II | TYPE II | TYPE II | |
| | | | | | |
| | | | | | |
| | | | | | |
| 39-5/8" | 39-5/8" | 39-1/2" | | | 36" |
| | | WAMPUM, PA | WAMPUM, PA | WAMPUM, PA | WAMPUM, PA |
| | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DIRECT | DIRECT | DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES |
| REGIONAL OFFICE | REGIONAL OFFICE | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 |
| TECHNICAL SERVICE 800/62496832 | TECHNICAL SERVICE 800/62496832 | K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|--------------------------------|--------------------------------|
| 1. COMPANY NAME | W. P. HICKMAN SYSTEMS, INC. | W. P. HICKMAN SYSTEMS, INC. |
| 2. PRODUCT NAME | PREMIUM PLY | PERFORMANCE PLY |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | X |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | TYPE VI | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 39-1/2" |
| 6. MANUFACTURERS PLANT LOCATIONS | | |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 |
| 11. TECHNICAL INFORMATION CONTACT | K. BRZOZOWSKI | K. BRZOZOWSKI |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, 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. |
| MULTI-PLY GLASS | MULTI-PLY GLASS CL | PIKA PLY HI TEC 60 | PIKA PLY HI TEC 60 TYPE II | WEATHER PLY MA | WEATHER PLY MA FR |
| | | | | | |
| X | X | X | X | | |
| X | X | X | X | | |
| | | | | X | X |
| | | | | | |
| TYPE II | | | | | |
| | | | | | |
| | | | | | |
| | | X | X | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 36" | 36" | | | 39.5" | 39.5" |
| | | WAMPUM, PA | WAMPUM, PA | | |
| | | | | | |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES |
| S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 |
| K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI | K. BRZOZOWSKI |
| | | | | | |

Built-up Roofing, Part 1 - General Information

| | | |
|---|--------------------------------|--------------------------------|
| 1. COMPANY NAME | W. P. HICKMAN SYSTEMS, INC. | W. P. HICKMAN SYSTEMS, INC. |
| 2. PRODUCT NAME | HK GLASS PLY IV | HICKMAN WEATHER PLY |
| 3. PRODUCT DESCRIPTION | | |
| Base Sheet | | |
| Ply Sheet | X | X |
| Cap Sheet | | |
| 4. COMPLIES WITH: (indicate type where applicable) | | |
| 4A. BASE SHEETS: | | |
| ASTM D 4601, Asphalt glass-fiber mat base sheet (Type I or II) | | |
| ASTM D 4897, Asphalt glass-fiber mat venting base sheet (Type I or II) | | |
| ASTM D 2626, Asphalt organic base sheet (Indicate "X") | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4B. PLY SHEETS: | | |
| ASTM D 2178, Asphalt glass-fiber felt (Type III, IV or VI) | TYPE IV | |
| ASTM D 4990, Coal tar glass-fiber felt (Type I) | | |
| ASTM D 226, Asphalt organic felt (Type I) | | |
| ASTM D 227, Coal tar organic felt (indicate "X") | | |
| ASTM D 1668, Woven-glass fabric (Type I, II or III) | | |
| ASTM D 5665, Cold-applied thermoplastic fabric (Types I through VI) | | |
| ASTM D 5726, Hot-applied thermoplastic fabric (Types I through VI) | | |
| Other (indicate "X" and describe in Appendix) | | |
| 4C. CAP SHEETS: | | |
| ASTM D 249, Roll roofing with granules (Types I or II) | | |
| ASTM D 371, Roll roofing with granules, wide selvage (Type I, II, III, or IV) | | |
| ASTM D 3909, Glass-fiber felt roll roofing (indicate "X") | | |
| 5. PRODUCT WIDTH | 36" | 39-1/2" |
| 6. MANUFACTURERS PLANT LOCATIONS | | WAMPUM, PA |
| 7. METHOD OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT |
| 8. NUMBER OF REGIONAL LOCATIONS | 5 | 5 |
| 9. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES |
| 10. SALES INFORMATION CONTACT | S. HARNISH 440/248-7760 | S. HARNISH 440/248-7760 |
| 11. TECHNICAL INFORMATION CONTACT | K. BRZOZOWSKI | K. BRZOZOWSKI |
| 12. SEE MEMBRANE APPENDIX IF CHECKED | | |

Built-up Roofing, Part 1 - General Information

[illegible]

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|-----------------|-----------------|-----------------|
| 1. COMPANY NAME | BARRETT CO. | | |
| 2. SPECIFICATION NUMBER LEGEND | | | |
| 3. SPECIFICATION NUMBER | KLB100.1P-PR | KLB100.2P-I | K 312-2P-I |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | | X |
| Insulated | | | X |
| Non-nailable | | | X |
| 6. SLOPE REQUIREMENT (range in inches) | 0 - 3 | 0 - 3 | 0 - 3 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 1 | 2 | 2 |
| Base Sheet | | | |
| Interply(ies) | 1 | 2 | 2 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | | | |
| Organic | | | |
| Asbestos | | | |
| Polyester | X | X | X |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | | | |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | X | X |
| Slag (lbs/ft²) | | X | X |
| Crushed Rock (lbs/ft²) | | X | X |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | X | X | |
| Aluminum Coating | X | X | X |
| Vinyl/Vinyl Coating | X | X | X |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | X | X | X |
| Cap Sheet | X | X | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | X |
| 11A. FLASHING MATERIALS | POLYESTER | POLYESTER | POLYESTER |
| 11B. FLASHING METHOD | STANDARD BUR | STANDARD BUR | STANDARD BUR |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 0 - 6 | 0 - 6 | 2 - 6 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | X | X | X |

Built-up Roofing, Part 2 - Specifications

| K 312-3P-I | K 312-4P-I | CP 80-3P | CP 80-3M | CP 80-4P | KLB100-3F-I | KLB100-4F-I | KLB100-2M | KLB100-3M |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| HOT | HOT | COLD | COLD | COLD | HOT | HOT | HOT | HOT |
| | | | | | X | X | X | X |
| | | | | | X | X | X | X |
| | | | | | X | X | X | X |
| 0 - 3 | 0 - 3 | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 | 0 - 3 | 0 - 3 | 0 - 3 | 0 - 3 |
| 3 | 4 | 3 | 3 | 4 | 3 | 4 | 2 | 3 |
| | | | 1 | 1 | | | 1 | 1 |
| 3 | 4 | 3 | 2 | 2 | 3 | 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 | | | | |
| X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | X | | | |
| X | X | X | X | X | X | | | |
| X | X | X | X | X | X | | | |
| | | | | | | | | |
| X | X | | | | X | | | |
| X | X | X | X | X | X | | | |
| X | X | | | | X | | | |
| POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR | STANDARD BUR |
| 2 - 6 | 2 - 6 | 2 - 6 | 2 - 6 | 2 - 6 | 2 - 6 | 2 - 4 | 2 - 6 | 2 - 6 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|---|--------|--------|
| 1. COMPANY NAME | CERTAINTEED CORPORATION | | |
| 2. SPECIFICATION NUMBER LEGEND | <p>SYSTEM SURFACE: G = Gravel surface M = Mineral surface SR = Smooth reinforced S = Smooth</p> <p>DECK TYPE: C = Non Nailable N = Nailable</p> | | |
| 3. SPECIFICATION NUMBER | G-C-04 | G-N-04 | G-C-B4 |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | |
| Insulated | X | X | X |
| Non-nailable | X | | X |
| 6. SLOPE REQUIREMENT (range in inches) | 0 – 3 | 0 – 3 | 0 – 3 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 4 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 3 | 3 | 3 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | | | X |
| Organic | X | X | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | | | |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 4 | 4 | 4 |
| Slag (lbs/ft²) | 3 | 3 | 3 |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | |
|--------------------|-------------------------|
| BASE SHEET: | TOTAL # PLIES (SYSTEM): |
| B = Base Sheet | 2 |
| P = Ply Sheet | 3 |
| O = Organic System | 4 |
| | 5 |

| | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| G-N-B4 | G-C-P4 | G-C-B3 | G-N-B3 | G-C-P3 | M-C-04 | M-N-04 | M-C-B4 | M-N-B4 |
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT/CA | HOT/CA |
| 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 – 6 | 0 – 6 | 0 – 6 | 0 – 6 |
| 4 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| 1 | | 1 | 1 | | 1 | 1 | 1 | 1 |
| 3 | 4 | 2 | 2 | 3 | 2 | 2 | 2 | 2 |
| | | | | | 1 | 1 | 1 | 1 |
| X | X | X | X | X | X | X | X | |
| | | | | | X | X | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | |
| | | | | | | | | |
| | | | | | | | X | |
| 4 | 4 | 4 | 4 | 4 | | | | |
| 3 | 3 | 3 | 3 | 3 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | X | X | X | |
| | | | | | | | | |
| | | | | | | | | |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|---|--------|--------|
| 1. COMPANY NAME | CERTAINTEED CORPORATION | | |
| 2. SPECIFICATION NUMBER LEGEND | <p>SYSTEM SURFACE: G = Gravel surface M = Mineral surface SR = Smooth reinforced S = Smooth</p> <p>DECK TYPE: C = Non Nailable N = Nailable</p> | | |
| 3. SPECIFICATION NUMBER | M-C-B3 | M-N-B3 | M-C-B5 |
| 4. HOT AND/OR COLD APPLIED | HOT/CA | HOT/CA | HOT/CA |
| 5. DECK TYPE | | | |
| Nailable | | X | |
| Insulated | X | X | X |
| Non-nailable | X | | X |
| 6. SLOPE REQUIREMENT (range in inches) | 0 – 6 | 0 – 6 | 0 – 6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 5 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 1 | 1 | 3 |
| Cap Sheet | 1 | 1 | 1 |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | | | |
| Coal Tar | | | |
| Elastomeric Adhesive | X | X | X |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | X | X | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | 1 | 1 | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | | | | ECOLOGY ROOF SYSTEMS | |
|---|---------|---------|--------|--------|--------|--------|--|------------|
| BASE SHEET: TOTAL # PLIES (SYSTEM): B = Base Sheet 2 P = Ply Sheet 3 O = Organic System 4 5 | | | | | | | SEE NEXT PAGE FOR SPECIFICATION LEGEND | |
| M-N-B5 | SR-C-B3 | SR-N-B3 | S-C-B4 | S-N-B4 | S-C-B3 | S-N-B3 | 1000-3IN-M | 1000-3IN-C |
| HOT/CA | HOT/CA | HOT/CA | HOT/CA | HOT/CA | HOT/CA | HOT/CA | HOT | HOT |
| 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 | 0-1 | 0-1 |
| 5 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 2 |
| 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 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 1.60 | 1.62 |
| NONE | 1 & 2 | 1 & 2 | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|-------------|-------------|
| 1. COMPANY NAME | ECOLOGY ROOF SYSTEMS | | |
| 2. SPECIFICATION NUMBER LEGEND | 1000 SERIES BUR 3 = # of Plies 4 = # of Plies SUBSTRATE TYPE: IN = Insulated ND - Nailable Deck LWT = Lightweight Concrete CON = Concrete | | |
| 3. SPECIFICATION NUMBER | 1000-3IN-G | 1000-3-ND-M | 1000-3-ND-C |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | X |
| Insulated | X | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0 - 1 | 0 - 1 | 0 - 1 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 3 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 2 | 1 | 2 |
| Cap Sheet | | 1 | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 4 | | |
| Slag (lbs/ft²) | 3 | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | X |
| Aluminum Coating | | | X |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | X | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 5.70 | 1.60 | 1.62 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

SYSTEM SURFACE:

M = Mineral Surface

C = Coated Surface

G = Gravel

| 1000-3-ND-G | 1000-3-CON-M | 1000-3-CON-C | 1000-4-IN-G | 1000-4-ND-M | 1000-4-ND-C | 1000-4-ND-G | 1000-4-CON-M | 1000-4-CON-C |
|-------------|--------------|--------------|-------------|-------------|-------------|-------------|--------------|--------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | | | | X | X | X | | |
| | X | X | X | | | | X | X |
| | | | | | | | | |
| 0 - 1 | 0 - 2 | 0 - 2 | 0 - 1 | 0 - 1 | 0 - 1 | 0 - 1 | 0 - 2 | 0 - 2 |
| 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 3 |
| | 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 |
| | | | | | | | | |
| | | | | | | | | |
| 4 | | | 4 | | | 4 | | |
| 3 | | | 3 | | | 3 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | | | X | | | X |
| | | X | | | X | | | X |
| | | | | | | | | |
| | | | | | | | | |
| | X | | | X | | | X | |
| | | | | | | | | |
| | | | | | | | | |
| 5.70 | 1.60 | 1.62 | 6.0 | 2.0 | 2.0 | 6.0 | 2.0 | 2.0 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|--------------|--------------|
| 1. COMPANY NAME | ECOLOGY ROOF SYSTEMS | | |
| 2. SPECIFICATION NUMBER LEGEND | 1000 SERIES BUR 3 = # of Plies 4 = # of Plies SUBSTRATE TYPE: IN = Insulated ND - Nailable Deck LWT = Lightweight Concrete CON = Concrete | | |
| 3. SPECIFICATION NUMBER | 1000-3-CON-G | 1000-3-LWT-M | 1000-3-LWT-C |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | X |
| Insulated | | | |
| Non-nailable | X | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0 - 2 | 0 - 2 | 0 - 2 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 3 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 2 | 1 | 2 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 4 | | |
| Slag (lbs/ft²) | 3 | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | X |
| Aluminum Coating | | | X |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | X | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 5.7 | 1.6 | 1.6 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | | | | FIELDS COMPANY, LLC | |
|--|-------------|-------------|--------------|--------------|--------------|--------------|--|--------------|
| SYSTEM SURFACE: M = Mineral Surface C = Coated Surface G = Gravel | | | | | | | SEE NEXT PAGE FOR SPECIFICATION LEGEND | |
| 1000-3-LWT-G | 1000-4-IN-M | 1000-4-IN-C | 1000-4-C0N-G | 1000-4-LWT-M | 1000-4-LWT-C | 1000-4-LWT-G | H-337-P(F58) | H-335-P(F58) |
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | | | | X | X | X | X | X |
| | X | X | X | | | | X | X |
| | | | | | | | X | X |
| 0 - 2 | 0 - 1 | 0 - 1 | 0 - 2 | 0 - 2 | 0 - 2 | 0 - 2 | | |
| 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 |
| | 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 | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | | | 4 | | | 4 | | |
| 3 | | | 3 | | | 3 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | | | X | | | |
| | | X | | | X | | | |
| | | | | | | | | |
| | | | | | | | | |
| | X | | | X | | | X | X |
| | | | | | | | | |
| | | | | | | | | |
| 5.7 | 2.0 | 2.0 | 6.0 | 2.0 | 2.0 | 6.0 | 2.50 | 2.50 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|--------------|--------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | | |
| 2. SPECIFICATION NUMBER LEGEND | ASPHALT CLASS: B = SEBS Ambient M = SEBS Hot A = Ambient Asphalt H = Hot Asphalt | | |
| 3. SPECIFICATION NUMBER | H-X36-P(F58) | H-226-P(M68) | H-626-P(M68) |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | X |
| Insulated | X | X | X |
| Non-nailable | X | X | X |
| 6. SLOPE REQUIREMENT (range in inches) | | | |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 4 |
| Base Sheet | 0 | 1 | 1 |
| Interply(ies) | 3 | 2 | 2 |
| Cap Sheet | 1 | 1 | 1 |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | | | |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | X | X | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 2.10 | 2.10 | 2.10 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | X | X | X |

Built-up Roofing, Part 2 - Specifications

[illegible]

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|--------------------------------------|--------------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | | |
| 2. SPECIFICATION NUMBER LEGEND | <p>DECK TYPE:</p> <p>I = Insulated</p> <p>S = Steel</p> <p>C = Concrete</p> <p>P = Primed</p> <p>N = Nailable; Plyood / OSB; Gypsum; Plywood / OSB; Cementitious Wood Fiber</p> <p>L = Lightweight Concrete</p> <p>E = Existing Smooth BUR or Modified Bitumen</p> | | |
| 3. SPECIFICATION NUMBER | I-3F-G | I-3F-AL | I-3F-AC |
| 4. HOT AND/OR COLD APPLIED | X | X | X |
| 5. DECK TYPE | | | |
| Nailable | | | |
| Insulated | X | X | X |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 1/4-3 | 1/4-6 | 1/4-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 3 |
| Base Sheet | | | |
| Interply(ies) | | | |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 5 | | |
| Slag (lbs/ft²) | 4 | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | X | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | X |
| 11A. FLASHING MATERIALS | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| 11B. FLASHING METHOD | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.6 | 1.5 | 1.1 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | X | X | |

Built-up Roofing, Part 2 - Specifications

BASE OR INTERPLY TYPE:

M = MB Base M 32 = SBS Base
V = Vent Base M 44 = SBS Premium Base
F = Ply IV (4) M 45 = Poly Torch Base
G = Ply VI (6) M 46 = SBS Glass Torch Base
S = SBS Base 47 = SBS Glass Base SA
X = SBS 48 = MB Base SA
Premium Base
80 = APP Glass Base

MEMBRANE TYPES:

30 = SBS
31 = SBS FR
32 = SBS Smooth
33 = SBS Premium
36 = SBS Premium FR
37 = SBS Premium FR Torch
40 = SBS Torch
41 = SBS Torch FR
42 = SBS Metal Flash AL

SURFACING:

16 = APP 160 M = Mineral Granules
17 = APP 170 G = Flood Coat & Gravel
18 = APP 180 AC = Acrylic Coating
18 FR = APP 180 FR
AL = Aluminum Coating
P = PMR
N = None

| I-4F-G | I-4F-AL | I-4-F-AC | I-3G-G | I-3G-AL | I-3G-AC | I-4G-G | I-4G-AL | I-4G-AC |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| x | x | X | X | X | X | X | X | X |
| | | | | | | | | |
| X | X | X | | | | | | |
| | | | | | | | | |
| 1/4-3 | 1/4-6 | 1/4-6 | 1/4-3 | 1/4-6 | 1/4-6 | | 1/4-6 | |
| | | | | | | | | |
| 4 | 4 | 4 | 3 | 3 | 3 | 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 |
| | | | | | | | | |
| | | | | | | | | |
| 5 | | | 5 | | | 5 | | |
| 4 | | | 4 | | | 4 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | X | | | X | | | X | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | | | X | | | X |
| Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 6.9 | 1.8 | 1.4 | 6.6 | 1.5 | 1.1 | 6.9 | 1.8 | 1.4 |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|--------------------------------------|--------------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | | |
| 2. SPECIFICATION NUMBER LEGEND | DECK TYPE: I = Insulated S = Steel C = Concrete P = Primed N = Nailable; Plyood / OSB; Gypsum; Plywood / OSB; Cementitious Wood Fiber L = Lightweight Concrete E = Existing Smooth BUR or Modified Bitumen | | |
| 3. SPECIFICATION NUMBER | N-3F-G | N-3F-AL | N-3F-AC |
| 4. HOT AND/OR COLD APPLIED | X | X | X |
| 5. DECK TYPE | | | |
| Nailable | | | |
| Insulated | | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 1/4-3 | 1/4-6 | 1/4-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 3 |
| Base Sheet | X | X | X |
| Interply(ies) | | | |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 5 | | |
| Slag (lbs/ft²) | 4 | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | X | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | X |
| 11A. FLASHING MATERIALS | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| 11B. FLASHING METHOD | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.6 | 1.5 | 1.1 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE OR INTERPLY TYPE:

M = MB Base M
V = Vent Base M
F = Ply IV (4) M
G = Ply VI (6) M
S = SBS Base
X = SBS
Premium Base
32 = SBS Base
44 = SBS Premium Base
45 = Poly Torch Base
46 = SBS Glass Torch Base
47 = SBS Glass Base SA
48 = MB Base SA
80 = APP Glass Base

MEMBRANE TYPES:

30 = SBS
31 = SBS FR
32 = SBS Smooth
33 = SBS Premium
36 = SBS Premium FR
37 = SBS Premium FR Torch
40 = SBS Torch
41 = SBS Torch FR
42 = SBS Metal Flash AL

SURFACING:

16 = APP 160
17 = APP 170
18 = APP 180
18 FR = APP 180 FR
M = Mineral Granules
G = Flood Coat & Gravel
AC = Acrylic Coating
AL = Aluminum Coating
P = PMR
N = None

| N-4F-G | N-AF-AL | N-4F-AC | N-3G-G | N-3G-AL | N-3G-AC | N-4G-G | N-4G-AL | N-4G-AC |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| X | X | X | | | | | | |
| | | | | | | | | |
| 1/4-3 | 1/4-6 | 1/4-6 | 1/4-3 | 1/4-6 | 1/4-6 | 1/4-3 | 1/4-6 | 1/4-6 |
| 4 | 4 | 4 | 3 | 3 | 3 | 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 | X | X | X | X | X | X | X |
| | | | | | | | | |
| 5 | | | 5 | | | 5 | | |
| 4 | | | 4 | | | 4 | | |
| | | | | | | | | |
| | | | | | | | | |
| | X | | | X | | X | | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | | | X | | | X |
| Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 639 | 138 | 1.4 | 6.6 | 1.5 | 1.1 | 6.9 | 1.8 | 1.4 |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|---|---|---|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | | |
| 2. SPECIFICATION NUMBER LEGEND | <p>DECK TYPE:</p> <p>I = Insulated</p> <p>S = Steel</p> <p>C = Concrete</p> <p>P = Primed</p> <p>N = Nailable; Plywood / OSB; Gypsum; Plywood / OSB; Cementitious Wood Fiber</p> <p>L = Lightweight Concrete</p> <p>E = Existing Smooth BUR or Modified Bitumen</p> | | |
| 3. SPECIFICATION NUMBER | C-3F-G | F-3F-AL | F-3F-AC |
| 4. HOT AND/OR COLD APPLIED | HOT | X | X |
| 5. DECK TYPE | | | |
| Nailable | | | |
| Insulated | X | X | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 1/4-3 | 1/4-6 | 1/4-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 4 |
| Base Sheet | | | |
| Interply(ies) | | | |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 5 | | |
| Slag (lbs/ft²) | 4 | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | X | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| 11B. FLASHING METHOD | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.6 | 1.5 | 1.1 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE OR INTERPLY TYPE:

M = MB Base M 32 = SBS Base
V = Vent Base M 44 = SBS Premium Base
F = Ply IV (4) M 45 = Poly Torch Base
G = Ply VI (6) M 46 = SBS Glass Torch Base
S = SBS Base 47 = SBS Glass Base SA
X = SBS 48 = MB Base SA
Premium Base
80 = APP Glass Base

MEMBRANE TYPES:

30 = SBS
31 = SBS FR
32 = SBS Smooth
33 = SBS Premium
36 = SBS Premium FR
37 = SBS Premium FR Torch
40 = SBS Torch
41 = SBS Torch FR
42 = SBS Metal Flash AL

SURFACING:

16 = APP 160 M = Mineral Granules
17 = APP 170 G = Flood Coat & Gravel
18 = APP 180 AC = Acrylic Coating
18 FR = APP 180 FR
AL = Aluminum Coating
P = PMR
N = None

| C-4F-G | C-4F-AL | C-4F-AC | C-3G-G | C-3G-AL | C-3G-AC | C-4G-G | C-4G-AL | C-4G-AC |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
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| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1/4-3 | 1/4-6 | 1/4-6 | 1/4-3 | 1/4-6 | 1/4-6 | 1/4-3 | 1/4-6 | 1/4-6 |
| 4 | 4 | 4 | 3 | 3 | 3 | 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 |
| | | | | | | | | |
| | | | | | | | | |
| 5 | | | 5 | | | 5 | | |
| 4 | | | 4 | | | 4 | | |
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| | | | | | | | | |
| | X | | | X | | | X | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | | | X | | | X |
| Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes | Base, Interply and Mod Bit Membranes |
| Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive | Hot Asphalt, Torch or Cold Adhesive |
| 6.9 | 1.8 | 1.4 | 6.6 | 1.5 | 1.1 | 6.9 | 1.8 | 1.4 |
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Built-up Roofing, Part 2 - Specifications

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|------|--|--|-------------------------------|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | GAF MATERIALS CORP. | | | |
| 2. | SPECIFICATION NUMBER LEGEND | SEE NEXT PAGE FOR SPECIFICATION MATRIX | | | |
| 3. | SPECIFICATION NUMBER | NN-O-4-G | I-O-4-G | NN-O-4-C | I-O-4-C |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT | HOT |
| 5. | DECK TYPE | | | | |
| | Nailable | | | | |
| | Insulated | | X | | X |
| | Non-nailable | X | | X | |
| 6. | SLOPE REQUIREMENT (range in inches) | 0 - 3 | 0 - 3 | 0 - 6 | 0 - 6 |
| 7. | NUMBER OF PLIES | | | | |
| | Total Plies | 4 | 4 | 4 | 4 |
| | Base Sheet | | | | |
| | Interply(ies) | 4 | 4 | 4 | 4 |
| | Cap Sheet | | | | |
| 8. | TYPE OF PLY SHEET | | | | |
| | Glass Fiber | X | X | X | X |
| | Organic | | | | |
| | Asbestos | | | | |
| | Polyester | | | | |
| | Other | | | | |
| 9. | INTERPLY ADHESIVE | | | | |
| | Asphalt | X | X | X | X |
| | Modified Asphalt | X | X | X | X |
| | Coal Tar | | | | |
| | Elastomeric Adhesive | | | | |
| 10A. | SURFACING -- AGGREGATE | | | | |
| | Gravel (lbs/ft²) | 4 | 4 | | |
| | Slag (lbs/ft²) | 3 | 3 | | |
| | Crushed Rock (lbs/ft²) | 4 | 4 | | |
| 10B. | SURFACING -- SMOOTH | | | | |
| | Asphalt | | | X | X |
| | Coal Tar | | | | |
| | Emulsion/Cutback | | | X | X |
| | Aluminum Coating | | | X | X |
| | Vinyl/Vinyl Coating | | | | |
| 10C. | SURFACING - OTHER | | | | |
| | Mineral Granules | | | | |
| | Cap Sheet | | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | | |
| 11A. | FLASHING MATERIALS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS |
| 11B. | FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6 | 6 | 2 | 2 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE |
| 14. | TEST RESULTS PER NBS BBS #55 | | | | |
| | MD = Machine Direction; XD = Cross Direction | | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | | | | |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | | | | |
| 14C. | Thermal Base Shock (not < 100°F) | | | | |
| 15. | SEE APPENDIX IF CHECKED | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

SUBSTRATE:

I = Insulated
N = Nailable
NN = Non-nailable

BASE SHEET:

B = Bse Sheet
O = No Base Sheet

TOTAL PLIES:

3 = 3 Plies
4 = 4 Plies

SURFACING:

G = Bitumen & Gravel
C = Coating
M = Mineral Surfaced Cap Sheet

| NN-B-4-G | I-B-4-G | NN-B-4-C | I-B-4-C | NN-0-3-G | I-0-3-G | NN-B-3-6 | I-B-3-G | NN-0-3-C |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| | | | | | | | | |
| | X | | X | | X | | X | |
| X | | X | | X | | X | | X |
| 0 - 3 | 0 - 3 | 0 - 6 | 0 - 6 | 0 - 3 | 0 - 3 | 0 - 3 | 0 - 3 | 0 - 6 |
| 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 |
| 1 | 1 | 1 | 1 | | | 1 | 1 | |
| 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 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 |
| | | | | | | | | |
| | | | | | | | | |
| 4 | 4 | | | 4 | 4 | 4 | 4 | |
| 3 | 3 | | | 3 | 3 | 3 | 3 | |
| 4 | 4 | | | 4 | 4 | 4 | 4 | |
| | | | | | | | | |
| | | X | X | | | | | X |
| | | | | | | | | |
| | | X | X | | | | | X |
| | | X | X | | | | | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH |
| MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 6 | 6 | 2 | 2 | 6 | 6 | 6 | 6 | 2 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | | | |
|------|--|--|-------------------------------|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | GAF MATERIALS CORP. | | | |
| 2. | SPECIFICATION NUMBER LEGEND | SEE NEXT PAGE FOR SPECIFICATION MATRIX | | | |
| 3. | SPECIFICATION NUMBER | I-O-3-C | NN-B-3-C | I-B-3-C | NN-O-4-M |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT | HOT |
| 5. | DECK TYPE | | | | |
| | Nailable | | | | |
| | Insulated | X | | X | |
| | Non-nailable | | X | | X |
| 6. | SLOPE REQUIREMENT (range in inches) | 0 - 6 | 0 - 6 | 0 - 6 | 0 - 6 |
| 7. | NUMBER OF PLIES | | | | |
| | Total Plies | 3 | 3 | 3 | 4 |
| | Base Sheet | | | 1 | |
| | Interply(ies) | 3 | 3 | 2 | 3 |
| | Cap Sheet | | | | 1 |
| 8. | TYPE OF PLY SHEET | | | | |
| | Glass Fiber | X | X | X | X |
| | Organic | | | | |
| | Asbestos | | | | |
| | Polyester | | | | |
| | Other | | | | |
| 9. | INTERPLY ADHESIVE | | | | |
| | Asphalt | X | X | X | X |
| | Modified Asphalt | X | X | X | X |
| | Coal Tar | | | | |
| | Elastomeric Adhesive | | | | |
| 10A. | SURFACING -- AGGREGATE | | | | |
| | Gravel (lbs/ft²) | | | | |
| | Slag (lbs/ft²) | | | | |
| | Crushed Rock (lbs/ft²) | | | | |
| 10B. | SURFACING -- SMOOTH | | | | |
| | Asphalt | X | X | X | |
| | Coal Tar | | | | |
| | Emulsion/Cutback | X | X | X | |
| | Aluminum Coating | X | X | X | |
| | Vinyl/Vinyl Coating | | | | |
| 10C. | SURFACING - OTHER | | | | |
| | Mineral Granules | | | | |
| | Cap Sheet | | | | X |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | | |
| 11A. | FLASHING MATERIALS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS |
| 11B. | FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 2 | 2 | 2 | 2 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE |
| 14. | TEST RESULTS PER NBS BBS #55 | | | | |
| | MD = Machine Direction; XD = Cross Direction | | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | | | | |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | | | | |
| 14C. | Thermal Base Shock (not < 100°F) | | | | |
| 15. | SEE APPENDIX IF CHECKED | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

SUBSTRATE:

I = Insulated
N = Nailable
NN = Non-nailable

BASE SHEET:

B = Bse Sheet
O = No Base Sheet

TOTAL PLIES:

3 = 3 Plies
4 = 4 Plies

SURFACING:

G = Bitumen & Gravel
C = Coating
M = Mineral Surfaced Cap Sheet

| I-O-4-M | NN-B-4-M | I-B-4-M | NN-O-3-M | I-O-3-M | N-B-4-G | N-B-4-C | N-B-3-G | N-B-3-C |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| | | | | | X | X | X | X |
| X | X | X | X | X | | | | |
| 0 - 6 | 0 - 6 | 0 - 6 | 0 - 6 | 0 - 6 | 0 - 3 | 0 - 6 | 0 - 3 | 0 - 6 |
| 4 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 3 |
| 3 | 1 | 1 | | | 1 | 1 | 1 | 1 |
| 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 |
| 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 |
| | | | | | | | | |
| | | | | | 4 | | 4 | |
| | | | | | 3 | | 3 | |
| | | | | | 4 | | 4 | |
| | | | | | | X | | X |
| | | | | | | X | | X |
| | | | | | | X | | X |
| | | | | | | | | |
| X | X | X | X | X | | | | |
| | | | | | | | | |
| RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH | RUBEROID TORCH |
| MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS | MOP/GAFGLAS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 2 | 2 | 2 | 2 | 2 | 6 | 2 | 6 | 2 |
| | | | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | | | |
|------|--|--|-------------------------------|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | GAF MATERIALS CORP. | | | |
| 2. | SPECIFICATION NUMBER LEGEND | <div> SUBSTRATE: I = Insulated N = Nailable NN = Non-nailable </div> <div> TOTAL PLIES: 3 = 3 Plies 4 = 4 Plies </div> <div> BASE SHEET: B = Bse Sheet O = No Base Sheet </div> <div> SURFACING: G = Bitumen & Gravel C = Coating M = Mineral Surfaced CAP SHEET </div> | | | |
| 3. | SPECIFICATION NUMBER | N-B-4-M | N-B-3-M | I-B-5-M | NN-B-5-M |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT | HOT |
| 5. | DECK TYPE | | | | |
| | Nailable | X | X | | |
| | Insulated | | | X | |
| | Non-nailable | | | | X |
| 6. | SLOPE REQUIREMENT (range in inches) | | | | |
| 7. | NUMBER OF PLIES | | | | |
| | Total Plies | 4 | 3 | 5 | 5 |
| | Base Sheet | 1 | 1 | 1 | 1 |
| | Interply(ies) | 2 | 1 | 3 | 3 |
| | Cap Sheet | 1 | 1 | 1 | 1 |
| 8. | TYPE OF PLY SHEET | | | | |
| | Glass Fiber | X | X | X | X |
| | Organic | | | | |
| | Asbestos | | | | |
| | Polyester | | | | |
| | Other | | | | |
| 9. | INTERPLY ADHESIVE | | | | |
| | Asphalt | X | X | X | X |
| | Modified Asphalt | X | X | X | X |
| | Coal Tar | | | | |
| | Elastomeric Adhesive | | | | |
| 10A. | SURFACING -- AGGREGATE | | | | |
| | Gravel (lbs/ft²) | | | | |
| | Slag (lbs/ft²) | | | | |
| | Crushed Rock (lbs/ft²) | | | | |
| 10B. | SURFACING -- SMOOTH | | | | |
| | Asphalt | | | | |
| | Coal Tar | | | | |
| | Emulsion/Cutback | | | | |
| | Aluminum Coating | | | | |
| | Vinyl/Vinyl Coating | | | | |
| 10C. | SURFACING - OTHER | | | | |
| | Mineral Granules | | | | |
| | Cap Sheet | X | X | X | X |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | | |
| 11A. | FLASHING MATERIALS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS | RUBEROID TORCH MOP/GAFGLAS |
| 11B. | FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 2 | 2 | 2 | 2 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE |
| 14. | TEST RESULTS PER NBS BBS #55 | | | | |
| | MD = Machine Direction; XD = Cross Direction | | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | | | | |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | | | | |
| 14C. | Thermal Base Shock (not < 100°F) | | | | |
| 15. | SEE APPENDIX IF CHECKED | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

| HENRY CO. | | | | | | | | |
|---|----------------------|----------------------|---|----------------------|----------------------|---|----------------------|----------------------|
| H = HENRY 2, 3, 4 = # of Plies DECK TYPE: I = Insulated & Non-nailable N - Nailable | | | PLY TYPE: M = Modified G = Fiberglass Sheets P = Polyester | | | SURFACING: R = Ruftac C = Cutback E = Emulsion GV = Gravel CR = Cutback + Reflective Coating GN = Ganules MR - Monolithic + Reflective Coating | | |
| H3-NGC-MR | H4-NGC-MR | H3-IBC-MR | H4-IGC-MR | H3-IGC-GV/VGN | H4-IGC-GV/GN | H3-NPE-MR | H3-IPE-MR | H3-NPE-GV-GN |
| COLD | COLD | COLD | COLD | COLD | COLD | COLD | COLD | COLD |
| X | X | | | X | X | X | | X |
| | | X | X | | | | X | |
| | | X | X | | | | X | |
| 1/8 - 3 | 0 - 3 | 1/8 - 3 | 0 - 3 | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 |
| 3 | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 3 |
| 1 | 1 | | | 1 | 1 | 1 | 1 | 1 |
| 2 | 3 | 3 | 4 | 2 | 3 | 2 | 2 | 2 |
| X | X | X | X | X | X | | | |
| | | | | | | | | |
| | | | | | | X | X | X |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| | | | | 4 | 4 | | | 4 |
| | | | | 3 | 3 | | | 3 |
| | | | | 4 | 4 | | | 4 |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| X | X | X | X | | | X | X | |
| | | | | | | | | |
| | | | | X | X | | | X |
| | | | | | | | | |
| MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 |
| M, R, P | M, R, P | M, R, P | M, R, P | M, R, P | M, R, P | M, R, P | M, R, P | M, R, P |
| COLD | COLD | COLD | COLD | COLD | COLD | COLD | COLD | COLD |
| 196 | 234 | 215 | 252 | 578 | 616 | 169 | 132 | 547 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | | |
|------|--|--|----------------------|------------------|
| 1. | COMPANY NAME | HENRY CO. | | |
| 2. | SPECIFICATION NUMBER LEGEND | SEE PREVIOUS PAGE FOR SPECIFICATION IDENTIFICATION MATRIX | | |
| 3. | SPECIFICATION NUMBER | H3-IPE-GV/GN | H3-NGC- GV/GN | H3-NGC- GV/GN |
| 4. | HOT AND/OR COLD APPLIED | COLD | COLD | COLD |
| 5. | DECK TYPE | | | |
| | Nailable | | X | X |
| | Insulated | X | | |
| | Non-nailable | X | | |
| 6. | SLOPE REQUIREMENT (range in inches) | 1/8 - 3 | 1/8 - 1/2 | 1/8 - 1/4 |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | | 3 | |
| | Base Sheet | | 1 | |
| | Interply(ies) | | 2 | |
| | Cap Sheet | | | |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | | X | X |
| | Organic | | | |
| | Asbestos | | | |
| | Polyester | X | | |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | | | |
| | Modified Asphalt | | | |
| | Coal Tar | | | |
| | Elastomeric Adhesive | X | X | X |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | 4 | 4 | 4 |
| | Slag (lbs/ft²) | 3 | 3 | 3 |
| | Crushed Rock (lbs/ft²) | 4 | 4 | 4 |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | | | |
| | Coal Tar | | | |
| | Emulsion/Cutback | X | X | X |
| | Aluminum Coating | | | |
| | Vinyl/Vinyl Coating | | | |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | X | X | X |
| | Cap Sheet | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | MODIFIED PLUS NP 180 | MODIFIED PLUS NP 180 | M, R, P |
| 11B. | FLASHING METHOD | M, R, P COLD | M, R, P COLD | COLD |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 509 | 646 | 646 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. | TEST RESULTS PER NBS BBS #55 | | | |
| | MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | | | |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | | | |
| 14C. | Thermal Base Shock (not < 100°F) | | | |
| 15. | SEE APPENDIX IF CHECKED | X | X | X |

[illegible]

Built-up Roofing, Part 2 - Specifications

| | | | |
|--|---|---------------|---------------|
| COMPANY NAME | HONEYWELL | | |
| SPECIFICATION NUMBER LEGEND | (RP) COAL TAR SYSTEMS 3, 4, 5 = # OF PLIES TC = TAR COATED GLASS BS = BASE SHEET | | |
| SPECIFICATION NUMBER | RP-51-TC-4 | RP-51-TC-BS-4 | RP-41-3 |
| HOT AND/OR COLD APPLIED | HOT | HOT | HO9T |
| DECK TYPE | | | |
| Nailable | | | |
| Insulated | X | X | X |
| Non-nailable | X | X | X |
| SLOPE REQUIREMENT (range in inches) | 0 - 1/4 | 0 - 1/4 | 0 - 1/2 |
| NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 3 |
| Base Sheet | | 1 | |
| Interply(ies) | 4 | 3 | 3 |
| Cap Sheet | | | |
| TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | |
| Organic | | | X |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| INTERPLY ADHESIVE | | | |
| Asphalt | | X | |
| Modified Asphalt | | | |
| Coal Tar | X | X | X |
| Elastomeric Adhesive | | | |
| SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | 4 | 4 | 4 |
| Slag (lbs/ft²) | 3 | 3 | 3 |
| Crushed Rock (lbs/ft²) | | | |
| SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | X | X |
| FLASHING MATERIALS | | | |
| FLASHING METHOD | HOT / COLD | HOT / COLD | HOT / COLD |
| WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.0 | 6.0 | 6.0 |
| RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | JOHNS MANVILLE | | | | | | |
|------------|---|------------|------------|------------|------------|------------|------------|
| | 3, 4, 5 = # of Plies TYPE OF PLY G = Fiberglass SUBSTRATE: I = Insulated &/or Non-Nailable N = Nailable L = Lightweight Concrete SURFACING: G = Gravel S = Smooth C = Cap Sheet P = Protected | | | | | | |
| RP-51-TC-3 | 5GNS | 4GNS | 3GNS | 4GIS | 3GIS | 4GIG | 3GIG |
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| | X | X | X | X | | | |
| X | | | | | X | X | X |
| X | | | | | X | X | X |
| 0 - 1/4 | 0 - 6 | 0 - 6 | | | | | 0 - 6 |
| 3 | 5 | 4 | 3 | 4 | 3 | 4 | 3 |
| | 1 | 1 | 1 | | | | |
| 3 | 4 | 3 | 2 | 4 | 3 | 4 | 3 |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| | | | | | | | |
| | X | X | X | X | X | X | X |
| X | | | | | | | |
| | | | | | | | |
| 4 | | | | | | X | 400 |
| 3 | | | | | | | 300 |
| | | | | | | | |
| | X | X | X | X | X | | |
| | X | X | X | X | X | | |
| | X | X | X | X | X | | |
| | | | | | | | |
| | | | | | | | |
| X | | | | | | | |
| | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX |
| HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD |
| 6.0 | 1.6 | 1.3 | 1.3 | 1.4 | 1.1 | 6.3 | 6.0 |
| NONE | | | | | | | |
| | | | | | | | |
| | 404 | 357 | 288 | 404 | 310 | 404 | 310 |
| | 351 | 343 | 247 | 351 | 331 | 351 | 331 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | |
|------|--|---|---------------|---------------|
| 1. | COMPANY NAME | JOHNS MANVILLE | | |
| 2. | SPECIFICATION NUMBER LEGEND | 3, 4, 5 = # of Plies TYPE OF PLY G = Fiberglass | | |
| 3. | SPECIFICATION NUMBER | 5GNS | 4GNS | 3GNS |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. | DECK TYPE | | | |
| | Nailable | X | X | X |
| | Insulated | | | |
| | Non-nailable | | | |
| 6. | SLOPE REQUIREMENT (range in inches) | 0 - 6 | 0 - 6 | |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | 5 | 4 | 3 |
| | Base Sheet | 1 | 1 | 1 |
| | Interply(ies) | 4 | 3 | 2 |
| | Cap Sheet | | | |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | X | X | X |
| | Organic | | | |
| | Asbestos | | | |
| | Polyester | | | |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | X | X | X |
| | Modified Asphalt | | | |
| | Coal Tar | | | |
| | Elastomeric Adhesive | | | |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | | | |
| | Slag (lbs/ft²) | | | |
| | Crushed Rock (lbs/ft²) | | | |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | X | X | X |
| | Coal Tar | | | |
| | Emulsion/Cutback | X | X | X |
| | Aluminum Coating | X | X | X |
| | Vinyl/Vinyl Coating | | | |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | | | |
| | Cap Sheet | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | DYNAFLEX | DYNAFLEX | DYNAFLEX |
| 11B. | FLASHING METHOD | HOT / COLD | HOT / COLD | HOT / COLD |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 1.6 | 1.3 | 1.3 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. | TEST RESULTS PER NBS BBS #55 | | | |
| | MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | MD | 404 | 357 |
| | | XD | 351 | 343 |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | | XD | | |
| 14C. | Thermal Base Shock (not < 100°F) | MD | | |
| | | XD | | |
| 15. | SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

SUBSTRATE:

I = Insulated

&/or Non-Nailable

N = Nailable

L = Lightweight Concrete

SURFACING:

G = Gravel

S = Smooth

C = Cap Sheet

P = Protected

| 4GIS | 3GIS | 4GIG | 3GIG | 5GNG | 4GNG | 3GNG | 5GLG | 4GLG |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | | | | X | X | X | X | X |
| | X | X | X | | | | | |
| | X | X | X | | | | | |
| | | | 0 - 6 | | | | | |
| 4 | 3 | 4 | 3 | 5 | 4 | 3 | 5 | 4 |
| | | | | 1 | 1 | 1 | 1 | 1 |
| 4 | 3 | 4 | 3 | 4 | 3 | 2 | 4 | 3 |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | 400 | 400 | 400 | 400 | 400 | 400 |
| | | | 300 | 300 | 300 | 300 | 300 | 300 |
| | | | | | | | | |
| X | X | | | | | | | |
| X | X | | | | | | | |
| X | X | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX |
| HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD | HOT / COLD |
| 1.4 | 1.1 | 6.3 | 6.0 | 6.9 | 6.6 | 6.3 | 6.9 | 6.3 |
| | | | | | | 2.3 | | |
| | | | | | | | | |
| 404 | 310 | 404 | 310 | 404 | 357 | 288 | 404 | 357 |
| 351 | 331 | 351 | 331 | 351 | 343 | 247 | 351 | 343 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | |
|------|--|---|---------------|---------------|
| 1. | COMPANY NAME | JOHNS MANVILLE | | |
| 2. | SPECIFICATION NUMBER LEGEND | 3, 4, 5 = # of Plies TYPE OF PLY G = Fiberglass | | |
| 3. | SPECIFICATION NUMBER | 3GLG | 5GIC | 4GIC |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. | DECK TYPE | | | |
| | Nailable | X | | |
| | Insulated | | X | X |
| | Non-nailable | | X | X |
| 6. | SLOPE REQUIREMENT (range in inches) | | | |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | 3 | 5 | 4 |
| | Base Sheet | 1 | 0 | |
| | Interply(ies) | 2 | 4 | 3 |
| | Cap Sheet | | 1 | 1 |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | X | X | X |
| | Organic | | | |
| | Asbestos | | | |
| | Polyester | | | |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | X | X | X |
| | Modified Asphalt | | | |
| | Coal Tar | | | |
| | Elastomeric Adhesive | | | |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | 400 | | |
| | Slag (lbs/ft²) | 300 | | |
| | Crushed Rock (lbs/ft²) | | | |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | | | |
| | Coal Tar | | | |
| | Emulsion/Cutback | | | |
| | Aluminum Coating | | | |
| | Vinyl/Vinyl Coating | | | |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | | | |
| | Cap Sheet | | | X |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | DYNAFLEX | DYNAFLEX | DYNAFLEX |
| 11B. | FLASHING METHOD | HOT / COLD | HOT / COLD | HOT / COLD |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.0 | 2.4 | 2.0 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | 2.3 | | |
| 14. | TEST RESULTS PER NBS BBS #55 | | | |
| | MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | MD 288 | 357 | 310 |
| | | XD 247 | 343 | 331 |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | | XD | | |
| 14C. | Thermal Base Shock (not < 100°F) | MD | | |
| | | XD | | |
| 15. | SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | KARNAK CORP. | | | | |
|--|------------|------------|------|---|-------------|-------------|-------------|-------------|
| SUBSTRATE: I = Insulated &/or Non-Nailable N = Nailable L = Lightweight Concrete | | | | SURFACING: G = Gravel S = Smooth C = Cap Sheet P = Protected | | | | |
| | | | | P = Polyester # of Plies: 21 = 1 Ply 22 = 2 Plies 23 = 3 Plies 24 = 4 Plies AR = Rubberized Asphalt | | | | |
| 3GIC | 5GNC | 4GNC | 3GNC | P-21 | P-22 | P-23 | P-24 | AR SYSTEM |
| HOT | HOT | HOT | HOT | 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 |
| | | | | 0 - 6 | 0 - 6 | 0 - 6 | 0 - 6 | 0 - 6 |
| | | | | | | | | |
| 3 | 5 | 4 | 3 | 1 | 2 | 3 | 4 | 1 |
| | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| 2 | 3 | 2 | 1 | | | 2 | 3 | |
| 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 |
| | | | | | | | | |
| | | | | 4 | 4 | 4 | 4 | 4 |
| | | | | 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 | X | X | X |
| | | | | X | X | X | X | X |
| DYNAFLEX | DYNAFLEX | DYNAFLEX | | | | | | |
| HOT / COLD | HOT / COLD | HOT / COLD | | | | | | |
| 1.8 | 2.4 | 2.2 | 1.8 | 0.63 - 1.13 | 0.72 - 1.32 | 0.93 - 1.53 | 1.15 - 0.61 | 0.61 - 1.11 |
| | | | 3 | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| 268 | 404 | 357 | 288 | | | | | |
| 247 | 351 | 343 | 247 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | | |
|------|--|---|------------------------------------|------------------------------------|
| 1. | COMPANY NAME | KOPPERS INC. | | |
| 2. | SPECIFICATION NUMBER LEGEND | <p>FELT TYPE:</p> <p>2 = Tarred Organic 3 = 3 Ply</p> <p>4 = Tarred Fiberglass 4 = 4 Ply</p> <p>DECK TYPE:</p> <p>1 or 10 = Nailable</p> <p>2 or 20= Non-nailable or Insulated</p> <p>20= Non-nailable or Insulated</p> <p>90 = Nailable/premium felt</p> <p>95 = Non-nailable/premium felt</p> | | |
| 3. | SPECIFICATION NUMBER | 220-4 | 210-4 | 220-4GP |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. | DECK TYPE | | | |
| | Nailable | | X | |
| | Insulated | X | | X |
| | Non-nailable | X | | X |
| 6. | SLOPE REQUIREMENT (range in inches) | 0 - 1/2 | 0 - 1/2 | 0 - 1/4 |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | 4 | 4 | 4 |
| | Base Sheet | | 1 | |
| | Interply(ies) | 4 | 3 | 4 |
| | Cap Sheet | | | |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | | | X |
| | Organic | X | X | X |
| | Asbestos | | | |
| | Polyester | | | |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | | | |
| | Modifed Asphalt | | | |
| | Coal Tar | X | X | X |
| | Elastomeric Adhesive | | | |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | 4 | 4 | 4 |
| | Slag (lbs/ft²) | 3 | 3 | 3 |
| | Crushed Rock (lbs/ft²) | 4 | 4 | 4 |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | | | |
| | Coal Tar | | | |
| | Emulsion/Cutback | | | |
| | Aluminum Coating | | | |
| | Vinyl/Vinyl Coating | | | |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | | | |
| | Cap Sheet | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | FIBERGLASS, POLY FELT / MOD BIT | FIBERGLASS, POLY FELT / MOD BIT | FIBERGLASS, POLY FELT / MOD BIT |
| 11B. | FLASHING METHOD | COLD / HOT | COLD / HOT | COLD / HOT |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 6.1 | 6.0 | 6.1 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. | TEST RESULTS PER NBS BBS #55 MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | | XD | | |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | | XD | | |
| 14C. | Thermal Base Shock (not < 100°F) | MD | | |
| | | XD | | |
| 15. | SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

IR = Insulated Roof Membrane Assembly

FELT TYPE:

2 = Tarred Organic

3 = Tarred Glass

OF PLIES:

3 = 3 Ply

4 = 4 Ply

GP =

Tarred fiberglass top-ply
over organic felts

DECK TYPE:

6 = Nailable

7 = Non-nailable or Insulated

| 210-4GP | 420-4 | 410-4 | 920-4 | 910-4 | 920-3 | IR-263 | IR-273 | IR-463 |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| 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 - 1/4 | | | |
| 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 |
| 1 | | 1 | | 1 | | 1 | | 1 |
| 3 | 4 | 3 | 4 | 3 | 3 | 2 | 3 | 2 |
| 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 | | | |
| 3 | 3 | 3 | 3 | 3 | 3 | | | |
| 4 | 4 | 4 | 4 | 4 | 4 | | | |
| | | | | | | | | |
| | | | | | | X | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY | FIBERGLASS, POLY |
| FELT/MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT | FELT / MOD BIT |
| COLD / | COLD / | COLD / | COLD / | COLD / | COLD / | COLD / | COLD / | COLD / |
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| 6.1 | 5.9 | 6.0 | 6.0 | 6.0 | 6.0 | 2.0 | 2.2 | 2.0 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|---------------|---------------|
| 1. COMPANY NAME | KOPPERS INC. | | |
| 2. SPECIFICATION NUMBER LEGEND | <p>IR = Insulated Roof Membrane Assembly</p> <p>FELT TYPE: # OF PLIES:</p> <p>2 = Tarred Organic 3 = 3 Ply</p> <p>3 = Tarred Glass 4 = 4 Ply</p> <p>DECK TYPE:</p> <p>6 = Nailable</p> <p>7 = Non-nailable or Insulated</p> | | |
| 3. SPECIFICATION NUMBER | IR-473 | IR-264 | IR-274 |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | |
| Insulated | X | | X |
| Non-nailable | X | | X |
| 6. SLOPE REQUIREMENT (range in inches) | | 0 - 1/4 | 0 - 1/4 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 4 | 4 |
| Base Sheet | | 1 | |
| Interply(ies) | 3 | 3 | 4 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | | | |
| Organic | X | X | X |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | | | |
| Modified Asphalt | | | |
| Coal Tar | X | X | X |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | X | X | X |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | X | X |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | COLD / HOT | COLD / HOT | COLD / HOT |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 2.1 | 2.2 | 2.1 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | | | |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | X | X | X |

Built-up Roofing, Part 2 - Specifications

| | | | | SOUTHWESTERN PETROLEUM | TREMCO INC. | | | |
|---------------|---------------|---------------|---------------|---------------------------|---|-------------------------------|-------------------------------|-------------------------------|
| | | | | | BUR 100 = GLASS BUR 200 = COMPOSITE BUR 300 = POLYESTER THERM 100 = GLASS THERM 200 = POLYESTER | | | |
| IR-464 | IR-474 | 220-3 | 420-3 | | BUR 100 3 PLY | BUR 100 4 PLY | BUR 200 3 PLY | BUR 200 4 PLY |
| HOT | HOT | HOT | HOT | COLD | COLD | COLD | COLD | COLD |
| 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 - 1/2 | 0 - 1/2 | 12 | 1/8 - 4 | 1/8 - 4 | 1/8 - 4 | 1/8 - 4 |
| 4 | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 4 |
| 1 | | | | | | | | |
| 3 | 4 | 3 | 3 | | | | | |
| | | | | | | | | |
| X | X | | X | | X | X | | |
| | | X | | X | | | | |
| | | | | | | | | |
| | | | | | | | X | X |
| | | | | X | X | X | X | X |
| X | X | X | X | | | | | |
| | | | | | | | | |
| | | 4 | 4 | 4 | 4.0 - 5.0 | 4.0 - 5.0 | 4.0 - 5.0 | 4.0 - 5.0 |
| | | 3 | 3 | | | | | |
| | | 4 | 4 | | 2.4 | 2.4 | 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 | | | | | | | |
| | | | | BITUMINOUS | REINF HYPALON OR COMPOSITE | REINF HYPALON OR COMPOSITE | REINF HYPALON OR COMPOSITE | REINF HYPALON OR COMPOSITE |
| COLD / HOT | COLD / HOT | COLD / HOT | COLD / HOT | TROWEL | COLD APPLIED | COLD APPLIED | COLD APPLIED | COLD APPLIED |
| 2.1 | 2.0 | 5.8 | 5.7 | 1.5 | 5.7 - 6.7 | 6.0 - 7.0 | 5.7 - 6.7 | 6.0 - 7.0 |
| | | | | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | 322 | 412 | 390 | 564 |
| | | | | | 288 | 370 | 403 | 525 |
| | | | | | 1.9x10-5 | 2.3x10-5 | 3.9x10-5 | 3.2x10-5 |
| | | | | | 2.2x10-5 | 3.1x10-5 | 3.8x10-5 | 2.9x10-5 |
| | | | | | 795 | 1303 | 923 | 1283 |
| | | | | | 659 | 991 | 1065 | 1463 |
| X | X | | | | | | | |

Built-up Roofing, Part 2 - Specifications

| | | | | |
|------|--|---|-----------------------------|-----------------------------|
| 1. | COMPANY NAME | TREMCO INC. | | |
| 2. | SPECIFICATION NUMBER LEGEND | BUR 100 = GLASS BUR 200 = COMPOSITE BUR 300 = POLYESTER THERM 100 = GLASS THERM 200 = POLYESTER | | |
| 3. | SPECIFICATION NUMBER | THERM 100 3 PLY | THERM 200 4 PLY | THERM 200 3 PLY |
| 4. | HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. | DECK TYPE | | | |
| | Nailable | X | X | X |
| | Insulated | X | X | X |
| | Non-nailable | X | X | X |
| 6. | SLOPE REQUIREMENT (range in inches) | 1/8 - 4 | 1/8 - 4 | 1/8 - 4 |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | 3 | 4 | 3 |
| | Base Sheet | | | |
| | Interply(ies) | | | |
| | Cap Sheet | | | |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | X | X | |
| | Organic | | | |
| | Asbestos | | | |
| | Polyester | | | X |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | | | |
| | Modified Asphalt | X | X | X |
| | Coal Tar | | | |
| | Elastomeric Adhesive | | | |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | 4.0 - 5.0 | 4.0 - 5.0 | 4.0 - 5.0 |
| | Slag (lbs/ft²) | | | |
| | Crushed Rock (lbs/ft²) | | | |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | | | |
| | Coal Tar | | | |
| | Emulsion/Cutback | X | X | X |
| | Aluminum Coating | X | X | X |
| | Vinyl/Vinyl Coating | X | X | X |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | X | X | X |
| | Cap Sheet | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | ELASTOMERIC OR COMPOSITE | ELASTOMERIC OR COMPOSITE | ELASTOMERIC OR COMPOSITE |
| 11B. | FLASHING METHOD | COLD APPLIED | COLD APPLIED | COLD APPLIED |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 5 - 6 | 5 - 6 | 5 - 6 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. | TEST RESULTS PER NBS BBS #55 | | | |
| | MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | | | |
| | MD | 380 | 518 | 216 |
| | XD | 299 | 471 | 207 |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | | | |
| | MD | 8.2x10 ⁻⁶ | 1.6x10 ⁻⁵ | 1.6x10 ⁻⁵ |
| | XD | 1.0x10 ⁻⁵ | 1.8x10 ⁻⁵ | 1.7x10 ⁻⁵ |
| 14C. | Thermal Base Shock (not < 100°F) | | | |
| | MD | 1990 | 2181 | 2172 |
| | XD | 1419 | 1817 | 1399 |
| 15. | SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | U.S. INTEC | | | | | | | |
|-------------------------------|--|-------------------------|--|-------------------------|--|-------------------------|-------------------------|----------------------------|
| | SURFACING: | | BASE SHEET: | | INTERPLIES: | | | |
| | G = GRAVEL E = ASPHALT EMULSION ERA = ALUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | B = WORKHORSE ULTRA BASE P = SUPREME ELIMINATOR NAILABLE PP = SUPREME ELIMINATOR PERFORATED MBP = BRAI SUPREME SBS GLASS BASE | | TP = SUPREME 4 PLY UP = SUPREME 6 PLY SUBSTRATE: N = NAILABLE RI = INSULATED C = STRUCTURAL CONCRETE LWC = LIGHTWEIGHT INSULATING CONCRETE | | | |
| THERM 300 3 PLY | G-B3TP-N | E-B3TP-N ERA-B3TP-N | ALN-B3TP-N | G-BRTP-N | E-B4TP-N ERA-B4TP-N | ALN-B4TP-N | G-BP4TP-RI | E-PP4TP-RI ERA-PP4TP-RI |
| COLD | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | X | X | X | X | X | X | | |
| X | | | | | | | X | X |
| X | | | | | | | | |
| 1/8 - 4 | 0 - 6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 |
| 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2 | 2 | 2 | 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 - 5.0 | 400 | | | 400 | | | 400 | |
| | 300 | | | 300 | | | 300 | |
| | | | | | | | | |
| | | | | | | | | |
| | | X | X | | X | X | | X |
| X | | X | X | | X | X | | X |
| X | | | | | | | | |
| X | | | | | | | | |
| | | | | | | | | |
| X | | | | | | | | |
| | | | | | | | | |
| REINF HYPALON OR COMPOSITE | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| COLD APPLIED | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 6.0 - 7.0 | | | | | | | | |
| NONE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| | | | | | | | | |
| 310 | | | | | | | | |
| 240 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|-------------------------|-------------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | ALN-PP4TP-RI | G-BRUP-N | E-BRUP-N ERA-B4UP-N |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | X | X |
| Insulated | X | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 4 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 3 | 3 | 3 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | 400 | |
| Slag (lbs/ft²) | | 300 | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | X | | X |
| Emulsion/Cutback | X | | X |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE SHEET:

B = WORKHORSE ULTRA BASEP
P = SUPREME ELIMINATOR NAILABLE
PP = SUPREME ELIMINATOR PERFORATED
MBP = BRAI SUPREME SBS GLASS BASE

INTERPLIES:

TP = SUPREME 4 PLY
UP = SUPREME 6 PLY

SUBSTRATE:

N = NAILABLE
RI = INSULATED
C = STRUCTURAL CONCRETE
LWC = LIGHTWEIGHT INSULATING CONCRETE

| ALN-B4UP-N | G-PP4UP-RI | E-PP4UP-RI ERA-PP4UP-RI | ALN-PP4UP-RI | G-B5TP-N | E-B5 TP-N ERA-B5TP-N | ALN-B5TP-N | G-B3TP-RI |
|-------------------------|-------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | | | | | | | |
| | X | X | X | | | | |
| 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 |
| 4 | 4 | 4 | 4 | 5 | 5 | 5 | 3 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 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 |
| | | | | | | | |
| | 400 | | | 400 | | | 400 |
| | 300 | | | 300 | | | 300 |
| | | | | | | | |
| X | | X | X | | X | X | |
| X | | X | X | | X | X | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|-------------------------|-------------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | E-B3TP-RI ERA-B3TP0RI | ALN-B3TP-RI | G-3UP-RI |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | | |
| Insulated | X | X | X |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 3 | 3 | 3 |
| Base Sheet | 1 | 1 | |
| Interply(ies) | 2 | 2 | 3 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | 400 |
| Slag (lbs/ft²) | | | 300 |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | X | X | X |
| Emulsion/Cutback | X | X | X |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE SHEET:

B = WORKHORSE ULTRA BASEP
P = SUPREME ELIMINATOR NAILABLE
PP = SUPREME ELIMINATOR PERFORATED
MBP = BRAI SUPREME SBS GLASS BASE

INTERPLIES:

TP = SUPREME 4 PLY
UP = SUPREME 6 PLY

SUBSTRATE:

N = NAILABLE
RI = INSULATED
C = STRUCTURAL CONCRETE
LWC = LIGHTWEIGHT INSULATING CONCRETE

| E-3UP-RI ERA-3UP-RI | ALN-3UP-RI | G-4TP-RI | E-4TP-RI ERA-4TP-RI | ALN-4TP-RI | G-4UP-4I | E-4UP-RI ERA-4UP-RI | ALN-4UP-RI |
|---|---|---|---|---|---|---|---|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | X | X | X | X | X | X | X |
| 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 |
| 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| 3 | 3 | 4 | 4 | 4 | 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 |
| | | | | | | | |
| | | 400 300 | | | 400 300 | | |
| | | | | | | | |
| | | | X X | X X | | X X | X X |
| | | | | | | | |
| | | | | | | | |
| BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|-------------------------|-------------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | G-B5UP-N | E-B5UP-N ERA-B5UP-N | ALN-B5UP-N |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | X | X | X |
| Insulated | | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 5 | 5 | 5 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 4 | 4 | 4 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft ²) | 400 | | |
| Slag (lbs/ft ²) | 500 | | |
| Crushed Rock (lbs/ft ²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | X | X |
| Emulsion/Cutback | | X | X |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft ²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE SHEET:

B = WORKHORSE ULTRA BASEP
P = SUPREME ELIMINATOR NAILABLE
PP = SUPREME ELIMINATOR PERFORATED
MBP = BRAI SUPREME SBS GLASS BASE

INTERPLIES:

TP = SUPREME 4 PLY
UP = SUPREME 6 PLY

SUBSTRATE:

N = NAILABLE
RI = INSULATED
C = STRUCTURAL CONCRETE
LWC = LIGHTWEIGHT INSULATING CONCRETE

| G-P4TP-LWC | E-P4TP-LWC | ERA-P4TP-LWC | ALN-P4TP-LWC | G-P4UP-LWC | E-P4UP-LWC | ERA-P4UP-LWC | ALN-P4UP-LWC | G-P5TP-LWC |
|---|---|---|---|---|---|---|---|---|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| 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 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X |
| 400 300 | | | | 400 300 | | | | 400 300 |
| | X | X | X | | X | X | X | |
| | X | X | X | | X | X | X | |
| BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH | BRAI SUPREME APP/SBS HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|----------------------|----------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | E-P5TP-LWC | ERA-P5TP-LWC | ALN--5TP-LWC |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | X | X | X |
| Insulated | | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 5 | 5 | 5 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 4 | 4 | 4 |
| Cap Sheet | | | |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | X | X | X |
| Emulsion/Cutback | X | X | X |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/TORCH | HOT/COLD/TORCH | HOT/COLD/TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| BASE SHEET: | | | | INTERPLIES: | | | | |
|---|-------------------------|-------------------------|-------------------------|--|--------------------------|-------------------------|-------------------------|--------------------------|
| B = WORKHORSE ULTRA BASEP P = SUPREME ELIMINATOR NAILABLE PP = SUPREME ELIMINATOR PERFORATED MBP = BRAI SUPREME SBS GLASS BASE | | | | TP = SUPREME 4 PLY UP = SUPREME 6 PLY | | | | |
| | | | | SUBSTRATE: | | | | |
| | | | | N = NAILABLE RI = INSULATED C = STRUCTURAL CONCRETE LWC = LIGHTWEIGHT INSULATING CONCRETE | | | | |
| G-P5UP-LWC | E-P5UP-LWC | ERA-P5UP-LWC | ALN-P5UP-LWC | G-PPR4UP-C | E-PP4UP-C ERA-PP4UP-C | ALN-PP4UP-C | M-3TP-RI M-3UP-RI | 730-3TP-RI 730-3UP-RI |
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| 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 |
| 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 3 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 2 |
| | | | | | | | 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 |
| | | | | | | | | |
| 400 | | | | 400 | | | | |
| 300 | | | | 300 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | X | X | X | | X | X | | |
| | X | X | X | | X | X | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | X | X |
| BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|-------------------------|-------------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | M-4TP-RI 730-4TP-RI | M-5TP-RI 730-5TP-RI | M-4UP-RI 730-4UP-RI |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | | | |
| Insulated | X | X | X |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 5 | 4 |
| Base Sheet | | | |
| Interply(ies) | 3 | 4 | 3 |
| Cap Sheet | 1 | 1 | 1 |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | X | X | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE SHEET:

B = WORKHORSE ULTRA BASEP
P = SUPREME ELIMINATOR NAILABLE
PP = SUPREME ELIMINATOR PERFORATED
MBP = BRAI SUPREME SBS GLASS BASE

INTERPLIES:

TP = SUPREME 4 PLY
UP = SUPREME 6 PLY

SUBSTRATE:

N = NAILABLE
RI = INSULATED
C = STRUCTURAL CONCRETE
LWC = LIGHTWEIGHT INSULATING CONCRETE

| M-5UP-RI 730-5UP-RI | M-B3TP-N 730-B3TP-N | M-PP4TP-C 730-PP4TP-C | M-B4UP-N 730-B4UP-N | M-B5TP-N 730-B5TP-N | M-B5UP-N 730-B5UP-N | M-PP5TP-RI 730-PP5TP-RI | M-PP5UP-RI 730-PP5UP-RI | M-P4TP-LWC |
|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|-------------------------|----------------------------|----------------------------|-------------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| | | | | | | | | 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 |
| 5 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 4 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 2 |
| 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 |
| | | | | | | | | |
| BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|--|----------------------|----------------------|
| 1. COMPANY NAME | U.S. INTEC | | |
| 2. SPECIFICATION NUMBER LEGEND | SURFACING: G = GRAVEL E = ASPHALT EMULSION ERA = ALUMINUM EMULSION ALN = FIBERD ALUMINUM M = WORKHORSE ULTRA CAP 730 = WORKHORSE 730 CAP | | |
| 3. SPECIFICATION NUMBER | 730-P4TP-LWC | M-P4UP-LWC | 730-P4UP-LWC |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | X | X | X |
| Insulated | | | |
| Non-nailable | | | |
| 6. SLOPE REQUIREMENT (range in inches) | 0-6 | 0-6 | 0-6 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 4 |
| Base Sheet | 1 | 1 | 1 |
| Interply(ies) | 2 | 2 | 2 |
| Cap Sheet | 1 | 1 | 1 |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | | | |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | X |
| Modified Asphalt | X | X | X |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | | | |
| Aluminum Coating | | | |
| Vinyl/Vinyl Coating | | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | X | X | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| 11B. FLASHING METHOD | HOT/COLD/TORCH | HOT/COLD/TORCH | HOT/COLD/TORCH |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | | |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

BASE SHEET:

B = WORKHORSE ULTRA BASEP
P = SUPREME ELIMINATOR NAILABLE
PP = SUPREME ELIMINATOR PERFORATED
MBP = BRAI SUPREME SBS GLASS BASE

INTERPLIES:

TP = SUPREME 4 PLY
UP = SUPREME 6 PLY

SUBSTRATE:

N = NAILABLE
RI = INSULATED
C = STRUCTURAL CONCRETE
LWC = LIGHTWEIGHT INSULATING CONCRETE

| M-P5TP-LWC | 730-P5TP-LWC | M-P5UP-LWC | 730-P5UP-LWC | M-PP4TP-C 730-PP4TP-C | M-PP4UP-C 730-PP4UP-C | M-P5TP-C 730-PP5TP-C | M-P5UP-C 730-PP5UP-C |
|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| HOT | HOT | HOT | HOT | HOT | HOT | HOT | HOT |
| X | X | X | X | | | | |
| | | | | X | X | X | X |
| 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 | 0-6 |
| 5 | 5 | 5 | 5 | 4 | 4 | 5 | 5 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 |
| 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 |
| | | | | | | | |
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| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS | BRAI SUPREME APP/SBS |
| HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH | HOT/COLD/ TORCH |
| SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE | SEE LITERATURE |
| | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | |
|---|---------------------------|--------------------------|-----------------------|
| 1. COMPANY NAME | W.P. HICKMAN SYTEMS, INC. | | |
| 2. SPECIFICATION NUMBER LEGEND | | | |
| 3. SPECIFICATION NUMBER | BUR + GLASS POLYESTER | BUR + GLASS POLYESTER | PIKA PLY CAP SHEET |
| 4. HOT AND/OR COLD APPLIED | HOT | HOT | HOT |
| 5. DECK TYPE | | | |
| Nailable | X | X | X |
| Insulated | X | X | X |
| Non-nailable | X | X | X |
| 6. SLOPE REQUIREMENT (range in inches) | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 |
| 7. NUMBER OF PLIES | | | |
| Total Plies | 4 | 4 | 3 |
| Base Sheet | 1 | 1 | |
| Interply(ies) | 3 | 3 | 2 |
| Cap Sheet | | | 1 |
| 8. TYPE OF PLY SHEET | | | |
| Glass Fiber | X | X | X |
| Organic | | | |
| Asbestos | | | |
| Polyester | X | X | X |
| Other | | | |
| 9. INTERPLY ADHESIVE | | | |
| Asphalt | X | X | |
| Modified Asphalt | X | X | |
| Coal Tar | | | |
| Elastomeric Adhesive | | | |
| 10A. SURFACING -- AGGREGATE | | | |
| Gravel (lbs/ft²) | | 4 | |
| Slag (lbs/ft²) | | | |
| Crushed Rock (lbs/ft²) | | | |
| 10B. SURFACING -- SMOOTH | | | |
| Asphalt | | | |
| Coal Tar | | | |
| Emulsion/Cutback | X | | |
| Aluminum Coating | X | | |
| Vinyl/Vinyl Coating | X | | |
| 10C. SURFACING - OTHER | | | |
| Mineral Granules | | | |
| Cap Sheet | | | X |
| Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. FLASHING MATERIALS | | | |
| 11B. FLASHING METHOD | | | |
| 12. WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | | 5.25 | 1.85 |
| 13. RESTRICTED REGIONS (refer to manufacturer's literature) | | NONE | NONE |
| 14. TEST RESULTS PER NBS BBS #55 | | | |
| MD = Machine Direction; XD = Cross Direction | | | |
| 14A. Tensile Strength (>200 lb/in @ 0°F) | MD | | |
| | XD | | |
| 14B. Thermal Expansion (not > 40x10 ⁻⁶ /°F @ 0°F to -30°F) | MD | | |
| | XD | | |
| 14C. Thermal Base Shock (not < 100°F) | MD | | |
| | XD | | |
| 15. SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| BUR PLUS 505 | TAR PLUS | PERFORMANCE PLY MS | PERFORMANCE PLY MS FR | WEATHER PLY MA- MAFR | PIKA PLY CAP SHEET | BUR PLUS GLASS | BUR PLUS GLASS | BUR PLUS POLYESTER |
|--------------|----------|-----------------------|--------------------------|-------------------------|-----------------------|-------------------|-------------------|-----------------------|
| HOT | HOT | COLD | COLD | COLD | COLD | 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 |
| 0 - 1/2 | 0 - 1/2 | 1/8 - 4 | 1/8 - 4 | 1/8 - 4 | 1/8 - 4 | 1/8 - 3 | 1/8 - 3 | 1/8 - 3 |
| 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 1 | | | | | | | | |
| 3 | 4 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| | | 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 | | | |
| 4 | 4 | | | | | | 4 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | X | | X |
| | | | | | | X | | X |
| | | | | | | X | | X |
| | | | | | | | | |
| | | X | X | X | X | | | |
| | | | | | | | | |
| | | | | | | | | |
| 6.0 | 6.0 | 2.25 | 2.25 | 2.25 | 2.50 | 1.85 | 5.25 | 1.80 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | |
| | | | | | | 260 | 260 | 275 |
| | | | | | | 245 | 245 | 255 |
| | | | | | | | | |
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Built-up Roofing, Part 2 - Specifications

| | | | | |
|------|--|----------------------------|--------------------|--------------------|
| 1. | COMPANY NAME | W.P. HICKMAN SYSTEMS, INC. | | |
| 2. | SPECIFICATION NUMBER LEGEND | | | |
| 3. | SPECIFICATION NUMBER | BUR PLUS POLYESTER | MULTI-PLY GLASS | MULTI-PLY GLASS |
| 4. | HOT AND/OR COLD APPLIED | HOT | COLD | COLD |
| 5. | DECK TYPE | | | |
| | Nailable | X | X | X |
| | Insulated | X | X | X |
| | Non-nailable | X | X | X |
| 6. | SLOPE REQUIREMENT (range in inches) | 1/8 - 3 | 1/8 - 4 | 1/8 - 4 |
| 7. | NUMBER OF PLIES | | | |
| | Total Plies | 3 | 3 | 3 |
| | Base Sheet | | | |
| | Interply(ies) | 3 | 3 | 3 |
| | Cap Sheet | | | |
| 8. | TYPE OF PLY SHEET | | | |
| | Glass Fiber | | X | X |
| | Organic | | | |
| | Asbestos | | | |
| | Polyester | X | | |
| | Other | | | |
| 9. | INTERPLY ADHESIVE | | | |
| | Asphalt | X | | |
| | Modified Asphalt | X | | X |
| | Coal Tar | | | |
| | Elastomeric Adhesive | | X | |
| 10A. | SURFACING -- AGGREGATE | | | |
| | Gravel (lbs/ft²) | 4 | | 4 |
| | Slag (lbs/ft²) | | | |
| | Crushed Rock (lbs/ft²) | | | |
| 10B. | SURFACING -- SMOOTH | | | |
| | Asphalt | | | |
| | Coal Tar | | | |
| | Emulsion/Cutback | | X | |
| | Aluminum Coating | | X | |
| | Vinyl/Vinyl Coating | | X | |
| 10C. | SURFACING - OTHER | | | |
| | Mineral Granules | | X | |
| | Cap Sheet | | | |
| | Other (Indicate "X" and describe in Membrane Appendix) | | | |
| 11A. | FLASHING MATERIALS | | | |
| 11B. | FLASHING METHOD | | | |
| 12. | WEIGHT, INCLUDING PLIES (approx. lbs/ft²) | 5.25 | 2.35 | 5.75 |
| 13. | RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 14. | TEST RESULTS PER NBS BBS #55 | | | |
| | MD = Machine Direction; XD = Cross Direction | | | |
| 14A. | Tensile Strength (>200 lb/in @ 0°F) | MD | 275 | 335 |
| | | XD | 255 | 300 |
| 14B. | Thermal Expansion (not > 40x10 ⁻⁶ /°F@0°F to -30°F) | MD | | |
| | | XD | | |
| 14C. | Thermal Base Shock (not < 100°F) | MD | | |
| | | XD | | |
| 15. | SEE APPENDIX IF CHECKED | | | |

Built-up Roofing, Part 2 - Specifications

| | | | |
|-----------------------|-------------------------|-------------------------|--------------|
| | | | |
| | | | |
| PERFORMANCE PLY MS | PERFORMANCE PLY MSFR | WEATHER PLY MA- MAFR | BUR PLUS 606 |
| HOT | HOT | HOT | HOT |
| X | X | X | X |
| X | X | X | X |
| X | X | X | X |
| 1/8 - 3 | 1/8 - 3 | 1/8 - 3 | 0 - 6 |
| 3 | 3 | 3 | 4 |
| 2 | 2 | 2 | 1 |
| 1 | 1 | 1 | 3 |
| X | X | X | X |
| X | X | X | X |
| X | X | X | X |
| X | X | X | X |
| X | X | X | X |
| | | | |
| | | | 4 |
| | | | |
| | | | X |
| | | | |
| | | | X |
| | | | |
| X | X | X | X |
| | | | |
| | | | |
| 1.85 | 1.85 | 1.85 | |
| NONE | NONE | NONE | NONE |
| | | | |
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Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|----------------------|----------------------|--------------------|--------------------|--------------------------|---------------------------|
| 1. COMPANY NAME | BITEC INC. | BITEC INC. | BITEC INC. | BITEC INC. | BITEC INC. | BITEC INC. |
| 2. PRODUCT NAME | MDA | APS-4T | APM-4T | APM-4.5T | COMPABASE FA-2T | MDS |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | APP | APP | APP | APP | SBS |
| Thickness (mils) | 160 | 160 | 160 | 180 | 80 | 160 |
| Top Surface | MINERAL DESIGN | MODIFIED BITUMEN | GRANULES | GRANULES | MODIFIED BITUMEN | MINERAL DESIGN |
| Reinforcing Material | SPUNBOND TYPE 55 | SPUNBOND POLYESTER | SPUNBOND POLYESTER | SPUNBOND POLYESTER | NON-WOVEN FIBERGLASS | SPUNBOND TYPE 55 |
| Colors | VARIOUS | BLACK | VARIOUS | VARIOUS | BLACK | VARIOUS |
| Installed Weight (lbs./ft ² without ballast) | 1.1 | 0.90 | 1.1 | 1.22 | 0.47 | 1.1 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | NONE | APS 4T, APM 4T, APM 4.5T | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | TORCH | TORCH | TORCH | TORCH | HOT MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | TORCH | TORCH | TORCH | TORCH | NAIL | |
| Fully Adhered (method) | | | | | TORCH | MOP OR ADHES |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | POS DRAIN | POS DRAIN |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X O | X O | X O | X O | X O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | X O | X O | X O | 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) | 40 – 130 | 40 – 130 | 40 – 130 | 40 – 130 | 40 – 130 | 30 – 130 |
| 12. FLASHING MATERIAL | SAME MATERIAL OR APM | SAME MATERIAL OR APM | SAME MATERIAL | SAME MATERIAL | | SAME MATERIAL OR SPM-4.5T |
| 13. FLASHING METHOD | TORCH | TORCH | TORCH | TORCH | | HOT MOP OR OR TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | ITALY | ITALY | ITALY | ITALY | ITALY | ITALY |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1994 | 1978 | 1978 | 1978 | 1978 | 1994 |
| Within USA | 1997 | 1987 | 1987 | 1987 | 1988 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | > 5,000 | > 2 MILLION | > 2 MILLION | 1 MILLION | 100,000 | > 5,000 |
| Within USA | 5,000 | > 2 MILLION | > 1 MILLION | 58,600 | 2,000 | 5,000 |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 6 | 6 | 6 | 6 | 6 | 6 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 |
| 22. TECHNICAL INFORMATION, CONTACT: | | | | | | |
| | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

[illegible]

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|--------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------------------------------------|
| 1. COMPANY NAME | BITEC INC. | BITEC INC. | BITEC INC. | BITEC INC. | BITEC INC. | CERTAINTED ROOFING PRODS GROUP |
| 2. PRODUCT NAME | SFM-3.5H-FR | SFM-4H-FR | FS-2H PLUS | FS-25 | FS-40 | FLINTLASTIC STA PLUS |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | APP |
| Thickness (mils) | 140 | 160 | 88 | 40 | 60 | 200 |
| Top Surface | GRANULES | GRANULES | MODIFIED BITUMEN | MODIFIED BITUMEN | MODIFIED BITUMEN | SMOOTH |
| Reinforcing Material | NON-WOVEN FIBERGLASS MAT | NON-WOVEN FIBERGLASS | NON-WOVEN FIBERGLASS | NON-WOVEN FIBERGLASS | NON-WOVEN FIBERGLASS | POLYESTER |
| Colors | VARIOUS | VARIOUS | BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.00 | 1.05 | 0.6 | 0.25 | 0.4 | 1.05 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | SPM OR SPM SHEETS | SPM OR SPM SHEETS | SPM OR SPM S HEETS | REFLECTIVE COATING |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT 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 | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | MOP OR ADHES | MOP OR ADHES | MOP OR ADHES | MOP OR ADHES | MOP OR ADHES | TORCH |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | POS DRAIN | POS DRAIN | | | | POS DRAIN |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | X |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | O | O | O | O | O | X O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | | | | SAME MATERIAL |
| 13. FLASHING METHOD | HOT MOP | HOT MOP | | | | TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NONE |
| 15. COUNTRY OF: | | | | | | |
| Origin | ITALY | ITALY | ITALY | ITALY | ITALY | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1978 | 1978 | 1978 | 1978 | 1978 | |
| Within USA | 1989 | 1989 | 1988 | 1988 | 1988 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | 63,800 | >13,000 | >65,000 | >63,000 | >63,000 | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 6 | 6 | 6 | 6 | 6 | 3 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/233-8990 |
| 22. TECHNICAL INFORMATION, CONTACT: | | | | | | |
| | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/535-8597 | 800/233-8990 |
| 23. SEE APPENDIX IF CHECKED | | | | | | X |

Modified Bitumen, Part 1 - General Information

| CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP | CERTAINTEED ROOFING PRODS GROUP |
|---------------------------------------|---|---------------------------------------|---------------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| FLINTLASTIC GTA | FLINTLASTIC SA BASE | FLINTLASTIC SA MID PLY | FLINTASTIC SA CAP | GTA BLACK DIAMOND AND WHITE DIAMOND | FLINTLASTIC GTA-FR | FLINTLASTIC GTS | FLINTLASTIC GMS | FLINTLASTIC GMS PREMIUM | FLINTLASTIC FR-P |
| APP 165 | SBS 60 | SBS 120 | SBS 160 | APP 160 | APP 165 | SBS 180 | SBS 165 | SBS 165 | SBS 165 |
| GRANULE | PERMANENT FILM | PERMANENT FILM | MINERAL GRANULES | FINE CERAMIC PARTICLES | GRANULE | GRANULE | GRANULE | GRANULE | GRANULE |
| POLYESTER | FIBERGLASS | FIBERGLASS / POLY SCRIM | FIBERGLASS / POLY SCRIM | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| VARIOUS | NA | NA | VAROIOUS | BLACK DIAMOND / WHITE | WHITE | WHITE | VARIOUS | WHITE | WHITE |
| 1.05 | 42 | 68 | 97 | 0.95 | 1.05 | 1.20 | 1.00 | 1.05 | 1.05 |
| NONE | FLINSLASTIC SA MID PLY AND/OR CAP | FLINTLASTIC SA CAP | 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 | MECHANICAL ATTACHMENT | SELF - ADHERING | SELF- ADHERING | TORCH | TORCH | TORCH | HOT MOP OR COLD ADHESVIE | HOT MOP OR COLD ADHESVIE | HOT MOP OR COLD ADHESVIE |
| TORCH | | | | TORCH | TORCH | TORCH | MOP/COLD ADH | MOP/COLD ADH | MOP/COLD ADH |
| POS DRAIN | | | | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN |
| O | X | O | O | 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 | O | O | 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 | O | O | 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 | O | O | 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 |
| X | O | O | O | X | X | O | O | O | O |
| O | X | O | O | O | O | O | O | O | O |
| X O | X | O | O | X O | X O | X O | X O | X O | X O |
| NONE | NA | NA | NA | NONE | NONE | NONE | NONE | NONE | NONE |
| 30 – 130 | +50 | +50 | +50 | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 | 30 – 130 |
| SAME MATERIAL | NA | SAME MATERIAL | FLINTLASTIC SA MID PLY | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| TORCH | | SELF-ADHERED & ADHESIVE | SELF-ADHERED & ADHESIVE | TORCH | TORCH | TORCH | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| ITALY USA | USA USA | USA USA | USA USA | UK USA | USA USA | ITALY USA | ITALY USA | USA USA | USA USA |
| 1978 1986 | 2003 | 2003 | 2003 | 1987 | 1996 | 1978 1986 | 1972 1980 | 1989 | 1989 |
| MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS | | >100,000 MILLIONS | >100,000 MILLIONS | | 200000 |
| DISTRIBUTORS | DISTRIBUTORS | DISBRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 3 | | | | 3 | 3 | 3 | 3 | 3 | 2 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| X | | | | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|--------------------------------------|--|--------------------------------------|--|--------------------------------------|--|
| 1. COMPANY NAME | CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP |
| 2. PRODUCT NAME | FLINTLASTIC FR-P PREMIUM | FLINTLASTIC FR BASE SHEET | FLINTLASTIC FR CAP | POLY SMS BASE SHEET | BLACK DIAMOND BASE SHEET | FLEXIGLAS BASE SHEET |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 165 | 90 | 140 | 80 | 65 | 50 |
| Top Surface | GRANULE | GRANULE | GRANULE | SAND | GRANULE | SAND |
| Reinforcing Material | POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | FIBERGLASS | FIBERGLASS |
| Colors | WHITE | VARIOUS | VARIOUS | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.05 | 0.60 | 0.90 | .045 | .038 | 0.30 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | CAP SHEET | NONE | CAP SHEET | CAP SHEET | CAP SHEET |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT MOP OR COLD ADHESIVE | MECHANICAL, HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | MECHANICAL, HOT MOP OR COLD ADHESIVE | SELF-ADHESIVE | MECHANICAL, HOT MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | MOP/CLD ADH | | MECH/MOP/CLD AD | | MECH. |
| Fully Adhered (method) | MOP/COLD ADH | MOP/COLD ADH | MOP/COLD ADH | MOP/COLD ADH | SELF-ADHERED | MOP/CLD ADHS |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | X | O | X | X | X |
| Mineral Fiber | O | X | O | X | X | X |
| Polystyrene | O | X | O | X | X | X |
| Cellular Glass | O | X | O | X | X | X |
| Phenolic | O | X | O | X | X | X |
| Fiberboard | O | X | O | X | X | X |
| Perlite | O | X | O | X | X | X |
| Polyisocyanurate | O | X | O | X | X | X |
| Polyurethane | O | X | O | X | X | X |
| Gypsum | O | X | O | X | X | X |
| Concrete | O | X | O | X | X | X |
| Wood Plank | O | X | O | X | O | O |
| Plywood | O | X | O | X | O | X |
| Existing Built-up Membrane | X O | X | 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) | 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 |
| 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 OR COLD ADHESIVE | TORCH, MOP OR COLD ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1989 | 1989 | 1989 | 1989 | 1989 | 1990 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | 100000 | 100000 | 40000 | 50000 | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 2 | 2 | 2 | 2 | 3 | 2 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 23. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| CERTAINTED ROOFING PRODS GROUP | CERTAINTED ROOFING PRODS GROUP | DIBITEN | DIBITEN | DIBITEN | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
|--------------------------------------|--------------------------------------|-----------------------------|---------------------------------|------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| FLEXIGLAS PREMIUM CAP 960 | FLINTLASTIC STA | DIBITEN POLY/4 | DIBITEN POLY/4.5 GRANULAR | DIBITEN POLY/5 | ERS - 501 | ERS - 503 | ERS - 502 | ERS - 504 | ERS - 505 |
| SBS 160 | APP 160 | APP 160 | APP 180 | APP 200 | SBS/SEBS 130 | SBS/SEBS 135 | SBS/SEBS 160 | SBS/SEBS 160 | SBS/SEBS 120 |
| GRANULES | SMOOTH | MODIFIED BITUMEN | SLATE FLAKES | MODIFIED BITUMEN | SMOOTH | SMOOTH | GRANULES | GRANULES | GRANULES |
| FIBERGLASS | POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | FIBERGLASS |
| WHITE | BLACK | BLACK | VARIOUS | BLACK | BLACK | BLACK | UNLIMITED | UNLIMITED | UNLIMITED |
| 1.0 | 0.90 | 0.90 | 1.05 | 1.10 | 90 | 100 | 100 | 110 | 90 |
| NONE | REFLECTIVE COATING | NONE | NONE | NONE | GRAVEL / GRANULES | GRAVEL / GRANULES | 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 OR COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH | HOT/COLD | HOT / COLD | HOT/ COLD | HOT / COLD | HOT / COLD |
| | | | | | | | | | |
| | | | | | 4 | 4 | | | |
| MOP/CLD ADH | TORCH | TORCH | TORCH | TORCH | 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 | X | X |
| O | O | O | O | 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 | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | X | X | X | X | X |
| O | O | O | O | 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 | O |
| O | O | O | O | O | O | O | O | O | O |
| O | X | X O | X O | X O | X O | X O | X O | X O | X O |
| O | O | O | O | O | X O | X O | X O | X O | X O |
| O | O | O | O | O | X O | X O | X O | X O | X O |
| O | O | X O | X O | X O | O | O | O | O | O |
| NONE | NONE | SEE SPECS | SEE SPECS | SEE SPECS | NONE | NONE | NONE | NONE | NONE |
| 30 – 130 | 30 – 130 | 40 – 120 | 40 – 120 | 40 – 120 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | DIBITEN POLY/4 | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| HOT MOP OR COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH | HOT MOP / MODIFIED BITUMEN | HOT MOP / MODIFIED BITUMEN | HOT MOP / MODIFIED BITUMEN | HOT MOP / MODIFIED BITUMEN | HOT MOP / MODIFIED BITUMEN |
| NO | NO | NO | NO | NO | YES | YES | YES | YES | YES |
| USA USA | ITALY USA | ITALY USA | ITALY USA | ITALY USA | USA USA | USA USA | USA USA | USA USA | USA USA |
| | | | | | | | | | |
| 1997 | 1978 1980 | 1968 1978 | 1968 1978 | 1968 1978 | 1988 | 1988 | 1988 | 1988 | 1988 |
| | | | | | | | | | |
| | 1,200,000 MILLIONS | 10.7 MILLION 4.6 MILLION | 900,000 1.3 MILLION | 100,000 200,000 | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 2 | 2 | 9 | 9 | 9 | 6 | 6 | 6 | 6 | 6 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 800/233-8990 | 800/233-8990 | R. BIANCHI | DISTRICT OFFICE | DISTRICT OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 800/233-8990 | 800/233-8990 | D. CARL | D. CARL | D. CARL | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE |
| X | X | X | X | X | | | | | |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. COMPANY NAME | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
| 2. PRODUCT NAME | ERS - 507 | ERS - 600 | ERS - 601 | ERS - 602 | ERS - 603 | ERS - 604 |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS/SEBS | APP | APP | SBS/SEBS | SBS/SEBS | SBS/SEBS |
| Thickness (mils) | 115 | 160 | 180 | 160 | 170 | 170 |
| Top Surface | GRANULES | SMOOTH | GRANULES | SMOOTH | GRANULE | GRANULE |
| Reinforcing Material | FIBERGLASS | POLYESTER | POLYESTER | POLYESTER / FIBERGLASS | POLYESTER / FIBERGLASS | POLYESTER / FIBERGLASS |
| Colors | UNLIMITED | BLACK | WHITE | BLACK | UNLIMITED | UNLIMITED |
| Installed Weight (lbs./ft ² without ballast) | 85 | 90 | 112 | 105 | 115 | 115 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | GRAVEL / GRANULES | NONE | GRAVEL / GRANULES | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT / COLD | TORCH | TORCH | TORCH | TORCH | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | 4 | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | X | X | X | X | X | X |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | X | | X | X | X | X |
| Mineral Fiber | X | | X | X | X | X |
| Polystyrene | O | | O | O | O | O |
| Cellular Glass | O | | O | O | O | O |
| Phenolic | O | | O | O | O | O |
| Fiberboard | X | | X | X | X | X |
| Perlite | X | | X | X | X | X |
| Polyisocyanurate | O | | O | O | O | O |
| Polyurethane | O | | O | O | O | O |
| Gypsum | O | | O | O | O | O |
| Concrete | X O | | X O | X O | X O | X O |
| Wood Plank | X O | | X O | X O | X O | X O |
| Plywood | X O | | X O | X O | X O | X O |
| Existing Built-up Membrane | O | | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 100 | | 40 -100 | 40 -100 | 40 -100 | 40 - 100 |
| 12. FLASHING MATERIAL | SAME MATERIAL | | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| 13. FLASHING METHOD | HOT MOP / MODIFIED BITUMEN | | MODIFIED BITUMEN | MODIFIED BITUMEN | MODIFIED BITUMEN | MODIFIED BITUMEN |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | | USA | USA | USA | USA |
| Manufacture | USA | | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1988 | | 1988 | 1988 | 1988 | 1988 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | | DIRECT | DIRECT | DIRECT | DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 6 | | 6 | 6 | 6 | 6 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 22. TECHNICAL INFORMATION, CONTACT: | TECHNICAL SERVICE | | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

| ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. |
|----------------------------------|----------------------------|----------------------------------|----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| ERS - 605 | ERS - 607 | ERS - 703 | ERS - 601 FR | APP160 | APP 160 COOL | APP 170 | APP180 | APP 180 FR | APP 180 FR COOL |
| SBS/SEBS 45 | APP 80 | SBS/SEBS 150 | APP 180 | APP 150 | APP 150 | APP 155 | APP 170 | APP 170 | APP 170 |
| SMOOTH | GRANULE | ALUMINUM SHEET | GRANULES | SMOOTH | SMOOTH | SMOOTH | GRANULES | GRANULES | GRANULES |
| POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | | | | | | |
| BLACK | WHITE | ALUMINUM / GOLD / COPPER | WHITE | BLACK | BLACK | BLACK | VARIOUS | VARIOUS | VARIOUS |
| 80 | 80 | 101 | 112 | 0.87 | 0.87 | 0.99 | 1.05 | 1.07 | 1.07 |
| GRAVEL / GRANULES | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| X | X | X | X | | | | | | |
| X | X | X | X | | | | | | |
| HOT / COLD | TORCH | HOT / TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| 4 | | | | | | | | | |
| 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 | O | O | O | O | 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 |
| X | X | X | X | O | O | O | O | O | 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 |
| X O | X O | X O | X O | X | X | X | X | X | X |
| X O | X O | X O | X O | O | O | O | O | O | O |
| X O | X O | X O | X O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| NONE | NONE | NONE | NONE | | | | | | |
| 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| HOT MOP / MODIFIED BITUMEN | MODIFIED BITUMEN | HOT MOP / MODIFIED BITUMEN | MODIFIED BITUMEN | TORCH | TORCH OR COLD | TORCH | TORCH | TORCH | TORCH |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| USA USA | USA USA | USA USA | USA USA | ITALY USA | USA USA | ITALY USA | USA USA | USA USA | USA USA |
| 1988 | 1988 | 1988 | 1988 | 1965 1980 | 1998 | 1965 1989 | 1991 | 1993 | 1998 |
| | | | | MILLIONS MILLIONS | THOUSANDS | MILLIONS MILLIONS | MILLIONS | THOUSANDS | THOUSANDS |
| DIRECT | DIRECT | DIRECT | DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT |
| 6 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 |
| TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE | TECHNICAL SERVICE | 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 | 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 | APP 80 GLASS BASE | APP 80 GLASS COOL BSAE | SBS | SBS FR | SBS FR PREMIUM | SBS PREMIUM FR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | APP | SBS | SBS | SBS | SBS |
| Thickness (mils) | 80 | 80 | | | | |
| Top Surface | SMOOTH | SMOOTH | GRANULES | GRANULES | GRANULES | GRANULES |
| Reinforcing Material | | | | | | |
| Colors | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| Installed Weight (lbs./ft ² without ballast) | 0.50 | 0.50 | 0.97 | 0.97 | 1.02 | 1.05 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | | | | | | |
| Reroofing | | | | | | |
| 6. FIELD LAP JOINT METHOD | TORCH | TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | | | | | | |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X | X | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | O | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | SBS FLASHING | SBS FLASHING | SBS FLASHING | SBS FLASHING |
| 13. FLASHING METHOD | TORCH | TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1998 | 1998 | 1992 | 1993 | 1992 | 1993 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | THOUSANDS | THOUSANDS | 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 | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

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Modified Bitumen, Part 1 - General Information

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|--|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FLEX MEMBRANE INTN'L INC. | FLEX MEMBRANE INTN'L INC. | FLEX MEMBRANE INTN'L INC. |
| 2. PRODUCT NAME | SBS METAL FLASH-AL | MB BASE SA | SBS GLASS BASE SA | SBS 89 S/S BASE | SBS 90 S/S BASE | SBS 145 CAP GM 4FR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS METAL | SBS | SBS GLASS | SBS | SBS 90 | SBS |
| Thickness (mils) | 150 | 45 | 90 | 80 | 90 | 145 |
| Top Surface | ALUMINUM | SMOOTH | SMOOTH | SMOOTH | SMOOTH | GRANULE |
| Reinforcing Material | | | | NON WOVEN GLASS | NON WOVEN POLYESTER | NON WOVEN GLASS |
| Colors | ALUMINUM | BLACK | BLACK | | | WHITE / BLACK / GRAY / BROWN |
| Installed Weight (lbs./ft ² without ballast) | 1.00 | 0.29 | 0.54 | 0.58 | 0.57 | 1.15 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | GRANULE SHEET | GRANULE SHEET | NONE |
| 5. USE IN | | | | | | |
| New Roofing | | | | X | X | X |
| Reroofing | | | | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | PRESSURE OR HEAT WELD | PRESSURE OR HEAT WELD | MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | | | | MOP / COLD | ADHESIVE | MOP / COLD ADH |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | X | X | X |
| Mineral Fiber | O | O | O | X | X | X |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | | | |
| Fiberboard | O | O | O | X | X | X |
| Perlite | O | O | O | X | X | X |
| Polyisocyanurate | O | X | X | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | X O | X O | X O |
| Concrete | X | X | X | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | X | X | X |
| Existing Built-up Membrane | O | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | | | SEE SPECS | SEE SPECS | SEE SPECS |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 100 | 40 - 100 | 40 - 100 | 20 - 115 | 20 - 115 | 20 - 115 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SBS FLASHING | SBS FLASHING | | | SAME MATERIAL |
| 13. FLASHING METHOD | TORCH | HOT MOP OR COLD | HOT MOP OR COLD | | | MOP OR COLD ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | | | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | PUERTO RICO | USA | USA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA |
| Manufacture | PUERTO RICO | USA | USA | | | |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | 1971 | 1970 | |
| Within USA | 1992 | 2001 | 2001 | 1985 | 1985 | 1992 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | MILLIONS THOUSANDS | MILLIONS THOUSANDS | |
| Within USA | THOUSANDS | | | | | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | | | |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | | | |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/428-4442 | 800/428-4442 | 800/428-4442 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/428-4511 | 800/428-4511 | 800/428-4511 | M. GIANGIACOMO 610/286-7788 | M. GIANGIACOMO 610/286-7788 | M. GIANGIACOMO 610/286-7788 |
| 23. SEE APPENDIX IF CHECKED | | | | X | X | X |

Modified Bitumen, Part 1 - General Information

| FLEX MEMBRANE INTN'L INC. | FLEX MEMBRANE INTN'L INC. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|---|---|---|---|---|---|---|---|---|---|
| SBS 160 CAP GM 4FR | SBS 250 CAP GM 4FT | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (GRANULE) | RUBEROID TORCH PLUS | RUBEROID TORCH FR | RUBEROID TORCH 1 | RUBEROID MOP PLUS | RUBEROID MOP FR | RUBEROID MOP (GRANULE) |
| SBS 160 GRANULE | SBS 160 GRANULE | APP 160 SMOOTH | APP 160 GRANULES | APP 197 GRANULES | APP 197 GRANULES | APP 177 GRANULES | SBS 197 GRANULES | SBS 160 GRANULES | SBS 160 GRANULES |
| NON WOVEN POLYESTER | NON WOVEN POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| WHITE / BLACK / GRAY / BROWN | WHITE / BLACK / GRAY / BROWN | BLACK | WHITE/BLACK | WHITE/BLACK | WHITE/BLACK | BLACK / WHITE / BURNT SIENNA | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK |
| 1.08 | 1.25 | 0.90 | 0.94 | 1.14 | 1.1 | 0.97 | 0.9 | 0.9 | 0.9 |
| 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 COLD ADHESIVE | MOP OR COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH | TORCH | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD |
| MOP / COLD ADH | MOP / ADHESIVE | TORCH TORCH X | TORCH TORCH X | TORCH TORCH X | TORCH TORCH X | TORCH TORCH X | HOT MOP HOT MOP/COLD X | HOT MOP HOT MOP/COLD X | HOT MOP HOT MOP/COLD X |
| POS DRAIN | POS DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN |
| X X 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 O O O | O O O O |
| X X O O X O O O X O | X X O O X O O O X O | O O O O O X O O O X O | O O O O O X O O O X O | O O O O O X O O O X O | O O O O O X O O O X O | O O O O O X O O O X O | X X O O O O O O O | X X O O O O O O O | X X O O O O O O O |
| SEE SPECS | SEE SPECS | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF |
| 20 - 115 | 20 - 115 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH | TORCH | HOT MOP OR MOD BIT FLASHING CEMENT | HOT MOP OR MOD BIT FLASHING CEMENT | HOT MOP OR MOD BIT FLASHING CEMENT |
| NO | NO | YES | YES | YES | YES | YES | YES | YES | YES |
| GERMANY CANADA | GERMANY CANADA | USA USA | USA USA | USA USA | USA USA | USA USA | USA USA | USA USA | USA USA |
| 1992 | 1992 | 1985 | 1986 | 1988 | 1989 | 1997 | 1988 | 1989 | 1986 |
| THOUSANDS | THOUSANDS | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT | DISTR,S,DIRECT |
| YES | YES | 5 YES | 5 YES | 5 YES | 5 YES | 5 YES | 5 YES | 5 YES | 5 YES |
| J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | REGIONAL OFFICE | REGIONAL OFFICE | 800/428-4442 | 800/428-4442 | 800/428-4442 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| M. GIANGIACOMO 610/286-7788 | M. GIANGIACOMO 610/286-7788 | TECH SERV. 800/766-3411 | TECH SERV. 800/766-3411 | 800/428-4511 | 800/428-4511 | 800/428-4511 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| X | X | | | | | | | | |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|--|--|----------------------------------|----------------------------------|--|--------------------------------|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | RUBEROID MOP 170 FR | RUBEROID 20 | RUBEROID 30 | RUBEROID 30 FR | RUBEROID MOP (SMOOTH) | RUBEROID SBS HW (SMOOTH) |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 160 | 88 | 150 | 130 | 160 | 160 |
| Top Surface | GRANULES | SMOOTH | GRANULES | GRANULES | SMOOTH | SMOOTH |
| Reinforcing Material | POLYESTER | FIBERGLASS | FIBERGLASS | FIBERGLASS | POLYESTER | POLYESTER |
| Colors | WHITE / BLACK | BLACK | WHITE / BLACK | WHITE / BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 0.9 | 0.58 | 0.92 | 0.92 | 0.9 | 1.02 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | CAP SHEET | NONE | NONE | CAP SHEET | CAP SHEET |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | HOT MOP | HOT MOP | HOT MOP | HOT MOP | HOT MOP | TORCH |
| Fully Adhered (method) | HOT MOP/COLD | HOT MOP/COLD | HOT MOP/COLD | HOT MOP/COLD | HOT MOP/COLD | TORCH |
| Protected Roof Membrane Assembly | X | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | X | X | O | O | X | O |
| Perlite | X | X | O | O | X | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | O | O | O | O | X | X |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | O | O | O | O | O | X |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF | CONTACT GAF |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| 13. FLASHING METHOD | HOT MOP OR MOD BIT FLASHING CEMENT | HOT MOP OR MOD BIT FLASHING CEMENT | HOT MOP OR FLASHING CEMENT | HOT MOP OR FLASHING CEMENT | HOT MOP OR MOD BIT FLASHING CEMENT | TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | NO | YES | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1989 | 1992 | 1992 | 1992 | 1986 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 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 | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 22. TECHNICAL INFORMATION, CONTACT: | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, 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. | GARLAND CO., INC. |
|---------------------------|---------------------------|---------------------------|---------------------------|------------------------------------|----------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------|
| RUBEROID SBS HW (GRANULE) | RUBEROID SBS HW (FR) | RUBEROID SBS HW (PLUS) | RUBEROID SBS HW (PLUS FR) | MODIFIED CAP SHEET 601+ | ULTRACLAD SBS | TRI-PLY SBS GRANULE | TRI-PLY TP - 4 | TRI-PLY TP - 4G | HPR SA FR BASE SHEET |
| SBS 160 GRANULES | SBS 160 GRANULES | SBS 160 GRANULES | SBS 160 GRANULES | SBS 140 GRANULES | SBS 145 FOIL FACE | SBS 160 GRANULE | APP 160 SMOOTH | APP 160 GRANULE | SBS 80 CLEAR FILM FIBERGLASS |
| POLYESTER | POLYESTER | POLYESTER | POLYESTER | FIBERGLASS | FIBERGLASS | POLYESTER | POLYESTER | POLYESTER | |
| WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE | COPPER / ALUMIMUM | BLACK | WHITE / BLACK | WHITE / BLACK | |
| 1.02 | 1.03 | 1.03 | 1.03 | 0.9 | 1.01 | 1.03 | 0.87 | 1.03 | 0.4 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | STRESS PLY SA FR MINERAL |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| TORCH | TORCH | TORCH | TORCH | HOT MOP OR COLD | HOT MOP OR HEAT WELD | HOT MOP OR COLD | TORCH | TORCH | SELF-ADHERING |
| TORCH | TORCH | TORCH | TORCH | HOT MOP | | HOT MOP | TORCH | TORCH | |
| TORCH | TORCH | TORCH | TORCH | HOT MOP/COLD | HOT MOP/TORCH | HOT MOP/COLD | TORCH | TORCH | SELF-ADHERING |
| X | X | X | X | X | X | X | | | |
| MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST DRAIN | MUST 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 | 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 | X | X | O | 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 | O |
| O | O | O | O | O | O | O | O | O | O |
| X | X | X | X | O | O | O | O | O | O |
| CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | CONTACT GAF 40 - 100 | NONE 50 - 110 |
| SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIALS | SAME MATERIALS | SAME MATERIALS | SAME MATERIAL |
| TORCH | TORCH | TORCH | TORCH | HOT MOP OR MOD BIT FLASHING CEMENT | TORCH | HOT MOP OR MOD BIT FLASHING CEM | HOT MOP OR MOD BIT FLASHING CEM | HOT MOP OR MOD BIT FLASHING CEM | SELF-ADHERING |
| NO | NO | NO | NO | NO | NONE | YES | YES | YES | YES |
| USA USA | USA USA | USA USA | USA USA | USA USA | USA | USA USA | USA USA | USA USA | USA USA |
| 1997 | 1997 | 1997 | 1997 | 1997 | 1997 | | | | 2000 |
| DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DISTRS_DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 200 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | B. LAMBERT 216/641-7500 |
| TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECHNICAL SERVICES | TECHNICAL SERVICES | TECHNICAL SERVICES | TECHNICAL SERVICES | F. JANOCH |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| 1. COMPANY NAME | GARLAND CO., INC. | GARLAND CO., INC. | GARLAND CO., INC. | GARLAND CO., INC. | GARLAND CO., INC. | HENRY COMPANY |
| 2. PRODUCT NAME | STRESSPLY SA FR MINERAL | STRESSPLY EUV | STRESSPLY EUV MINERAL | STRESSPLY EUV FR | STRESSPLY EUV FR MINERAL | MODIFIED PLUS G100s/s |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS/SIS | SBS / SIS | SBS / SIS | SBS / SIS | SBS |
| Thickness (mils) | 140 | 115 | 155 | 115 | 155 | 80 |
| Top Surface | MINERAL | BLACK BEAUTY | STARBURST WHITE MINERAL | BLACK BEAUTY | STARBURST WHITE MINERAL | SMOOTH |
| Reinforcing Material | FIBERGLASS | POLYESTER FIBERGLASS | POLYESTER FIBERGLASS | POLYESTER FIBERGLASS | POLYESTER FIBERGLASS | NON-WOVEN GLASS |
| Colors | | BLACK | WHITE | BLACK BEAUTY | WHITE | |
| Installed Weight (lbs./ft ² without ballast) | 1.00 | 0.85 | 1.10 | 0.85 | 1.10 | 0.58 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | NONE | NONE | GRANULE SHEET |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | SELF-ADHERING | HOT MOP OR COLD | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | SELF-ADHERING | MOP/COLD | MOP/COLD | MOP / COLD | MO P / COLD | MOP/COLD ADHES |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | X | X | X | X | X |
| Mineral Fiber | O | X | X | X | X | X |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | X | X | X | X | O |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | O | X O | X O | X O | X O | X |
| Polyisocyanurate | X | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | X O |
| Concrete | O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | X |
| Existing Built-up Membrane | O | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE | SEE SPECS |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 50 - 110 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 20 - 115 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | |
| 13. FLASHING METHOD | SELF-ADHERING | 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) | YES | YES | YES | YES | YES | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | GERMANY |
| Manufacture | USA | USA | USA | USA | USA | CANADA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | 1971 |
| Within USA | 2000 | 2000 | 2000 | 2000 | 2000 | 1985 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | MILLIONS |
| Within USA | | | | | | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 200 | 200 | 200 | 200 | 200 | USA & CANADA |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | NO |
| 21. SALES INFORMATION, CONTACT: | B. LAMBERT 216/641-7500 | B. LAMBERT 216/641-7500 | B. LAMBERT 216/641-7500 | B. LAMBERT 216/641-7500 | B. LAMBERT 216/641-7500 | T. CALLAHAN 800/486-1278 |
| 22. TECHNICAL INFORMATION, CONTACT: | F. JANOCH | F. JANOCH | F. JANOCH | F. JANOCH | F. JANOCH | S. LEONARD 800/486-1278 |
| 23. SEE APPENDIX IF CHECKED | | | | | | X |

Modified Bitumen, Part 1 - General Information

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------|------------------------------------|-----------------------------|-----------------------------|
| MODIFIED PLUS G100p/s | MODIFIED PLUS G100p/p | MODIFIED PLUS NP180s/s | MODIFIED PLUS NP180p/p | MODIFIED PLUS NP180p/s | MODIFIED PLUS G100gMFR | MODIFIED PLUS 170 MOP GRANULE | MODIFIED PLUS 170 TORCH GRANULE | MODIFIED PLUS NP180gM | MODIFIED PLUS NP180gT |
| SBS 80 | SBS 88 | SBS 90 | SBS 90 | SBS 90 | SBS 148 | SBS 160 | SBS 160 | SBS 160 | SBS 160 |
| SMOOTH | SMOOTH | SMOOTH | SMOOTH | SMOOTH | GRANULE | GRANULE | GRANULE | GRANULE | GRANULE |
| NON-WOVEN GLASS | NON-WOVEN GLASS | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN GLASS | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER |
| | | | | | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN |
| 0.58 | 0.58 | 0.57 | 0.77 | 0.57 | 1.15 | 1.06 | 1.06 | 1.04 | 1.04 |
| GRANULE SHEET | GRANULE SHEET | GRANULE SHEET | 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 |
| HOT MOP | TORCH | MOP OR COLD ADHESIVE | TORCH | HOT MOP | MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH |
| | | | | | | | | | |
| HOT MOP | TORCH | MOP/COLD ADHES | TORCH | HOT MOP | MOP/COLD ADHES | MOP/COLD ADHES | TORCH | MOP/COLD ADHES | TORCH |
| POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN |
| | | | | | | | | | |
| 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 |
| O | O | O | O | O | 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 |
| 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 |
| 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 |
| SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS |
| 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 | 20 -115 |
| | | | | | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| | | | | | MOP OR COLD ADHESIVE | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA | GERMANY CANADA |
| 1971 1985 | 1971 1985 | 1971 1988 | 1971 1988 | 1971 1988 | 1992 | 1990 1990 | 1990 1990 | 1971 1988 | 1971 1988 |
| MILLIONS THOUSANDS | MILLIONS THOUSANDS | MILLIONS THOUSANDS | MILLIONS THOUSANDS | MILLIONS THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS THOUSANDS | MILLIONS THOUSANDS |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 |
| S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 |
| X | X | X | X | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | MODIFIED PLUS NP180gM FR | MODIFIED PLUS NP180gT FR | MODIFIED PLUS NP250gM | MODIFIED PLUS NP260gT | MODIFIED PLUS NP250gM FR | MODIFIED PLUS NP250gT FR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 160 | 160 | 160 | 160 | 160 | 160 |
| Top Surface | GRANULE | GRANULE | GRANULE | GRANULE | GRANULE | GRANULE |
| Reinforcing Material | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER |
| Colors | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN | WHITE/BLACK GRAY/BROWN |
| Installed Weight (lbs./ft ² without ballast) | 1.08 | 1.25 | 1.06 | 1.06 | 1.25 | 1.25 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | MOP/COLD ADHES | TORCH | MOP/COLD ADHES | TORCH | MOP/COLD ADHES | TORCH |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | X | X | X | X | X | X |
| Mineral Fiber | X | X | X | X | X | X |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | X | X | X | X | X | X |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | X O | X O | X O | X O | X O | X O |
| Concrete | O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | X | X | X | X | X | X |
| Existing Built-up Membrane | 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 |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 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 |
| 13. FLASHING METHOD | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH | MOP OR COLD ADHESIVE | TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | GERMANY | GERMANY | GERMANY | GERMANY | GERMANY | GERMANY |
| Manufacture | CANADA | CANADA | CANADA | CANADA | CANADA | CANADA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | 1971 | | | |
| Within USA | 1992 | 1992 | 1988 | 1992 | 1992 | 1992 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | MILLIONS | MILLIONS | | |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA | USA & CANADA |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | NO | NO | NO | NO | NO | NO |
| 21. SALES INFORMATION, CONTACT: | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 | T. CALLAHAN 800/486-1278 |
| 22. TECHNICAL INFORMATION, CONTACT: | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 | S. LEONARD 800/486-1278 |
| 23. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| HONEYWELL INTERNATIONAL, INC. | HONEYWELL INTERNATIONAL, INC. | HONEYWELL INTERNATIONAL, INC. | HONEYWELL INTERNATIONAL, INC. | HONEYWELL INTERNATIONAL, INC. | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------|
| MILLENNIUM BASE SHEET | MILLENNIUM SMOOTH MOP | MILLENNIUM GMC | MILLENNIUM SPM | MILLENNIUM GPM | ARMOURPLAST CLASSIC | ARMOURPLAST GRANULAR | MODIFLEX MP-180-CAP | MODIFLEX MP-250-CAP | TORCHFLEX TP-180-CAP |
| SBS 80 | SBS 120 | SBS 150 | SBS 120 | SBS 150 | APP 158 | APP 160 | SBS 138 | SBS 158 | SBS 157 |
| SMOOTH | SMOOTH | MINERAL | SMOOTH | MINERAL | SMOOTH | GRANULAR | GRANULAR | GRANULAR | GRANULAR |
| FIBERGLASS | FIBERGLASS / POLYESTER SCRIM | FIBERGLASS / POLYESTER SCRIM | FIBERGLASS / POLYESTER SCRIM | FIBERGLASS / POLYESTER SCRIM | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| BLACK | BLACK | GRAY / BLACK / LIGHT BEIGE | BLACK | GRAY / BLACK / LIGHT BEIGE | BLACK | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| 0.53 | 0.84 | 1.0 | 1.0 | 0.85 | 0.80 | 0.88 | 0.80 | 0.92 | 0.97 |
| CAP SHEET | CAP SHEET | NONE | CAP SHEET | NONE | ROOF COAT GRANULES / GRAVEL | 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 HEAT WELD COLD | HOT MOP HEAT WELD COLD | HOT MOP HEAT WELD COLD | HOT /MOP COLD | HOT / MOP COLD | TORCH | TORCH | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | TORCH |
| HOT MOP/COLD X | HOT MOP/COLD X | HOT MOP/COLD X | HOT MOP/COLD X | HOT MOP/COLD X | TORCH | TORCH | HOT MOP/COLD ADHES | HOT MOP / COLD ADHES | TORCH |
| NONE | NONE | NONE | NONE | NONE | TORCH | TORCH | HOT MOP/COLD ADHES | HOT MOP/COLD ADHES | 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 |
| X | X | X | X | X | O | O | O | O | O |
| X | X | X | X | X | O | O | O | O | O |
| X | X | X | X | X | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| X | X | X | X | X | O | O | O | O | 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 | 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 |
| 30 - 100 | 30 - 100 | 30 - 100 | 30 - 100 | 30 - 100 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| MILLENNIUM MASTIC | MILLENNIUM MASTIC | MILLENNIUM MASTIC / HEAT WELD | MILLENNIUM MASTIC | MILLENNIUM MASTIC | TORCH | TORCH | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | TORCH |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| USA USA | USA USA | USA USA | USA USA | USA USA | USA / CANADA USA / CANADA | USA / CANADA USA / CANADA | USA / CANADA USA / CANADA | USA / CANADA USA / CANADA | USA / CANADA USA / CANADA |
| 1994 | 1994 | 1994 | 1994 | 1994 | 1979 1988 | 1979 1988 | 1988 1998 | 1988 1998 | 1988 1998 |
| DISTR. DIRECT | DISTR. DIRECT | DISTR. DIRECT | DISTR. DIRECT | DISTR. DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 4 | 4 | 4 | 4 | 4 | YES | YES | YES | YES | YES |
| 800/221-6490 | 800/221-6490 | 800/221-6490 | 800/221-6490 | 800/221-6490 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 |
| 800/221-6490 | 800/221-6490 | 800/221-6490 | 800/221-6490 | 800/221-6490 | 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 | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES | IKO INDUSTRIES |
| 2. PRODUCT NAME | TORCHFLEX TP-250-CAP | TORCHFLEX TP-250-CAP/5 | MODIFLEX MF-95-SS- BASE | MODIFLEX MF-95-FS-BASE | MODIFLEX MP-180-FS-BASE | MODIFLEX MP-180-SS-BASE |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 157 | 158 | 87 | 87 | 87 | 87 |
| Top Surface | GRANULAR | GRANULAR | SAND | FILM | FILM | SAND |
| Reinforcing Material | POLYESTER | POLYESTER | FIBERGLASS | FIBERGLASS | POLYESTER | POLYESTER |
| Colors | VARIOUS | VARIOUS | BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 0.97 | 0.98 | 1.20 | 0.52 | 0.51 | 0.51 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | MODIFLEX CAP | TORCHFLEX CAP | TORCHFLEX CAP | MODIFLEX CAP |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | TORCH | HOT MOP OR COLD ADHESIVE | HOT MOP TORCH | HOT MOP TORCH | HOT MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | TORCH | TORCH | | | | |
| Fully Adhered (method) | TORCH | TORCH | MOP OR ADHES. | MOP, TORCH | MOP, TORCH | MOP OR ADHES. |
| Protected Roof Membrane Assembly | TORCH | TORCH | MOP OR ADHES. | MOP, TORCH | MOP, TORCH | MOP OR ADHES. |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X | X | X | X | X | X |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | MP-180-SS | MP-180-FF MATERIAL | SAME MATERIAL | SAME MATERIAL |
| 13. FLASHING METHOD | TORCH | TORCH | HOT MOP OR ADHESIVE | HOT MOP OR ADHESIVE | HOT MOP OR ADHESIVE | HOT MOP OR ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA |
| Manufacture | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA | USA/CANADA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 |
| Within USA | 1998 | 1998 | 1998 | 1998 | 1998 | 1998 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | | | | | | |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | | | | | | |
| | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 |
| 22. TECHNICAL INFORMATION, CONTACT: | | | | | | |
| | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 | 800/323-7171 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

[illegible]

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. |
| 2. PRODUCT NAME | DYNAKAP FR | DYNAGLAS | DYNAPLY | DYNAGLAS FR | DYNALASTIC 250 | DYNALASTIC 180 |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 160 | 150 | 125 | 160 | 158 | 150 |
| Top Surface | GRANULE | GRANULE | SAND | GRANULE | GRANULE | GRANULE |
| Reinforcing Material | FIBERGLASS & POLYESTER | FIBERGLASS | FIBERGLASS & POLYESTER | FIBERGLASS | POLYESTER | POLYESTER |
| Colors | WHITE / BLACK | WHITE / BLACK | BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.10 | 0.88 | 0.78 | 0.88 | 0.96 | 0.88 |
| 4. KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | ASPHALT AND GRAVEL | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT 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 |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD |
| Protected Roof Membrane Assembly | | X | X | | X | X |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | X | X | X | X | X | X |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | X | X | X | X | X | X |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | X | X | X | X | X | X |
| Concrete | X | X | X | X | X | X |
| Wood Plank | X | X | X | X | X | X |
| Plywood | X | X | X | X | X | X |
| Existing Built-up 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) | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX |
| 13. FLASHING METHOD | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1986 | 1987 | 1987 | 1988 | 1995 | 1993 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | MILLIONS | MILLIONS | 100,000 | MILLIONS | 10,000 | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | DIST OFFICE | DIST OFFICE | DIST OFFICE | DIST OFFICE | DIST OFFICE | DIST OFFICE |
| 22. TECHNICAL INFORMATION, CONTACT: | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES |
| 23. SEE 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 180 FR | DYNAGLAS 30 FR | DYNABASE | DYNALASTIC 180 S | DYNALASTIC 250 FR | DYNAMAX | DYNAMAX FR | APPEX 48 | TRICOR-M-FR | TRICOR |
| SBS 150 GRANULE | SBS 140 GRANULE | SBS 100 GRANULE | SBS 118 GRANULE | SBS 160 GRANULE | SBS 160 GRANULE | SBS 160 GRANULE | APPEX 48 160 SMOOTH | APP 180 MINERAL | APP 160 SMOOTH |
| POLYESTER | FIBERGLASS | FIBERGLASS | POLYESTER | POLYESTER | FIBERGLASS / POLYESTER | FIBERGLASS / POLYESTER | POLYESTER | LAMINATED GLASS FIBER / POLYESTER | LAMINATED GLASS FIBER / POLYESTER |
| WHITE / BLACK | WHITE / BLACK | BLACK | BLACK | WHITE / BLACK | WHITE / BLACK | WHIET / BLACK | BLACK | GRAY / WHITE | BLACK |
| 0.88 | 0.90 | 0.60 | 0.8 | 1.06 | 1.16 | 1.16 | 0.90 | 1.0 | 0.95 |
| NONE | NONE | CAP SHEET | CAP SHEET | NONE | NONE | NONE | ALUMINUM | NONE | NONE |
| X X | X X | X X | X X | X X | X X | X X | X X | X X | X X |
| 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 OR COLD ADHESIVE | TORCH | TORCH | TORCH / COLD |
| | | | | | | | 10 | | |
| HOT OR COLD X | HOT OR COLD X | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD X | HOT OR COLD | TORCH X | TORCH X | TORCH / COLD X |
| 1/8" | 1/8" | 1/8" | 1/8" | 1/8" | 1/8" | 1/8" | POS DRAIN | POS DRAIN | POS DRAIN |
| X O O O | X O O O | X O O O | X O O O | X O O O | X O O O | X O O O | O O O O | O O O O | O O O O |
| X X O O X X X X O | X X O O X X X X O | X X O O X X X X O | X X O O X X X X O | X X O O X X X X O | X X O O X X X X O | X X O O X X X X O | O O O O X O X O O X O | O O O O X O X O O X O | O O O O X O X O 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 - 120 | 40 - 120 |
| DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | DYNAFLEX | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR COLD FLASHING CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | HOT MOP OR MEMBRANE FLASH CEMENT | TORCH | TORCH | 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 |
| 1994 | 1993 | 1987 | 1979 | 1996 | 1995 | 1995 | 1967 1979 | 1994 | 1994 |
| THOUSANDS | >100,000 THOUSANDS | MILLIONS | >100,000 THOUSANDS | >100,000 THOUSANDS | THOUSANDS | THOUSANDS | 83,410,000 8,000,000 | THOUSANDS | THOUSANDS |
| DISTRIBUTORS | DISTRIBUTORS | | | | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | | | |
| DIST OFFICE | DIST OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES |
| | | | | | | | | | |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|--|--|--|--|--|--|
| 1. COMPANY NAME | JOHN MANVILLE INTERNATIONAL INC. | JOHN MANVILLE INTERNATIONAL INC. | JOHN MANVILLE INTERNATIONAL INC. | JOHN MANVILLE INTERNATIONAL INC. | JOHN MANVILLE INTERNATIONAL INC. | JOHN MANVILLE INTERNATIONAL INC. |
| 2. PRODUCT NAME | BICOR | APPEX 4.5M | APPEX 4.5M FR | DYNAWELD CAP FR | DYNAWELD BAS | DYNACLAD |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | APP | APP | SBS | SBS | SBS |
| Thickness (mils) | 160 | 160 | 160 | 160 | 120 | 160 |
| Top Surface | SMOOTH | MINERAL | MINERAL | GRANULES | SAND | METAL FOIL |
| Reinforcing Material | FIBERGLASS | POLYESTER | POLYESTER | GLASS | GLASS | GLASS SCRIM |
| Colors | BLACK | GRAY / WHITE | GRAY / WHITE | WHITE / BLACK | BLACK | ALUMINUM COPPER |
| Installed Weight (lbs./ft ² without ballast) | 0.95 | 1.05 | 1.12 | | | |
| 4. KINDS OF FIELD SURFACING REQUIRED | ALUMINUM | NONE | NONE | NONE | ASPHALT GRAVEL | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | TORCH / COLD | TORCH | TORCH | TORCH | TORCH | TORCH |
| Protected Roof Membrane Assembly | X | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | POS DRAIN | POS DRAIN | POS DRAIN | 1/8" | 1/8" | 1/8" |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | | | |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | X | X | X O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | | | | O | O | O |
| Gypsum | X O | O | O | X | O | O |
| Concrete | O | X O | X O | X | X O | X O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | X O | X O | X O | X | X | X O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL OR APEX 45 | SAME MATERIAL OR APEX 45 | SAME MATERIAL OR DYNACLAD | DYNAWELD CAP FR OR DYNACLAD | SAME MATERIAL |
| 13. FLASHING METHOD | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1994 | 1994 | 1994 | 1999 | 1999 | 1995 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | THOUSANDS | >100,000 | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 8 | 8 | 8 | 8 | 8 | 8 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 22. TECHNICAL INFORMATION, CONTACT: | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

| KOPPERS INC. | KOPPERS INC. | KOPPERS INC. | KOPPERS INC. | KOPPERS INC. | KOPPERS INC. | KOPPERS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. |
|---------------------|---------------------|---------------------------|------------------------------|------------------------------|----------------------------|------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 2040 M | 2040 S | 2041M | 2041 S | 2041 MFR | 2045 M | 2045 MFR | DERBIGUM-XPS | DERBICOLOR XPS | DERBIGUM XPS FR |
| APP | APP | SBS | SBS | SBS | SBS | SBS | APP | APP | APP |
| 4.5MM | 4.0MM | 3.8MM | 3.0MM | 3.8 MM | 4.0 MM | 4.0 MM | 160 | 160 | 160 |
| GRANULES | GRANULES | GRANULES | GRANULES | GRANULES | GRANULES | GRANULES | MODIFIED BITUMEN | MINERAL | MODIFIED BITUMEN |
| NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | NON-WOVEN POLYESTER | FIBRGLS LAMIN & POLYESTER SCRIM | FIBRGLS LAMIN & POLYESTER SCRIM | FIBRGLS LAMIN & POLYESTER SCRIM |
| WHITE | BLACK | WHITE / BLACK | BLACK | WHITE | WHITE | WHITE | BLACK | VARIOUS | BLACK |
| NONE | ALUMINUM COATING | NONE | ALUMINUM COATING | NONE | NONE | | 0.95 | 1.08 | 0.95 |
| | | | | | | | 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 | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | TORCH | TORCH | TORCH |
| | | | | | | | | | |
| | | | | | | | | | |
| TORCH | TORCH | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | TRCH OR MASTIC X | TRCH OR MASTIC | TRCH OR MASTIC X |
| 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | POS DRAIN | POS DRAIN | POS DRAIN |
| | | | | | | | | | |
| X | X | X | X | X | X | X | O | O | O |
| X | X | X | X | X | X | X | O | O | O |
| | | | | | | | | O | O |
| X | X | X | X | X | X | X | O | O | 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 |
| X | X | X | X | X | X | X | O | O | O |
| X | X | X | X | X | X | X | X | O | X O |
| X | X | X | X | X | X | X | O | O | O |
| X | X | X | X | X | X | X | O | O | O |
| | | | | | | | O | O | O |
| | | | | | | | X O | X O | X O |
| | | | | | | | NONE | NONE | NONE |
| 12 - 150 | 12 - 150 | -10 - 150 | -10 - 150 | -10 - 150 | -10 - 150 | -10 - 150 | 40 - 120 | 40 - 120 | 40 - 120 |
| 2040S 2040M | 2040S 2040M | FIBERGLASS FELT, 2041M | FIBERGLASS FELT, 2041M, S | FIBERGLASS FELT, 2041M, S | FIBERGLASS FELT, 2045 M | FIBERGLASS FELT, 2045 MFR | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| TORCH | TORCH | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | TORCH OR MASTIC | TORCH OR MASTIC | TORCH OR MASTIC |
| 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 |
| | | | | | | | | | |
| | | | | | | | 1993 | 1993 | 1994 |
| | | | | | | | | | |
| DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTOR | DISTRIBUTOR | DISTR/DIRECT | DISTR/DIRECT | DISTR/DIRECT |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 800/558-2706 | 800/558-2706 | 800/558-2706 | 800/558-2706 | 800/558-2706 | 800/558-2706 | 800/558-2706 | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 |
| 800/468-9629 | 800/468-9629 | 800/468-9629 | 800/468-9629 | 800/468-9629 | 800/468-9629 | 800/468-9629 | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 |
| | | | | | | | X | X | X |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. COMPANY NAME | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. |
| 2. PRODUCT NAME | DERBICOLOR XPS FR | DERBIGUM GP | DERBICOLOR GP | DERBIGUM GP FR | DERBICOLOR GP FR | BITUTAK MB |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | APP | APP | APP | APP | APP |
| Thickness (mils) | 180 | 150 | 180 | 160 | 180 | 152 |
| Top Surface | MINERAL | MODIFIED BITUMEN | MINERAL | MODIFIED BITUMEN | MINERAL | SMOOTH |
| Reinforcing Material | FIBRGLS LAMIN & POLYESTER SCRIM | FIBRGLS MAT & POLYESTER SCRIM | FIBRGLS MAT & POLYESTER SCRIM | FIBRGLS MAT & POLYESTER SCRIM | FIBRGLS MAT & POLYESTER SCRIM | POLYESTER |
| Colors | VARIOUS | BLACK | VARIOUS | BLACK | VARIOUS | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.08 | .93 | 1.06 | .93 | 1.06 | 0.89 |
| KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | TRCH OR MASTIC | TRCH OR MASTIC | TRCH OR MASTIC | TRCH OR MASTIC | TRCH OR MASTIC | TORCH |
| Protected Roof Membrane Assembly | | X | | X | | |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | | | | | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | | | | | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | O | X | O | X O | O | X |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | X O | X O | X O | 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) | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 | 14- 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| 13. FLASHING METHOD | TORCH OR MASTIC | TORCH OR MASTIC | TORCH OR MASTIC | TORCH OR MASTIC | TORCH OR MASTIC | TORCH |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | NO | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1994 | 1993 | 1993 | 1994 | 1994 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTR/DIRECT | DISTR/DIRECT | DISTR/DIRECT | DISTR/DIRECT | DISTR/DIRECT | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | | | | | | 1 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | NO |
| 21. SALES INFORMATION, CONTACT: | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 | CUST SERVICE 800/727-9872 | D QUNADT 888/663-2488 |
| 22. TECHNICAL INFORMATION, CONTACT: | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 | K. HUNT 800/727-9872 | K HUNT 888/663-2488 |
| 23. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| PERFORMANCE ROOF SYSTEMS INC. | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL |
|-------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| BITUTAK MB MINERAL | PARADIENE 20 TS | PARADIENE 29 TSSA | PARADIENE 20 SA | PARADIENE 20 TG | PARADIENE 20 HT TG | PARADIENE 20 PR TG | PARADIENE 20 EG TG | PARADIENE 20 HV TG | PARADIENE 30 TG |
| | | | | | | | | | |
| APP | SBS | SBS | SBS | SBS | SBS | SBS | SBS | SBS | SBS |
| 160 | 87 | 118 | 98 | 110 | 110 | 134 | 138 | 138 | 133 |
| MINERAL | POLYOLEFIN FILM | POLYOLEFIN FILM | PLAIN | PLAIN | PLAIN | PLAIN | PLAIN | PLAIN | MINERAL |
| POLYESTER | GLASS MAT | GLASS MAT | GLASS MAT | GLASS MAT | GLASS MAT / GLASS SCRIM | POLYESTER / GLASS SCRIM | GLASS MAT / GLASS SCRIM | GLASS MAT | GLASS MAT |
| BLACK, WHITE, WEATHER | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | VARIOUS |
| 1.02 | 0.76 | 0.76 | 0.72 | 0.76 | 0.76 | 0.95 | 0.96 | 0.96 | 1.12 |
| NONE | PARADIENE 30 TG | PARADIENE 30 TG | PARADIENE 30 TG | PARADIENE 30TG | PARADIENE 30TG | PARADIENE 30TG | PARADIENE 30TG | PARADIENE 30TG | NONE |
| | | | | | | | | | |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| TORCH | TORCH | SELF-ADHERED | SELF-ADHERED | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| | | | | | | | | | |
| | | | | TORCH | TORCH | TORCH | TORCH | TORCH | |
| TORCH | TORCH | SELF-ADHERED | SELF-ADHERED | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH |
| | | | | X | X | X | X | X | X |
| POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL |
| | | | | | | | | | |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | 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 | 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 |
| X | X O | O X | O | X O | X O | X O | X O | X O | X O |
| O | X O | O X | O | X O | X O | X O | X O | X O | X O |
| O | O | O X | O X | O | O | O | O | O | O |
| O | O X | O | O | O | O | O | O | O | O |
| NONE | NONE | NONE | NONE | | NONE | | | | NONE |
| 40 -120 | 40 - 120 | 50 - 120 | 50 - 120 | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 |
| SAME MATERIAL | | | | | | | | | VERAL |
| TORCH | | | | | | | | | 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 |
| | | | | | | | | | |
| 1997 | 1984 2000 | 1990 2003 | 1990 2003 | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| DISTRIBUTORS | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 1 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| NO | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| D QUNADT 888/663-2488 | 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 |
| K HUNT 888/663-2488 | 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 |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 1. COMPANY NAME | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL |
| 2. PRODUCT NAME | PARADIENE 30 HT TG | PARADIENE 20 | PARADIENE 20 HT | PARADIENE 20 HV | PARADIENE 20 PR | PARADIENE 20 EG |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 133 | 91 | 91 | 114 | 91 | 118 |
| Top Surface | MINERAL | PLAIN | PLAIN | PLAIN | PLAIN | PLAIN |
| Reinforcing Material | GLASS MAT / GLASS SCRIM | GLASS MAT | GLASS MAT, GLASS SCRIM | GLASS MAT | POLYESTER / GLASS SCRIM | GLASS MAT / GLASS SCRIM |
| Colors | VARIOUS | BLACK | BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.12 | 0.62 | 0.62 | 0.90 | 0.60 | 0.84 |
| KINDS OF FIELD SURFACING REQUIRED | NONE | PARADIENE 30 | PARADIENE 30 | PARADIENE 30 | PARADIENE 30 | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | 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 |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH |
| Fully Adhered (method) | TORCH | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH | MOP/PA-311 ADH |
| Protected Roof Membrane Assembly | X | X | X | | X | X |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | X | X | X | X | X |
| Mineral Fiber | O | X | X | X | X | X |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | X O | X O | O | X O | X O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | X | X | X | X | X |
| Perlite | O | X | X | X | X | X |
| Polyisocyanurate | X | X | X | X | X | X |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X O | O | O | O | O | O |
| Wood Plank | X O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | O | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | | NONE | | | |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 – 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | VERAL | | | | | |
| 13. FLASHING METHOD | TORCH | | | | | |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | NO | NO | NO | | NO | NO |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | FRANCE | FRANCE | USA | FRANCE | FRANCE |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | 1968 | | | | |
| Within USA | | 1979 | | | | |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 9 | 9 | 9 | 9 | 9 | 9 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. 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 |
| 22. 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 |
| 23. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

Modified Bitumen, Part 1 - General Information

| SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SIPLAST / ICOPAL | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|--|--|--|
| PARADIENE 30 | PARADIENE 30 HT | PARADIENE 40 FR | PARAFOR 50 LT | VERAL (ALUMINUM FACED) | VERAL (COPPER) | VERAL (STAINLESS STEEL) | SOPRALENE 180 | SOPRALENE FLAM 180 | SOPRALENE GR |
| SBS 130 | SBS 130 | SBS 150 | SBS 173 | SBS 146 | SBS 146 | SBS 138 | SBS 120 | SBS 120 | SBS 160 |
| MINERAL | MINERAL | MINERAL | MINERAL | ALUMINUM | COPPER | STAINLESS STEEL | SAND | PLASTIC FILM | CERAMIC GRANULES |
| GLASS MAT | GLASS MAT | GLASS MAT / GLASS SCRIM | POLYESTER / GLASS SCRIM | GLASS MAT / GLASS SCRIM | GLASS MAT / GLASS SCRIM | GLASS MAT / GLASS SCRIM | NONWOVEN | NONWOVEN | NONWOVEN |
| VARIOUS | VARIOUS | VARIOUS | VARIOUS | ALUMINUM | COPPER | STAINLESS STEEL | BLACK | BLACK | VARIOUS |
| 0.90 | 0.91 | 1.15 | 1.41 | 0.96 | 1.15 | 1.05 | 0.75 | 0.73 | 0.98 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | SOPRALENE OR ELASTOPHENE CAP SHEET | SOPRALENE OR ELASTOPHENE CAP SHEET | NONE |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| HOT MOP / PA-311 ADHESIVE | HOT MOP / PA-311 ADHESIVE | HOT MOP / PA-311 ADHESIVE | HOT MOP / PA-311 ADHESIVE | HOT MOP OR TORCH | HOT MOP OR TORCH | HOT MOP OR TORCH | HOT MOP OR COLD ADHESIVE | HEAT FUSED | HOT MOP OR COLD ADHESIVE |
| 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 OR TORCH | MOP OR TORCH | MOP OR TORCH | MOP OR ADHES | HEAT FUSED | MOP OR ADHES |
| X | X | X | | | | | X | X | X |
| DEAD LEVEL | DEAD LEVEL | 1/4" | 1/2" | 1/2" | 1/2" | 1/2" | 1/8:12 | DEAD LEVEL | 1/8:12 |
| X | X | X | X | X | X | X | X O | X O | O |
| X | X | X | X | X | X | X | X O | X 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 | O |
| O | O | O | O | O | O | O | | | O |
| X | X | X | X | X | X | X | X O | X O | O |
| X | X | X | X | X | X | X | X O | X 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 | X O | X O | O |
| O | O | O | O | O | O | 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 | O | O | O | O | O | O | O |
| NONE | NONE | | NONE | | | | NONE | NONE | NONE |
| 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 35 - 120 | 35 - 120 | 35 - 120 |
| VERAL | VERAL | VERAL | SAME MATERIAL / VERAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE |
| TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED | HEAT FUSED, HOT MOP OR COLD ADHESIVE |
| NO | NO | NO | NO | NO | NO | NO | YES | YES | YES |
| FRANCE USA | FRANCE USA | FRANCE USA | FRANCE USA | FRANCE USA | FRANCE USA | FRANCE USA | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN |
| 1968 1979 | | | | | | | 1975 1984 | 1975 1984 | 1975 1984 |
| | | | | | | | MILLIONS | MILLIONS | MILLIONS |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DISTR,DIRECT | DISTR,DIRECT | DISTR,DIRECT |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 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 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 |
| 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 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 |
| X | X | X | X | X | X | X | | | |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|--------------------------------|--------------------------------------|------------------------------------|--------------------------------------|--------------------------------|--------------------------------------|
| 1. COMPANY NAME | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. |
| 2. PRODUCT NAME | SOPRALENE FLAM 180 GR | SOPRALENE 250 | SOPRALENE FLAM 250 | SOPRALENE 250 GR | SOPRALENE FLAM 250 GR | SOPRALENE 350 |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 160 | 160 | 160 | 160 | 160 | 160 |
| Top Surface | CERAMIC GRANULES | SAND | PLASTIC FILM | CERAMIC GRANULES | CERAMIC GRANULES | SAND |
| Reinforcing Material | NONWOVEN | NONWOVEN | NONWOVEN | NONWOVEN | NONWOVEN | NONWOVEN |
| Colors | VARIOUS | BLACK | BLACK | VARIOUS | VARIOUS | BLACK |
| Installed Weight (lbs./ft ² without ballast) | 0.99 | 1.01 | 0.99 | 0.98 | 1.13 | 0.97 |
| KINDS OF FIELD SURFACING REQUIRED | NONE | SOPRALENE OR ELASTOPHENE CAP SHEET | SOPRALENE OR ELASTOPHENE CAP SHEET | NONE | NONE | SOPRALENE OR ELASTOPHENE CAP SHEET |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HEAT FUSED | HOT MOP OR COLD ADHESIVE | HEAT FUSED | HOT MOP OR COLD ADHESIVE | HEAT FUSED | HOT MOP OR COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | HEAT FUSED | MOP OR ADHES | HEAT FUSED | MOP OR ADHESIVE | HEAT FUSED | MOP OR ADHESIVE |
| Protected Roof Membrane Assembly | X | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | DEAD LEVEL | 1/8:12 | DEAD LEVEL | 1/8:12 | DEAD LEVEL | 1/8:12 |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | X O | O | X O | O | X O |
| Mineral Fiber | O | X O | X | X O | X O | X O |
| Polystyrene | O | O | X | X O | X O | O |
| Cellular Glass | O | X O | X | X O | X O | X O |
| Phenolic | O | O | O | O | | |
| Fiberboard | O | X | O | X O | O | X O |
| Perlite | O | X O | X | X O | X O | X O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | X O | X O | X | X O | X O | X O |
| Concrete | O | X O | X | X O | X O | X O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 35 – 120 | 35 – 120 | 0 - 120 | 35 – 120 | 0 - 120 | 35 – 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE |
| 13. FLASHING METHOD | HEAT FUSED | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED | HEAT FUSED, HOT MOP OR COLD ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1975 | 1975 | 1975 | 1975 | 1975 | 1975 |
| Within USA | 1984 | 1984 | 1984 | 1984 | 1984 | 1984 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| 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 | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. 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 |
| 22. 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 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

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|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------|--------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. |
| SOPRALENE 350 GR | ELASTOPHENE | ELASTOPHENE FLAM | ELASTOPHENE GR | APP 160 COOL 280 FR GR | APP 170 FLAM 180 FR GR | APP180 FR GR | APP 180 FR FR GR | APP 180 FR COOL | APP 80 GLASS BASE |
| | | | | | | | | | |
| SBS 200 | SBS 90 | SBS 120 | SBS 136 | APP 150 | SBS 155 | SBS 160 | APP 170 | APP 170 | APP 80 |
| CERAMIC GRANULES NONWOVEN | SAND FIBERGLASS | PLASTIC FILM FIBERGLASS | CERAMIC GRANULES | CERAMIC GRANULES | SMOOTH GRANULES | CERAMIC GRANULES | GRANULES GRANULES | GRANULES GRANULES | PLASTIC FILM |
| | | | | | | | | | |
| VARIOUS | BLACK | BLACK | VARIOUS | VARIOUS | BLACK | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| 1.32 | 0.57 | 0.79 | 0.87 | 0.87 | 0.99 | 1.05 | 1.07 | 1.07 | 0.50 |
| NONE | ELASTOPHENE, SOPRALENE GRANULE | ELASTOPHENE, SOPRALENE GRANULE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| | | | | | | | | | |
| X | X | X | | | | | | | |
| X | X | X | | | | | | | |
| HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | HEAT FUSED | HOT MOP OR COLD ADHESIVE | HOT MOP OR COLD ADHESIVE | HEAT FUSED | MOP OR COLD ADHESIVE | TORCH | TORCH | TORCH |
| | | | | | | | | | |
| | | | | | | | | | |
| HOP OR ADHESIVE X | MOP OR ADHESIVE | HEAT FUSED X | | | | | | | |
| 1/8:12 | 1/8:12 | DEAD LEVEL | 1/8:12 | 1/8:12 | DEAD LEVEL | 1/8:12 | POS DRAIN | POS DRAIN | POS DRAIN |
| | | | | | | | | | |
| X O | X O | 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 | O | 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 |
| | | | | O | O | O | O | O | O |
| O | X O | 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 |
| 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 | X | X | X | X 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 | O | O | O |
| O | O | X O | O | O | O | O | O | O | O |
| NONE | NONE | NONE | | | | | | | |
| 35 - 120 | 35 - 120 | 35 - 120 | 0 - 120 | 35 - 120 | 40 - 100 | 35 - 120 | 0 - 120 | 0 - 120 | 0 - 120 |
| SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE | SAME MATERIAL OR FOIL MEMBRANE |
| HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | TORCH OR COLD | HEAT FUSED | HEAT FUSED, HOT MOP OR COLD ADHESIVE | TORCH | TORCH | TORCH |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | | |
| USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | ITALY USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN |
| | | | | | | | | | |
| 1975 1984 | 1975 1984 | 1975 1984 | 1975 1984 | 1998 | 1965 1984 | 1975 1991 | 1975 1993 | 1975 1998 | 1975 1998 |
| | | | | | | | | | |
| MILLIONS | MILLIONS | MILLIONS | MILLIONS | THOUSANDS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS |
| DISTR, DIRECT | 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 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 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 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 |
| 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 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 | 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. |
| 2. PRODUCT NAME | APP 80 GLASS COOL BSAE | SBS 180 PS | SBS FR FLAM FR GR | SBS FR PREMIUM FR GR | ELASTOPHENE FR GR | SOPRALAST 50 TV ALU |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 80 | | | | | |
| Top Surface | SMOOTH | SAND | CERAMIC GRANULES | CERAMIC GRANULES | CERAMIC GRANULES | ALUMINUM |
| Reinforcing Material | | | | | | |
| Colors | VARIOUS | BLACK | VARIOUS | VARIOUS | VARIOUS | ALUMINUM |
| Installed Weight (lbs./ft ² without ballast) | 0.50 | 0.97 | 0.97 | 1.02 | 1.05 | 1.00 |
| KINDS OF FIELD SURFACING REQUIRED | ELASTOPHENE, SOPRALENE GRANULE | ELASTOPHENE, SOPRALENE GRANULE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | | | | | | |
| Reroofing | | | | | | |
| 6. FIELD LAP JOINT METHOD | TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | TORCH |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | | | | | | |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | 1/8:12 | 1/8:12 | 1/8:12 | 1/8:12 | 1/8:12 | 1/2" |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | X O | O | O | O | O | O |
| Mineral Fiber | X O | X O | X O | X O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | X O | X O | X O | X O | O | O |
| Phenolic | | | | | | |
| Fiberboard | O | X O | X O | X O | O | O |
| Perlite | X O | X O | X O | X O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | X O | X O | X O | X O | O | O |
| Concrete | X | X O | X O | X O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 0 – 120 | 0 – 120 | 0 – 120 | 0 – 120 | 0 - 120 | 35 – 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL FOIL MEMBRANE | SBS FLASHING MATERIAL OR FOIL MEMBRANE | SBS FLASHING MATERIAL OR FOIL MEMBRANE | SBS FLASHING MATERIAL OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SBS FLASHING FOIL MEMBRANE |
| 13. FLASHING METHOD | TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | 1975 | 1975 | 1975 | 1975 | 1975 |
| Within USA | 1998 | 1992 | 1993 | 1992 | 1993 | 1994 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| 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 | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. 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 |
| 22. 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 |
| 23. SEE 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. |
| SOPRALAST TV COPPER | SOPRALAST 50 TV INOX | SOPRAFIX (F) (H) (S) (T) | ELASTOPHENE 3.0mm | SOPRALENE 350 PS | SBS PREMIUM FR TORCH | SBS BASE SHEET | SBS PREMIUM BASE SHEET | SBS SMOOTH | SBS METAL FLASH-AL |
| SBS | SBS | SBS | SBS | SBS | SBS | SBS 90 | SBS 90 | SBS 145 | SBS METAL 150 |
| COPPER | SMOOTH | SMOOTH FILM | SAND | PLASTIC FILM | GRANULES FILM | SMOOTH | SMOOTH | SMOOTH | ALUMINUM |
| COPPER | STAINLESS | BLACK | BLACK | BLACK | VARIOUS | BLACK | BLACK | BLACK | ALUMINUM |
| 0.97 | 0.85 | 0.85 | 0.59 | 1.02 | 1.03 | 0.55 | 0.57 | 0.90 | 1.00 |
| NONE | NONE | SOPRALENE OR ELASTOPHENE CAP SHEET | SOPRALENE OR ELASTOPHENE CAP SHEET | SOPRALENE OR ELASTOPHENE CAP SHEET | | NONE | NONE | NONE | NONE |
| HOT MOP, TORCH OR COLD | HEAT FUSED | TORCH | HOT MOP OR COLD | HOT MOP OR COLD ADHESIVE | HEAT FUSED | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP, TORCH OR COLD | TORCH |
| 1/2" | 1/2" | 1/8:12 | 1/8:12 | 1/8:12 | DEAD LEVEL | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN |
| O | O | X O | O | X O | O | O | O | O | O |
| O | O | X O | O | X O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | X O | O | X O | O | O | O | O | O |
| O | O | X 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 | X O | O | X O | X O | X O | X O | X O | X O |
| O | X | X O | O | X O | O | O | O | X | X |
| 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 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| 0 - 120 | 0 - 120 | 0 - 120 | 40 - 100 | 0 - 120 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 | 40 - 100 |
| SBS FLASHING | SAME MATERIAL | SOPRALENE OR FOIL MEMBRANE | SBS FLASHING MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SBS FLASHING MEMBRANE | SBS FLASHING MEMBRANE | SBS FLASHING MEMBRANE | SBS FLASHING MEMBRANE | SAME MATERIAL MEMBRANE |
| HOT MOP, TORCH OR COLD | HOT MOP, TORCH OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP OR COLD | HOT MOP, TORCH OR COLD | TORCH |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | USA USA, FR, CAN | PUERTO RICO |
| 1975 1992 | 1975 1998 | 1975 1999 | 1975 1999 | 1975 1993 | 1975 1984 | 1975 1992 | 1975 1992 | 1975 1992 | 1975 1992 |
| MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | THOUSANDS | MILLIONS | THOUSANDS |
| DISTR, DIRECT | 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 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 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 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 |
| 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 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 |

Modified Bitumen, Part 1 - General Information

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|--|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| 1. COMPANY NAME | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. | SOPREMA, INC. |
| 2. PRODUCT NAME | MB BASE SA | LASTOBOND | COLPHENE GR | COLDPHENE FR GR | COLDPHENE HR GR | COLDPHENE HR-FR GR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | SBS | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 45 | 108 | 140 | 140 | 140 | 140 |
| Top Surface | SMOOTH | SAND | CERAMIC GRANULES | CERAMIC GRANULES | CERAMIC GRANULES | CERAMIC GRANULES |
| Reinforcing Material | | FIBERGLASS | FIBERGLASS | FIBERGLASS | GLASS GRID | GLASS GRID |
| Colors | BLACK | BLACK | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| Installed Weight (lbs./ft ² without ballast) | 0.29 | 0.90 | 0.94 | 1.14 | 0.90 | 0.97 |
| KINDS OF FIELD SURFACING REQUIRED | NONE | SHINGLES OR TILE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | | X | X | X | X | X |
| Reroofing | | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | PRESSURE OR HEAT WELD | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE | SELF ADHESIVE |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | POS DRAIN | 1/8:12 | 1/8:12 | 1/8:12 | 1/8:12 | 1/8:12 |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | X | X |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | X | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | X | X | X | X | X |
| Concrete | X | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | O | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 - 100 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | SBS FLASHING | SOPRALENE OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE | SOPRALENE OR FOIL MEMBRANE |
| 13. FLASHING METHOD | HOT MOP OR COLD | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE | HEAT FUSED, HOT MOP OR COLD ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN | USA, FR, CAN |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | 1975 | 1975 | 1975 | 1975 | 1975 |
| Within USA | 2001 | 1984 | 1984 | 1984 | 1984 | 1984 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTR,DIRECT | DISTR,DIRECT | DISTR,DIRECT | DISTR,DIRECT | DISTR,DIRECT | DISTR,DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | SALES MGR 800/356-3521 | REGIONAL OFFICE | REGIONAL OFFICE | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 | SALES MGR 800/356-3521 |
| 22. TECHNICAL INFORMATION, CONTACT: | TECH MGR 330/334-0066 | TECH SERV. 800/766-3411 | TECH SERV. 800/766-3411 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 | TECH MGR 330/334-0066 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

Modified Bitumen, Part 1 - General Information

| SOPREMA, INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | U.S. INTEC, INC. | U.S. INTEC, INC. | U.S. INTEC, INC. |
|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|------------------------------|--------------------------|
| SOPRAFIX (X) | POWERPLY SUPREME SMOOTH | POWERPLY SUPREME HT FR | POWERPLY HE FR | POWERPLY PREMIUM FR | POWERPLY PREMIUM SMOOTH | POWERPLY STANDARD FR | BRAI SUPREME SBS GLASS BASE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE |
| SBS | SBS/SEBS/SIS | SBS/SEBS/SIS | SBS | SBS/SEBS/SIS | SBS | SBS | SBS | APP | APP GRANULE |
| 160 | 105 | 138 | 175 | 150 | 80 | 120 | 95 | 160 | 160 |
| PLASTIC FILM | SMOOTH | GRANULE | GRANULE | GRANULE | SMOOTH | GRANULE | SMOOTH | SMOOTH | GRANULES |
| NONWOVEN | POLYESTER / FIBERGLASS | POLYESTER / FIBERGLASS | POLYESTER | POLYESTER / FIBERGLASS | POLYESTER / FIBERGLASS | FIBERGLASS | FIBERGLASS | POLYESTER | POLYESTER |
| BLACK | BLACK | WHITE, BLACK, TAN | WHITE | WHITE, BLACK, TAN | BLACK | WHITE, BLACK, TAN | BLACK | BLACK | VARIOUS |
| 0.97 | 0.70 | 1.00 | 1.05 | 0.94 | 0.46 | 0.88 | 0.54 | 0.90 | 0.94 |
| SOPRALENE OR ELASTOPHENE CAP SHEET | EMULSION OR GRAVEL | NONE | NONE | NONE | EMULSION OR GRAVEL | NONE | CAP SHEET / MOP GRAVEL | ROOF COATING, GRANULE GRAVEL | NONE |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| HEAT FUSED | HOP MOP / COLD ADHESIVE | HOP MOP / COLD ADHESIVE | HOP MOP / COLD ADHESIVE | HOP MOP / COLD ADHESIVE | HOP MOP / COLD ADHESIVE | HOP MOP / COLD ADHESIVE | MOP / ADHESIVE | TORCH | TORCH |
| | | | | | | | | | |
| | | | | | | | | TORCH | TORCH |
| MECH. ATTACHED | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD | HOT OR COLD | MOP/ MECH FAST | TORCH | TORCH |
| | | | | | | | | X | X |
| 1/8:12 | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN | POS DRAIN |
| | | | | | | | | | |
| X O | X | X | X | X | X | X | O | O | O |
| X O | | | | | | | O | O | O |
| O | | | | | | | O | O | O |
| X O | | | | | | | O | O | O |
| | | | | | | | O | O | O |
| X | X | X | X | X | X | X | | O | O |
| X | X | X | X | X | X | X | X | O | O |
| O | O | O | O | O | O | O | X | O | O |
| O | O | O | O | O | O | O | O | O | O |
| X O | O | O | O | O | O | O | O | O | O |
| X O | X | X | X | X | X | X | O | X O | X 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 | X | X |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | SEE SPECS | SEE SPECS |
| 40 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 40 - 120 | 40 - 120 | 40 - 120 |
| SOPRALENE OR FOIL MEMBRANE | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME, CSPE, OR COMPATIBLE MATERIALS | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| HEAT FUSED | 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 | MOP / CEMENT | TORCH | TORCH |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | | |
| USA USA, FR, CAN | USA USA | USA USA | USA USA | USA USA | USA USA | USA USA | USA UA | ITALY USA | ITALY USA |
| | | | | | | | | | |
| 1975 1984 | 1999 | 1999 | 1999 | 1999 | 1999 | 1999 | 1989 1989 | 1961 1978 | 1976 1986 |
| | | | | | | | | | |
| MILLIONS | | | | | | | | | |
| DISTR, DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 5 | 14 | 14 | 14 | 14 | 14 | 14 | 9 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| SALES MGR 800/356-3521 | LOCAL REP | LOCAL REP | LOCAL REP | LOCAL REP | LOCAL REP | LOCAL REP | 800/231-4631 | 800/231-4631 | 800/231-4631 |
| TECH MGR 330/334-0066 | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | 800/624-6832 | 800/231-4632 | 800/231-4632 |
| | | | | | | | | | |

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. |
| 2. PRODUCT NAME | BRAI SUPREME FR APP GRANULE | BRAI SUPREME SBS GRANULE | BRAI SBS GLASS GRANULE FR | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | BRAI SUPREME PLUS SBS POLY GRANULE FR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | SBS | SBS | SBS | SBS | SBS |
| Thickness (mils) | 160 | 160 | 130 | 160 | 160 | 177 |
| Top Surface | GRANULES | GRANULES | GRANULES | SMOOTH | GRANULES | GRANULES |
| Reinforcing Material | POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | POLYESTER | POLYESTER COMPOSITE |
| Colors | VARIOUS | VARIOUS | WHITE / BLACK | | WHITE / BLACK | WHITE / BLACK |
| Installed Weight (lbs./ft ² without ballast) | 1.05 | 0.95 | 0.92 | 0.90 | 0.98 | 0.98 |
| KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | NONE | CAP SHEET / GRAVEL | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TORCH | HOT MOP / ADHESIVE | HOT MOP / ADHESIVE | HOT MOP / ADHESIVE | HOT MOP / ADHESIVE | HOT MOP / ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | TORCH | HOT MOP | HOT MOP | HOT MOP | HOT MOP | HOT MOP |
| Fully Adhered (method) | TORCH | HOT MOP/COLD | HOT MOP/COLD | MOP/ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE |
| Protected Roof Membrane Assembly | X | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | X O | X O |
| Phenolic | O | O | O | O | O | O |
| Fiberboard | O | X | O | O | X | X |
| Perlite | O | X | O | O | X | X |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up Membrane | X | X | X | X | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 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 |
| 13. FLASHING METHOD | TORCH | MOP / CEMENT | MOP / CEMENT | MOP / CEMENT | MOP / CEMENT | MOP / CEMENT |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | ITALY | | | | | |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1976 | | | | | |
| Within USA | 1991 | 1985 | 1985 | 1985 | 1990 | 1990 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | | | | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/231-4631 | 800/231-4631 | 800/231-4631 | 800/231-4631 | 800/231-4631 | 800/231-4631 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/231-4632 | 800/231-4632 | 800/231-4632 | 800/231-4632 | 800/231-4632 | 800/231-4632 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

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 SA-3 | PREMIUM MA-4 | PIKA PLY SS3G (TG) | WEATHER PLY MA | PIKA PLY HI-TEC 80 | PIKA PLY CAP SHEET | PERFORMANCE PLY MS FR | PERFORMANCE PLY MS | PERFORMANCE PLY SS | PREMIUM CAP SHEET |
| | | | | | | | | | |
| APP 140 | APP 160 | SBS 120 | APP 160 | SBS 80 | SBS 128 | SBS, SEBS 160 | SBS 135 | SBS, SEBS 120 | SBS 136 |
| SMOOTH | GRANULE | SMOOTH | GRANULE | SMOOTH | GRANULE | GRANULE | GRANULE | SMOOTH | GRANULE |
| POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | FIBERGLASS / POLYESTER | FIBERGLASS | POLYESTER | POLYESTER | POLYESTER | FIBERGLASS |
| BLACK | WHITE | BLACK | WHITE | BLACK | WHITE | WHITE | WHITE | BLACK | WHITE |
| | | | | | | | | | |
| GRAVEL ALUMINUM WHITE | NONE | GRAVEL ALUMINUM WHITE | NONE | GRAVEL ALUMINUM WHITE | NONE | NONE | NONE | GRAVEL ALUMINUM WHITE | 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 COLD ADHESIVE | MOP / ADHESIVE | MOP / ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE |
| | | | | | | | | | |
| | | | | | MOP/ADHESIVE | | | | |
| | | | | | | | | | |
| TORCH X | TORCH | TORCH | MOP/ADHESIVE | MOP/ADHESIVE X | | MOP/ADHESIVE X | MOP/ADHESIVE X | MOP/ADHESIVE X | MOP/ADHESIVE X |
| | | X | | 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 |
| 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, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE |
| TORCH | TORCH | TORCH | HOT MOP COLD ADHESIVE | MOP COLD ADHESIVE | MOP COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH |
| YES | YES | YES | YES | 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 |
| | | | | | | | | | |
| 1985 | 1985 | 1985 | 1985 | 1985 | 1985 | 1985 | 1985 | 1985 | 1985 |
| | | | | | | | | | |
| THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 |
| K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 |
| | | | | | | | | | |

Modified Bitumen, Part 1 - General Information

| | | | | | | |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | 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. |
| 2. PRODUCT NAME | WEATHER PLY MA FR | PIKA PLY MS-4 | PIKA PLY SS-4 | PIKA PLY SS-3G | PIKA PLY SS-3P | PIKA PLY S-3G |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Type of Modifier | APP | SBS, SEBS | SBS, SEBS | SBS, SEBS | SBS, SEBS | SBS, SEBS |
| Thickness (mils) | 160 | 160 | 160 | 120 | 120 | 120 |
| Top Surface | GRANULE | GRANULE | SAND | GRANULE | SAND | SAND |
| Reinforcing Material | POLYESTER | POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | FIBERGLASS |
| Colors | WHITE | WHITE | BLACK | WHITE | BLACK | BLACK |
| Installed Weight (lbs./ft ² without ballast) | | | | | | |
| KINDS OF FIELD SURFACING REQUIRED | NONE | NONE | GRAVEL ALUMINUM WHITE | NONE | GRAVEL ALUMINUM WHITE | GRAVEL ALUMINUM WHITE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS: | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | | | | | | |
| Fully Adhered (method) | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE | MOP/ADHESIVE |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | | 1:8 | 1:8 | 1:8 | 1:8 | 1:8 |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (O=overlayment required in some/all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | | | | | | |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | | | | | | |
| Fiberboard | O | O | O | O | O | O |
| Perlite | O | O | O | O | O | O |
| Polyisocyanurate | O | O | O | O | O | O |
| Polyurethane | O | O | O | O | O | O |
| Gypsum | O | O | O | O | O | O |
| Concrete | X | X | X | X | X | X |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 | 35 - 120 |
| 12. FLASHING MATERIAL | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE |
| 13. FLASHING METHOD | HOT MOP COLD ADHESIVE | MOP COLD ADHESIVE | MOP COLD ADHESIVE | MOP COLD ADHESIVE | MOP COLD ADHESIVE | MOP COLD ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1985 | 1985 | 1985 | 1985 | 1985 | 1985 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| 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 | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 |
| 22. TECHNICAL INFORMATION, CONTACT: | K. BRZOZOWSKI 440/248-7760 | K. BRZOZOWSKI 440/248-7760 | K. BRZOZOWSKI 440/248-7760 | K. BRZOZOWSKI 440/248-7760 | K. BRZOZOWSKI 440/248-7760 | K. BRZOZOWSKI 440/248-7760 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

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-2 | PIKA PLY ALUMINUM | PIKA PLY MS-4G (TG) | PIKA PLY MS4G (TG) | PIKA PLY SS3P (TG) | PIKA PLY MA-4 | PIKA PLY SA-4 | PIKA PLY SUPREME FR SMOOTH | PIKA PLY SUPREME FR | PIKA PLY HI-TEC GRANULE |
| SBS 60 | SBS 160 | SBS 148 | SBS 160 | SBS 120 | APP 160 | APP 160 | SBS, SIS, ES 120 | SBS, SEBS 160 | SBS 140 |
| SAND | ALUMINUM | GRANULE | GRANULE | SMOOTH | GRANULE | SMOOTH | SMOOTH | GRANULE | GRANULE |
| POLYESTER | FIBERGLASS | POLYESTER | FIBERGLASS | POLYESTER | POLYESTER | POLYESTER | POLYESTER / FIBERGLASS | POLYESTER / FIBERGLASS | FIBERGLASS / POLYESTER |
| BLACK | ALUMINUM | WHITE | WHITE | BLACK | WHITE | BLACK | BLACK | WHITE | WHITE |
| GRAVEL ALUMINUM WHITE | NONE | NONE | NONE | GRAVEL ALUMINUM WHITE | NONE | GRAVEL ALUMINUM WHITE | GRAVEL ALUMINUM 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 ADHESIVE | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | HOT MOP COLD ADHESIVE | HOT MOP COLD ADHESIVE | MOP / ADHESIVE |
| MOP/ADHESIVE | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | MOP/ADHESIVE X | MOP/ADHESIVE X | MOP/ADHESIVE |
| 1:8 | | | | X | | X | 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 | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| O | O | O | O | O | O | 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, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE | SAME MATERIAL, PIKA PLY FOIL MEMBRANE |
| MOP COLD ADHESIVE | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | TORCH | MOP COLD ADHESIVE |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | NO |
| 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 | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 | 440/248-7760 |
| K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 | K. BRZOWSKI 440/248-7760 |

APP Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---------------------------|-------------------|
| 1. | COMPANY NAME | BITEC INC. | BITEC INC. |
| 2. | PRODUCT NAME | MDA | APS-4T |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing | POLYESTER | POLYESTER |
| | Top surface | GRANULE | SMOOTH |
| 4A. | 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) | | X |
| | Type II, Grade G (granule surfaced) | | |
| | Type II, Grade S (smooth surfaced) | | |
| 4B. | ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) | | |
| | Type I, Grade G (granule surfaced) | X | |
| | Type I, Grade S (smooth surfaced) | | |
| | Type II, Grade G (granule surfaced) | | |
| | Type II, Grade S (smooth surfaced) | | |
| 4C. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | CLASS A - GRADE 1 | CLASS C - GRADE 1 |
| 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 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 70; Type II: 80 | 90 |
| | 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 | 80 |
| 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 | 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 | 110 |
| | Bottom coating thickness (min., mils) | 40 | 80 |
| 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 | 60.5 |
| | Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | Type I: 23; Type II: 40 | 35 |
| | Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 60; Type II: 90 | 93.1 |
| | Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | Type I: 10; Type II: 15 | 21.8 |
| | Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. | Type I: 30; Type II: 50 | 42.5 |
| | Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 70; Type II: 80 | 102 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | +32 | 15.8 |
| | Dimensional stability, % change, max. | 1 | ≤1 |
| | High temperature stability, F min. | 230 | 250 |
| | Granule embedment, Grade G only, max. loss, grams | 2 | <2 |
| | Water absorption, % max. | 3.2 | 0.43 |
| | Moisture content, % max. | 1 | <0.27 |
| | Low temperature unrolling, F max. | 41 | PASS |
| 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. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRR) (indicate yes/no) | | |
| 8. | SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

| BITEC INC. | BITEC INC. | BITEC INC. | CERTAINTEED ROOFING PRODUCTS | CERTAINTEED ROOFING PRODUCTS | CERTAINTEED ROOFING PRODUCTS | CERTAINTEED ROOFING PRODUCTS | CERTAINTEED ROOFING PRODUCTS |
|-------------------|-------------------|-------------------|------------------------------|------------------------------|------------------------------|------------------------------|-----------------------------------|
| APM-4T | APM-4.5T | COMPABASE FA-2T | FLINTASTIC STA | FLINTASTIC STA PLUS | FLINTASTIC GTA | FLINTASTIC GTA-FR | GTA BLACK DIAMOND & WHITE DIAMOND |
| POLYESTER GRANULE | POLYESTER GRANULE | FIBERGLASS SMOOTH | POLYESTER SMOOTH | POLYESTER SMOOTH | POLYESTER GRANULE | POLYESTER GRANULE | POLYESTER GRANULE |
| X | X | | | | | | X |
| | | | | | X | X | |
| | | | X | X | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| CLASS A - GRADE 1 | CLASS A - GRADE 1 | CLASS C - GRADE 1 | | | | | |
| | | | | | | | |
| 160 | 180 | | 160 | 200 | 170 | 170 | 16 |
| 110 | 123 | | 90 | 105 | | | |
| 80 | 90 | | 60 | 80 | 105 | 105 | 95 |
| | | | | | 60 | 60 | 70 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 60.5 | 60.5 | 67 | 110 / 90 | 110 / 90 | 106 / 92 | 106 / 92 | 106 / 92 |
| 35 | 35 | 6 | 63 / 68 | 63 / 68 | 57 / 62 | 57 / 62 | 57 / 62 |
| 93 | 93 | | 141 / 118 | 141 / 118 | 133 / 116 | 133 / 116 | 133 / 116 |
| 21.8 | 21.8 | | 19 / 23 | 19 / 23 | 20 /22 | 20 /22 | 20 / 22 |
| 42.5 | 42.5 | | 60 / 65 | 60 / 65 | 62 / 65 | 62 / 65 | 62 / 65 |
| 110 | 123 | | 100 | 100 | 100 | 100 | 105 |
| 15.8 | 15.8 | 14 | 8 | 8 | 8 | 8 | 8 |
| ≤1 | ≤1 | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 250 | 250 | | 250 | 250 | 250 | 250 | 250 |
| <2 | <2 | | | | 1 | 1 | |
| 0.43 | 0.43 | | <1 | <1 | <1 | <1 | <1 |
| <0.27 | <0.27 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| PASS | PASS | | 30 | 30 | 30 | 30 | 30 |
| | | | | | | | |
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| | | | | | | | |
| | | | | | 0.27 | 0.27 | 0.32 |
| | | | | | 0.87 | 0.87 | 0.91 |
| | | | | | NO | NO | NO |
| | | | | | YES | NO | YES |

APP Modified Bitumen, Part 2 - Test Results

| | | | |
|---|---------------------------|--------------------|------------------------------|
| 1. COMPANY NAME | | DIBITEN | DIBITEN |
| 2. PRODUCT NAME | | DIBITTEN POLY/4 | DIBITEN POLY 4.5 GRANULAR |
| 3. PRODUCT DESCRIPTION | | | |
| Reinforcing | | POLYESTER | POLYESTER |
| Top surface | | SMOOTH | GRANULE |
| 4A. 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) | | | X |
| Type I, Grade S (smooth surfaced) | | X | |
| Type II, Grade G (granule surfaced) | | | |
| Type II, Grade S (smooth surfaced) | | | |
| 4B. ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using 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) | | | |
| 4C. CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | | |
| 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 | 75 | |
| Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 85; Type II: 100 | | 90 |
| Bottom coating thickness (min., mils) | Type I: 30; Type II: 40 | 80 | 80 |
| 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 | 60 | 60 |
| Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | Type I: 23; Type II: 40 | 25 | 25 |
| 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 | 30 | 30 |
| Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 70; Type II: 80 | 84 | 100 |
| Low temperature flexibility, before and after heat conditioning, F, max. | 32 | 14 | 23 |
| Dimensional stability, % change, max. | 1 | 0.1 | 0.1 |
| High temperature stability, F min. | 230 | 230 | 230 |
| Granule embedment, Grade G only, max. loss, grams | 2 | | 2 |
| Water absorption, % max. | 3.2 | 0.4 | 0.5 |
| Moisture content, % max. | 1 | 0.2 | 0.2 |
| Low temperature unrolling, F max. | 41 | 40 | 40 |
| 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. REFLECTIVITY | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | | |
| Energy Star Label (indicate yes/no) | | | |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | | |
| 8. SEE APPENDIX IF CHECKED | | | |

APP Modified Bitumen, Part 2 - Test Results

| DIBITEN | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. |
|---------------------|----------------------------|----------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| DIBITEN POLY/5 | ERS 600 | ERS 601 | APP 160 | APP 160 COOL | APP 170 | APP 180 | APP 180 |
| POLYESTER SMOOTH | POLYESTER SMOOTH | POLYESTER GRANULE | REINF POLY SMOOTH | REINF POLY SMOOTH | REINF POLY SMOOTH | REINF POLY GRANULE | REINF POLY GRANULE |
| X | X | X | X | X | X | X | X |
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| | | | | | | | |
| 200 | 160 | 180 | 150 | 150 | 165 | 165 | 165 |
| 85 | 75 | 90 | 82 | 82 | 90 | 102 | 102 |
| 100 | 80 | 80 | 50 | 50 | 51 | 51 | 51 |
| | | | | | | | |
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| | | | | | | | |
| 60 | 62 | 62 | 80 | 80 | 80 | 67 | 67 |
| 25 | 25 | 25 | 50 | 50 | 45 | 59 | 59 |
| 200 | 61 | 61 | 135 | 135 | 135 | 85 | 85 |
| 22 | 28 | 28 | 40 | 40 | 41 | 17 | 17 |
| 30 | 34 | 34 | 57 | 57 | 44 | 68 | 68 |
| 118 | 88 | 88 | 90 | 90 | 90 | 90 | 90 |
| 14 | 33 | 33 | 14 | 14 | 14 | 4 | 4 |
| 0.1 | 0.01 | 2 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 |
| 230 | 230 | 230 | 270 | 270 | 270 | 270 | 270 |
| | | 2 | | | | 1 | 1 |
| 0.4 | 0.04 | 0.05 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 0.2 | 0.01 | 0.01 | <1 | <1 | <1 | <1 | <1 |
| 40 | 40 | 40 | 10 | 10 | 10 | 10 | 10 |
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| | | | E903 C 1371 YES YES | E 903 C 1371 YES YES | E 903 C 1371 YES YES | E 903 C 1371 YES YES | E 903 C 1371 YES YES |

APP Modified Bitumen, Part 2 - Test Results

| | | |
|---|---------------------------------|---------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS CO. | FIRESTONE BUILDING PRODUCTS CO. |
| 2. PRODUCT NAME | APP 180 FR | APP 180 FR COOL |
| 3. PRODUCT DESCRIPTION | | |
| Reinforcing | REINF POLY | REINF POLY |
| Top surface | GRANULE | GRANULE |
| 4A. 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) | X | X |
| Type I, Grade S (smooth surfaced) | | |
| Type II, Grade G (granule surfaced) | | |
| Type II, Grade S (smooth surfaced) | | |
| 4B. ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using 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) | | |
| 4C. CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 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 | 165 |
| Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 70; Type II: 80 | 165 |
| Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 85; Type II: 100 | 102 |
| Bottom coating thickness (min., mils) | Type I: 30; Type II: 40 | 51 |
| 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 | 67 |
| Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | Type I: 23; Type II: 40 | 59 |
| Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 60; Type II: 90 | 85 |
| Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | Type I: 10; Type II: 15 | 17 |
| Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. | Type I: 30; Type II: 50 | 68 |
| Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 70; Type II: 80 | 90 |
| Low temperature flexibility, before and after heat conditioning, F, max. | 32 | 4 |
| Dimensional stability, % change, max. | 1 | 0.5 |
| High temperature stability, F min. | 230 | 270 |
| Granule embedment, Grade G only, max. loss, grams | 2 | 1 |
| Water absorption, % max. | 3.2 | 0.5 |
| Moisture content, % max. | 1 | <1 |
| Low temperature unrolling, F max. | 41 | 10 |
| 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. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | E 903 | E 903 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | C 1371 | C 1371 |
| Energy Star Label (indicate yes/no) | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | YES |
| 8. SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

[illegible]

APP Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---------------------------|---------------------------|
| 1. | COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. | PRODUCT NAME | RUBEROID TORCH 1 | TRI-PLY TP-4 |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing | POLYESTER | POLYESTER |
| | Top surface | GRANULE | SMOOTH |
| 4A. | 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) | X | |
| | Type I, Grade S (smooth surfaced) | | X |
| | Type II, Grade G (granule surfaced) | | |
| | Type II, Grade S (smooth surfaced) | | |
| 4B. | ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using 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) | | |
| 4C. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: POLYESTER REINFORCEMENTS | | |
| | Thickness (min., mils) Grade S Type I: 140; Type II: 150 | | 154 |
| | Thickness (min., mils) Grade G Type I: 160; Type II: 170 | 162 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S Type I: 70; Type II: 80 | | 84 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G Type I: 85; Type II: 100 | 96 | |
| | Bottom coating thickness (min., mils) Type I: 30; Type II: 40 | 30 | 30 |
| 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 | 100 | 101 |
| | Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. Type I: 23; Type II: 40 | 52 | 57 |
| | Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. Type I: 60; Type II: 90 | 120 | 138 |
| | Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. Type I: 10; Type II: 15 | 45 | 52 |
| | Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. Type I: 30; Type II: 50 | 30 | 30 |
| | Tear strength at 73.4 ±3.6 F, lbf, min Type I: 70; Type II: 80 | 134 | 132 |
| | Low temperature flexibility, before and after heat conditioning, F, max. +32 | 68 | 32 |
| | Dimensional stability, % change, max. 1 | 1.0 | 1.0 |
| | High temperature stability, F min. 230 | 230 | 230 |
| | Granule embedment, Grade G only, max. loss, grams 2 | NA | NA |
| | Water absorption, % max. 3.2 | 3.2 | 3.2 |
| | Moisture content, % max. 1 | 1.0 | 1.0 |
| | Low temperature unrolling, F max. 41 | 41 | 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. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRR) (indicate yes/no) | | |
| 8. | SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

| GAF MATERIALS CORP. | HONEYWELL INTERNATIONAL INC. | HONEYWELL INTERNATIONAL INC. | IKO INDUSTRIES INC. | IKO INDUSTRIES INC. | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE |
|---------------------------|------------------------------------|------------------------------------|---------------------------|---------------------------|---------------------|------------------------|-----------------------|
| TRI-PLY TP-4G | INFINITEE SMOOTH TORCH | INFINITEE GRANULAR TORCH CAP | ARMOURPLAST GRANULAR | ARMOURPLAST CLASSIC | APPEX 4S | TRICOR M-FR | TRICOR S |
| | | | | | | | |
| POLYESTER GRANULE | | | POLYESTER GRANULE | POLYESTER SMOOTH | POLYESTER SMOOTH | COMBINATION GRANULE | COMBINATION SMOOTH |
| | | | | | | | |
| | X | X | X | X | X | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | X | |
| | | | | | | | X |
| | | | | | | | |
| | 149 | | | 160 | 160 | | |
| 161 | | 160 | 160 | | | | |
| | 70 | | | | | | |
| 94 | | 85 | | | 85 | | |
| 30 | 30 | 30 | | | 80 | | |
| | | | | | | | |
| | | | | | | | 160 |
| | | | | | | 180 | |
| | | | | | | | 75 |
| | | | | | | 90 | |
| | | | | | | 90 | 80 |
| | | | | | | | |
| 100 | 50 | 50 | 74 | 74 | 60 | | |
| 55 | 40 | 40 | 50 | 50 | 40 | | |
| 120 | 70 | 70 | | | 80 | | |
| 45 | 15 | 15 | | | 42 | | |
| 30 | 30 | 30 | | | 35 | | |
| 134 | 70 | 70 | 106 | 106 | 70 | | |
| 68 | 23 | 23 | 26 | 26 | 21 | | |
| 1.0 | 1.0 | 1.0 | 0.35 | 0.35 | 0.9 | | |
| 230 | 230 | 230 | PASS | PASS | 230 | | |
| 1.5 | NA | 2 | 0.4 | 0.4 | | | |
| 3.2 | 3.2 | 3.2 | 0.5 | 0.5 | 0.7 | | |
| 1 | 1 | 1 | 0.1 | 0.1 | 0.15 | | |
| 41 | 41 | 41 | PASS | PASS | 40 | | |
| | | | | | | | |
| | | | | | | 150 | 150 |
| | | | | | | 3 | 3 |
| | | | | | | 300 | 300 |
| | | | | | | 4.7 | 4.7 |
| | | | | | | 260 | 260 |
| | | | | | | 23 | 23 |
| | | | | | | 0 | 0 |
| | | | | | | 240 | 240 |
| | | | | | | 2 | |
| | | | | | | 1.3 | 1.3 |
| | | | | | | 0.05 | 0.05 |
| | | | | | | 40 | 40 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

APP Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|---|---------------------------|-------------------|
| 1. | COMPANY NAME | JOHNS MANVILLE | JOHNS MANVILLE |
| 2. | PRODUCT NAME | BICOR S | APPEX 4.5M |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing | COMBINATION | POLYESTER |
| | Top surface | SMOOTH | GRANULE |
| 4A. | 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) | | X |
| | Type I, Grade S (smooth surfaced) | | |
| | Type II, Grade G (granule surfaced) | | |
| | Type II, Grade S (smooth surfaced) | | |
| 4B. | ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using 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) | X | |
| 4C. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 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 | 90 |
| | Bottom coating thickness (min., mils) | Type I: 30; Type II: 40 | 70 |
| 5B. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER REINFORCEMENTS | | |
| | Thickness (min., mils) Grade S | 140 | 160 |
| | Thickness (min., mils) Grade G | 160 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | 75 | 75 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | 91 | |
| | Bottom coating thickness (min., mils) | 40 | 80 |
| 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 | 60 |
| | Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | Type I: 23; Type II: 40 | 25 |
| | Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 60; Type II: 90 | 80 |
| | Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | Type I: 10; Type II: 15 | 42 |
| | Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. | Type I: 30; Type II: 50 | 35 |
| | Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 70; Type II: 80 | 70 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 32 | 21 |
| | Dimensional stability, % change, max. | 1 | 0.9 |
| | High temperature stability, F min. | 230 | 230 |
| | Granule embedment, Grade G only, max. loss, grams | 2 | 2 |
| | Water absorption, % max. | 3.2 | 1.8 |
| | Moisture content, % max. | 1 | 0.15 |
| | Low temperature unrolling, F max. | 41 | 40 |
| 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 | 100 |
| | Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | 3 | 3 |
| | Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 150; Type II: 200 | 200 |
| | Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | 3 | 3.5 |
| | Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 120; Type II: 180 | 163 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 32 | 23 |
| | Dimensional stability, % change, max. | 1 | 0 |
| | High temperature stability, F min. | 230 | 240 |
| | Granule embedment, Grade G only, max. loss, grams | 2 | |
| | Water absorption, % max. | 3.2 | 1.3 |
| | Moisture content, % max. | 1 | 0.05 |
| | Low temperature unrolling, F max. | 41 | 40 |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRR) (indicate yes/no) | | |
| 8. | SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

| JOHNS MANVILLE | JOHNS MANVILLE | KOPPERS INC. | KOPPERS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. |
|----------------------|----------------------|----------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| APPEX 4.5M FR | BICOR M FR | 2040 M | 2040 S | BITUTAK MB | BITUTAK MB MINERAL | DERBIGUM XPS FR | DERBICOLOR XPS FR |
| POLYESTER GRANULE | COMPOSITE GRANULE | NON-WOVEN POLY GRANULES | NON-WOVEN POLY SMOOTH | POLYESTER SMOOTH | POLYESTER GRANULE | COMBINATION SMOOTH | COMBINATION GRANULE |
| | | | | | | | |
| X | | X | X | | | | |
| | | | | | X | | |
| | | | | X | | | |
| | | | | | | | |
| | | | | | | | |
| | X | | | | | | X |
| | | | | | | X | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 180 | | 160 | 160 | 150 | 168 | | |
| | | | | 89 | | | |
| 90 | | | | | 100 | | |
| 70 | | | | 45 | 40 | | |
| | | | | | | | |
| | | | | | | 160 | |
| | 180 | | | | | | 180 |
| | | | | | | 96 | |
| | 90 | | | | | | 110 |
| | 80 | | | | | 110 | 70 |
| | | | | | | | |
| 60 | | | | 80 / 80 | 80 / 81 | | |
| 25 | | | | 50 / 50 | 50 / 50 | | |
| 80 | | 105 | 121 | 120 | 120 | | |
| 42 | | 38 | 42 | 30 | 20 | | |
| 35 | | | | 50 | 50 | | |
| 70 | | 143 | 149 | 110 | 110 | | |
| 21 | | 21 | 21 | +18 | +18 | | |
| 0.9 | | 0.9 | 0.9 | 0.5 | 0 | | |
| 230 | | | | 275 | 275 | | |
| 2 | | | | 1.5 | 1.5 | | |
| 2.1 | | 1.8 | 0.7 | 3 | 3 | | |
| 0.15 | | 0.15 | 0.15 | 1 | 1 | | |
| 40 | | | | 41 | 41 | | |
| | | | | | | | |
| | | | | | | | |
| | 100 | | | | | 100 | 100 |
| | 3 | | | | | 5 | 5 |
| | 200 | | | | | 220 | 210 |
| | 3 | | | | | 5 | 5 |
| | 180 | | | | | 180 | 200 |
| | 23 | | | | | +23 | +23 |
| | 0 | | | | | 0.05 | 0.05 |
| | 240 | | | | | 275 | 275 |
| | 2 | | | | | | 1.5 |
| | 1.3 | | | | | 3.2 | 3.2 |
| | 0.05 | | | | | 1 | 1 |
| | 40 | | | | | 41 | 41 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | NO | NO | | | | |
| | | NO | NO | | | | |
| | | | | | | | |

APP Modified Bitumen, Part 2 - Test Results

| | | |
|---|-------------------------------------|-------------------------------------|
| 1. COMPANY NAME | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. |
| 2. PRODUCT NAME | DERBICOLOR GP-FR | DERBIGUM GP |
| 3. PRODUCT DESCRIPTION | | |
| Reinforcing | COMBINATION | COMBINATION |
| Top surface | GRANULE | SMOOTH |
| 4A. 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) | | |
| 4B. ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using Polyester and Glass Fiber Reinforcements</i> (indicate type and grade, or NA) | | |
| Type I, Grade G (granule surfaced) | X | |
| Type I, Grade S (smooth surfaced) | | X |
| Type II, Grade G (granule surfaced) | | |
| Type II, Grade S (smooth surfaced) | | |
| 4C. CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 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 | |
| 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 | 150 |
| Thickness (min., mils) Grade G | 160 | 180 |
| Net mass per unit area (min., lbs./100 sq. ft.) Grade S | 75 | 92 |
| Net mass per unit area (min., lbs./100 sq. ft.) Grade G | 90 | 110 |
| Bottom coating thickness (min., mils) | 40 | 70 |
| 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 | |
| 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 | 65 |
| Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | 3 | 4.5 |
| Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 150; Type II: 200 | 150 |
| Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | 3 | 4 |
| Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 120; Type II: 180 | 120 |
| Low temperature flexibility, before and after heat conditioning, F, max. | +32 | +23 |
| Dimensional stability, % change, max. | 1 | 0.05 |
| High temperature stability, F min. | 230 | 275 |
| Granule embedment, Grade G only, max. loss, grams | 2 | 1.5 |
| Water absorption, % max. | 3.2 | 32 |
| Moisture content, % max. | 1 | 1 |
| Low temperature unrolling, F max. | 41 | 41 |
| 7. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| Energy Star Label (indicate yes/no) | | |
| Cool Roof Rating Council (CRR) (indicate yes/no) | | |
| 8. SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

| PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | PERFORMANCE ROOF SYSTEMS INC. | U S INTEC, INC. | US INTEC, INC. | U S INTEC, INC. | W.P. HICKMAN SYSTEMS, INC. |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------|--------------------------------|-----------------------------------|----------------------------------|
| DERBIGUM GP-FR | DERBIGUM XPS | DERBICOLOR XPS | DERBICOLOR GP | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | BRAI SUPREME APP GRANULE FR | PIKA PLY SA-3 |
| COMBINATION SMOOTH | COMBINATION SMOOTH | COMBINATION GRANULE | COMBINATION GRANULE | POLYESTER SMOOTH | POLYESTER GRANULE | POLYESTER GRANULE | POLYESTER SMOOTH |
| | | | | | | | |
| | | | | X | X | X | X |
| | | | | | | | |
| | | | | | | | |
| | | | X | | | | |
| X | | X | | | | | |
| | X | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | 154 | | | 140 |
| | | | | | 160 | 160 | |
| | | | | 84 | | | >70 |
| | | | | | 94 | 94 | |
| | | | | 30 | 30 | 30 | |
| | | | | | | | |
| 150 | 160 | | | | | | |
| | | 180 | 180 | | | | |
| 92 | 96 | | | | | | |
| | | 110 | 110 | | | | |
| 110 | 110 | 70 | 70 | | | | |
| | | | | | | | |
| | | | | 101 | 100 | 100 | >50 |
| | | | | 57 | 55 | 55 | >23 |
| | | | | 138 | 12 | 120 | >60 |
| | | | | 52 | 45 | 45 | 10 |
| | | | | 30 | 30 | 30 | >30 |
| | | | | 102 | 134 | 134 | >70 |
| | | | | 3.2 | 3.8 | 6.8 | <+32 |
| | | | | PASS | PASS | PASS | <1 |
| | | | | 230 | 230 | 230 | >230 |
| | | | | NA | 1.5 | 1,5 | |
| | | | | PASS | PASS | PASS | <3.2 |
| | | | | PASS | PASS | PASS | <1 |
| | | | | PASS | PASS | PASS | |
| | | | | | | | |
| 75 | 100 | 100 | 65 | | | | |
| 4.5 | 5 | 5 | 4.5 | | | | |
| 150 | 220 | 210 | 150 | | | | |
| 4 | 5 | 5 | 4 | | | | |
| 120 | 180 | 20 | 120 | | | | |
| +23 | +23 | +23 | +23 | | | | |
| 0.05 | 0.05 | 0.05 | 0.05 | | | | |
| 275 | 275 | 275 | 275 | | | | |
| | | 1.5 | 1.5 | | | | |
| 32 | 32 | 32 | 32 | | | | |
| 1 | 1 | 1 | 1 | | | | |
| 41 | 41 | 41 | 41 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

APP Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|----------------------------------|----------------------------------|
| 1. | COMPANY NAME | W.P. HICKMAN SYSTEMS, INC. | W.P. HICKMAN SYSTEMS, INC. |
| 2. | PRODUCT NAME | PREMIUM MA-4 | PIKA PLY MA-4 |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing | POLYESTER | POLYESTER |
| | Top surface | GRANULE | GRANULE |
| 4A. | 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) | X | |
| | Type I, Grade S (smooth surfaced) | | |
| | Type II, Grade G (granule surfaced) | | |
| | Type II, Grade S (smooth surfaced) | | |
| 4B. | ASTM D 6223-98 <i>Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using 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) | | |
| 4C. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 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 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 70; Type II: 80 | 160 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 85; Type II: 100 | >85 |
| | Bottom coating thickness (min., mils) | Type I: 30; Type II: 40 | >30 |
| 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 | >50 |
| | Elongation at 73.4 ±3.6 MD and XMD, before and after heat conditioning, at max. load, % min. | Type I: 23; Type II: 40 | >23 |
| | Maximum load at 0 ±3.6 F MD and XMD, lbf/in., min. | Type I: 60; Type II: 90 | >60 |
| | Elongation at 0 ±3.6 F MD and XMD, at max. load, % min. | Type I: 10; Type II: 15 | 10 |
| | Elongation at 5% of max. load at 73.4 ±3.6 F, MD and XMD, % min. | Type I: 30; Type II: 50 | >30 |
| | Tear strength at 73.4 ±3.6 F, lbf, min | Type I: 70; Type II: 80 | >70 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | +32 | <+32 |
| | Dimensional stability, % change, max. | 1 | <1 |
| | High temperature stability, F min. | 230 | >230 |
| | Granule embedment, Grade G only, max. loss, grams | 2 | 2 |
| | Water absorption, % max. | 3.2 | <3.2 |
| | Moisture content, % max. | 1 | <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. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRR) (indicate yes/no) | | |
| 8. | SEE APPENDIX IF CHECKED | | |

APP Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | BITEC, INC. |
| 2. | PRODUCT NAME | MDS |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | TYPE I GRADE G |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | CLASS A GRADE 1 |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | Bottom coating thickness (heat welding application products min., mils) | 40 |
| | | 55 |
| 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | BITEC, INC. |
| 2. | PRODUCT NAME | COMPAFLASH BFS-2H |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | SMOOTH |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | CLASS C GRADE 1 |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | CERTAINTEED | |
| 2. | PRODUCT NAME | FLINTLASTIC FR-P PREMIUM | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE II GRADE G | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.26 | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | 0.87 | |
| | Energy Star Label (indicate yes/no) | NO | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

| CERTAINT EED | CERTAINT EED | CERTAINT EED | CERTAINT EED | CERTAINT EED | CERTAINT EED | CERTAINT EED | CERTAINT EED |
|------------------------------|----------------------|------------------------|-----------------------------|-------------------------|------------------------------|----------------------|----------------------|
| FLEX-I-GLAS FR BASE SHEET | FLINTASTIC FR CAP | POLY SMS BASE SHEET | BLACK DIAMOND BASE SHEET | FLEXIGLAS BASE SHEET | FLEXIGLAS PREMIUM CAP 960 | FLINTASTIC GTS | FLINTASTIC GMS |
| FIBERGLASS SMOOTH | FIBERGLASS SMOOTH | POLYESTER SMOOTH | FIBERGLASS GRANULE | FIBERGLASS SMOOTH | FIBERGLASS GRANULE | POLYESTER GRANULE | POLYESTER GRANULE |
| | | | | | | | |
| | | | | | | | |
| TYPE I GRADE S | TYPE I GRADE G | | | | TYPE II GRADE G | | |
| | | | | | | TYPE II GRADE G | TYPE I GRADE G |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 90 | 140 | | 60 | 50 | 160 | | |
| 60 | 90 | | 38 | 30 | 100 | | |
| 60 | 60 | | 20 | 30 | 60 | | |
| | | | | | | | |
| | | 80 | | | | 180 | 160 |
| | | 45 | | | | 120 | 100 |
| | | 40 | | | | 80 | 60 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 90 | 90 | | 55 | 55 | 155 | | |
| 1.5 | 1.5 | | 1.5 | 1.5 | 3 | | |
| 65 | 66 | | 49 | 49 | 88 | | |
| 2.5 | 2.5 | | 3 | 3 | 5 | | |
| 5 | 5 | | 5 | 5 | 50 | | |
| 5 | 5 | | 5 | 5 | 40 | | |
| 50 | 50 | | 40 | 40 | 130 | | |
| -15 | -15 | | -20 | -8 | -5 | | |
| 0.1 | 0.1 | | 0.1 | 0.1 | 0.1 | | |
| 250 | 250 | | 250 | 250 | 250 | | |
| | | | 1.0 | | 1.8 | | |
| | | 103 | | | | 134 | 103 |
| | | 48 | | | | 56 | 48 |
| | | 70 | | | | 94 | 70 |
| | | 64 | | | | 79 | 74 |
| | | 70 | | | | 83 | 70 |
| | | 108 | | | | 110 | 100 |
| | | 100 | | | | -15 | -15 |
| | | -15 | | | | 0.5 | 0.5 |
| | | 0.5 | | | | 250 | 250 |
| | | 250 | | | | 2.0 | 2.0 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| NA | 0.25 | NA | NA | NA | 0.26 | 0.26 | 0.28 |
| NA | 0.87 | NA | NA | NA | 0.87 | 0.87 | 0.89 |
| NA | NO | NA | NA | NA | NO | NO | NO |
| NA | YES | NA | NA | NA | NO | NO | YES |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|---|---|
| 1. | COMPANY NAME | CERTAINTEED |
| 2. | PRODUCT NAME | FLINTLASTIC SA BASE |
| 3. | PRODUCT DESCRIPTION Reinforcing (indicate fiberglass, polyester or combination) Top surface (indicate granule, smooth or foil) | FIBERGLASS PERMENENT FILM |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Budadiene Styrene (SBS) Modified Bitumenous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bitumenous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE S |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bitumenous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bitumeous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bitumenous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER 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 (heat welding application products min., mils) | Type I: 70; Type II and III: 80 Type I: 110; Type II and III: 130 Type I: 45; Type II: 50; Type III: 55 Type I: 60; Type II: 75; Type III: 85 40 |
| 5B. | DIMENSIONS AND MASSES OF SHEET MATERIALS: 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) | 80 60 Type I: 95; Type II: 105; Type III: 120 45 42 Type I: 65; Type II and III: 75 40 |
| 5C. | 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: 85; Type II: 115 130 Type I: 54; Type II: 70 Type I: 75; Type II: 90 40 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED Thickness (min., mils) Net mass per unit area (min., lbs/100 sq. ft.) Back surface coating thickness (min., mils) | 134 80 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. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 75; Type II: 125; Type III: 250 Type I: 1; Type II and III: 2 Type I: 75; Type II: 80; Type III: 250 Type I: 2; Type II: 4; Type III: 3 Type I: 26; Type II: 75; Type III: 3 Type I: 9; Type II: 30; Type III: 3 Type I: 65; Type II: 90; Type III: 280 0 0.5 no failures 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. Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max. grams | Type I: 70; Type II: 150; Type III: 180 Type I: 1; Type II and III: 2 Type I: 30; Type II: 80; Type III: 150 Type I: 2; Type II: 4; Type III: 3 Type I: 3; Type II: 40; Type III: 2 Type I: 3; Type II: 20; Type III: 2 Type I: 35; Type II: 110; Type III: 210 Type I and II: 0; Type III: +5 0.5 0.5 no failures 2 |
| 6C. | PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min. at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max. grams | Type I: 70; Type II: 100 20 Type I: 50; Type II: 70 Type I: 35; Type II: 50 Type I: 38; Type II: 60 Type I: 55; Type II: 70 0 1 no failures 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, min., % Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, min., % Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % Tensile-tear strength, min., lbf. Low temperature flexibility, max., F Dimensional stability, max., % Compound stability, min., F | 160 3 85 5 25 120 0 0.2 225 |
| 7. | REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 408 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicate yes/no) | NA NA NA NA |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| CERTAINTEED | CERTAINTEED | ECOLOGY | ECOLOGY | ECOLOGY | ECOLOGY | ECOLOGY | ECOLOGY |
|-------------------------------|------------------------|---------------------|----------------------|---------------------|-------------------------|-----------------------|-----------------------|
| FLINTLASTIC MID PLY | FLINTLASTIC SA CAP | ERS 501 | ERS 502 | EPS 503 | ERS 504 | ERS 505 | ERS 507 |
| COMBINATION PERMANENT FILM | COMBINATION GRANULE | POLYESTER SMOOTH | POLYESTER GRANULE | POLYESTER SMOOTH | POLY / GLASS GRANULE | FIBERGLASS GRANULE | FIBERGLASS GRANULE |
| | | | | TYPE II GRADE S | TYPE II GRADE G | | |
| | | | | | | TYPE II GRADE G | TYPE II GRADE G |
| TYPE I GRADE S | TYPE I GRADE G | TYPE I GRADE S | TYPE I GRADE G | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | 135 | 160 | | |
| | | | | 85 | 85 | | |
| | | | | 40 | 40 | | |
| | | | | | | 120 | 115 |
| | | | | | | 78 | 73 |
| | | | | | | 40 | 40 |
| 120 | 160 | 130 | 160 | | | | |
| 62 | 89 | 78 | 78 | | | | |
| 40 | 40 | 40 | 40 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | 128 | | | |
| | | | | 28 | | | |
| | | | | 96 | | | |
| | | | | 8 | | | |
| | | | | 86 | | | |
| | | | | 38 | | | |
| | | | | 128 | | | |
| | | | | 0 | | | |
| | | | | 0.7 | | | |
| | | | | no failures | | | |
| | | | | | 594 | 155 | 150 |
| | | | | | 8 | 3 | 3 |
| | | | | | 476 | 90 | 90 |
| | | | | | 7 | 6 | 6 |
| | | | | | | 42 | 42 |
| | | | | | | 24 | 24 |
| | | | | | 892 | 115 | 115 |
| | | | | | -25 | 0 | 0 |
| | | | | | 0.5 | 0.6 | 0.6 |
| | | | | | no failures | no failures | no failures |
| 120 | 120 | 109.25 | 109.25 | | | | |
| 30 | 30 | 22 | 22 | | | | |
| 75 | 75 | 110 | 110 | | | | |
| 70 | 70 | 58 | 58 | | | | |
| 100 | 100 | 74 | 74 | | | | |
| 110 | 110 | 178 | 148 | | | | |
| 0 | 0 | 0 | 0 | | | | |
| 1 | 1 | 1 | 1 | | | | |
| no failures | no failures | no failures | no failures | | | | |
| | 1.5 | | 4 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| NA | 0.27 | | | | | | |
| NA | 0.85 | | | | | | |
| NA | NO | | | | | | |
| NA | YES | | | | | | |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|---|---|
| 1. | COMPANY NAME | ECOLOGY |
| 2. | PRODUCT NAME | ERS 602 |
| 3. | PRODUCT DESCRIPTION Reinforcing (indicate fiberglass, polyester or combination) Top surface (indicate granule, smooth or foil) | POLY/GLASS SMOOTH |
| 4. | COMPLIES WITH: | TYPE II GRADE S |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER 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 (heat welding application products min., mils) | Type I: 70; Type II and III: 80 Type I: 110; Type II and III: 130 Type I: 45; Type II: 50; Type III: 55 Type I: 60; Type II: 75; Type III: 85 40 40 |
| 5B. | DIMENSIONS AND MASSES OF SHEET MATERIALS: 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) | 80 Type I: 95; Type II: 105; Type III: 120 45 Type I: 65; Type II and III: 75 40 |
| 5C. | 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: 85; Type II: 115 130 Type I: 54; Type II: 70 Type I: 75; Type II: 90 40 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED Thickness (min., mils) Net mass per unit area (min., lbs./100 sq. ft.) Back surface coating thickness (min., mils) | 134 80 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. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 75; Type II: 125; Type III: 250 Type I: 1; Type II and III: 2 Type I: 75; Type II: 80; Type III: 250 Type I: 2; Type II: 4; Type III: 3 Type I: 26; Type II: 75; Type III: 3 Type I: 9; Type II: 30; Type III: 3 Type I: 65; Type II: 90; Type III: 280 0 0.5 no failures 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. Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 150; Type III: 180 Type I: 1; Type II and III: 2 Type I: 30; Type II: 80; Type III: 150 Type I: 2; Type II: 4; Type III: 3 Type I: 3; Type II: 40; Type III: 2 Type I: 3; Type II: 20; Type III: 2 Type I: 35; Type II: 110; Type III: 210 Type I and II: 0; Type III: +5 35 no failures 2 |
| 6C. | PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min. at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 100 20 Type I: 50; Type II: 70 Type I: 35; Type II: 50 Type I: 38; Type II: 60 Type I: 55; Type II: 70 0 1 no failures 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, min., % Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, min., % Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % Tensile-tear strength, min., lbf. Low temperature flexibility, max., F Dimensional stability, max., % Compound stability, min., F | 160 3 85 5 25 120 0 0.2 225 |
| 7. | REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 408 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| ECOLOGY | ECOLOGY | ECOLOGY | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE |
|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ERS 603 | ERS 604 | ERS 703 | SBS | SBS FR | SBS PREMIUM | SBS PREMIUM FR | SBS TORCH |
| POLY/GLASS GRANULE | POLY/GLASS GRANULE | FIBERGLASS ALUMINUM | REINF POLY GRANULE | REINF POLY GRANULE | REINF POLY GRANULE | REINF POLY GRANULE | REINF POLY GRANULE |
| TYPE II GRADE G | TYPE II GRADE G | | | | | | |
| | | TYPE II GRADE G | | | | | |
| | | | TYPE I GRADE G | TYPE I GRADE G | TYPE II GRADE G | TYPE II GRADE G | TYPE I GRADE G |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 160 | 160 | | | | | | |
| 85 | 85 | | | | | | |
| 40 | 40 | | | | | | |
| | | | | | | | |
| | | 150 | | | | | |
| | | 73 | | | | | |
| | | 40 | | | | | |
| | | | | | | | |
| | | | 150 | 150 | 160 | 160 | 150 |
| | | | 91 | 91 | 93.7 | 95.6 | 92.8 |
| | | | 40 | 40 | 42 | 45 | 45 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 128 | 128 | | | | | | |
| 28 | 28 | | | | | | |
| 96 | 96 | | | | | | |
| 8 | 8 | | | | | | |
| 86 | 6 | | | | | | |
| 38 | 38 | | | | | | |
| 120 | 120 | | | | | | |
| 0 | 0 | | | | | | |
| 0.7 | 0.7 | | | | | | |
| no failures | no failures | | | | | | |
| | 4 | | | | | | |
| | | 160 | | | | | |
| | | 2 | | | | | |
| | | 90 | | | | | |
| | | 4 | | | | | |
| | | 42 | | | | | |
| | | 20 | | | | | |
| | | 110 | | | | | |
| | | 0 | | | | | |
| | | 0.5 | | | | | |
| | | no failures | | | | | |
| | | | | | | | |
| | | | 90 | 92 | 126 | 126 | 92 |
| | | | 50 | 44 | 50 | 50 | 40 |
| | | | 60 | 65 | 90 | 90 | 62 |
| | | | 66 | 59 | 55 | 55 | 43 |
| | | | 100 | 79 | 100 | 70 | 64 |
| | | | 85 | 80 | 120 | 120 | 93 |
| | | | -25 | -30 | -30 | -30 | -25 |
| | | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | | | 260 | 270 | 260 | 270 | 250 |
| | | | 0.7 | 0.7 | 1.2 | 0.9 | 1.2 |
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| | | 62.3 | E 903 | E 903 | E 903 | E 903 | E 903 |
| | | | C 1371 | C 1371 | C 1371 | C 1371 | C 1371 |
| | | YES | YES | YES | YES | YES | YES |
| | | YES | YES | YES | YES | YES | YES |

SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | FIRESTONE | |
| 2. | PRODUCT NAME | SBS GLASS TORCH BASE | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS | |
| | Top surface (indicate granule, smooth or foil) | SMOOTH | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE S | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

| FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE | FIRESTONE |
|---------------------|-------------------|--------------------|--------------------|----------------------|-------------------|------------------------|--------------------|
| SBS POLY TORCH BASE | SBS POLY BASE | SBS FLASHING | SBS FR TORCH | SBS PREMIUM FR TORCH | SBS BASE SHEET | SBS PREMIUM BASE SHEET | SBS SMOOTH |
| REINF POLY SMOOTH | REINF POLY SMOOTH | REINF POLY GRANULE | REINF POLY GRANULE | REINF. POLY GRANULE | FIBERGLASS SMOOTH | FBRGLS SCRIM SMOOTH | REIINF POLY SMOOTH |
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| | | | | | TYPE I GRADE S | TYPE II GRADE S | |
| TYPE I GRADE S | TYPE I GRADE S | TYPE I GRADE G | TYPE I GRADE G | TYPE II GRADE G | | | TYPE I GRADE S |
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| 72.7 | 55 | | | | | | 84.6 |
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| | | E 903 C 1371 | E 903 C 1371 | E 903 C 1371 | | | |
| | | YES | YES | YES | | | |
| | | YES | YES | YES | | | |

SBS Modified Bitumen, Part 2 - Test Results

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|-----|--|---|-----|
| 1. | COMPANY NAME | FIRESTONE | |
| 2. | PRODUCT NAME | SBS METAL FLASH AL | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS | |
| | Top surface (indicate granule, smooth or foil) | ALUMINUM | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | X | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | 150 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | 100 |
| | Back surface coating thickness (min., mils) | 40 | 65 |
| 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 2 | |
| | | Type I: 30; Type II: 80; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | 170 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | 8 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | 120 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | 7 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | 140 |
| | Tensile-tear strength, min., lbf. | 120 | 160 |
| | Low temperature flexibility, max., F | 0 | -10 |
| | Dimensional stability, max., % | 0.2 | 0.1 |
| | Compound stability, min., F | 225 | 250 |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | E 903 | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | C 1371 | |
| | Energy Star Label (indicate yes/no) | YES | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

[illegible]

SBS Modified Bitumen, Part 2 - Test Results

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|-----|--|---|--|
| 1. | COMPANY NAME | GAF | |
| 2. | PRODUCT NAME | RUBEROID MOP FR | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE II GRADE G | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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. | -22 | |
| | Compound stability | 1 | |
| | Granule embedment, Grade G only, max. grams | no failures | |
| | PHYSICAL PROPERTIES: FOIL-SURFACED | PASS | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | GAF | |
| 2. | PRODUCT NAME | RUBEROID SBS HW 170 FR | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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. | -22 | |
| | Compound stability | 1 | |
| | Granule embedment, Grade G only, max. grams | no failures | |
| | PHYSICAL PROPERTIES: FOIL-SURFACED | 2 | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | GARLAND |
| 2. | PRODUCT NAME | HPR SA FR BASE SHEET |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS |
| | Top surface (indicate granule, smooth or foil) | SMOOTH |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE S |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | HENRY CO. | |
| 2. | PRODUCT NAME | MODIFIED PLUS G100s/s | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | Glass | |
| | Top surface (indicate granule, smooth or foil) | Smooth | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | Type 1 Grade S | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | Class C Grade 1 | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | NO | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | X | |

SBS Modified Bitumen, Part 2 - Test Results

| HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. | HENRY CO. |
|---------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|---------------------------|----------------------------------|------------------------------------|
| MODIFIED PLUS G100 p/s | MODIFIED PLUS G100 p/p | MODIFIED PLUS NP180 s/s | MODIFIED PLUS NP 180 p/p | MODIFIED PLUS NP 180 p/s | MODIFIED PLUS G100gMFR | MODIFIED PLUS 170 Mop Granule | MODIFIED PLUS 170 Torch Granule |
| Glass Smooth | Glass Smooth | Polyester Smooth | Polyester Smooth | Polyester Smooth | Glass Granule | Polyester Granule | Polyester Granule |
| | | | | | | | |
| Type 1 Grade S | Type 1 Grade S | | | | Type I Grade G | | |
| | | Type I Grade S | Type I Grade S | Type I Grade S | | Type I Grade G | Type I Grade G |
| | | | | | | | |
| Class C Grade 1 | Class C Grade 1 | Class C Grade 2 | Class C Grade 2 | Class C Grade 2 | Class A Grade 1 | Class A Grade 1 | Class A Grade 1 |
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| 91 | 87 | | | | 157 | | |
| 56 | 57 | | | | | | |
| | | | | | 114 N/A | | |
| | | | | | | | |
| | | 87 | 120 | 90 | | 157 | 159 |
| | | 52 | 77 | 52 | | 99 N/A | 92 51 |
| | | | 40 | | | | |
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| | | | | | | | |
| 132 | 150 | | | | 102 | | |
| 4.2 | 4.2 | | | | 5 | | |
| 44 | 41 | | | | 53 | | |
| 3 | 32 | | | | 3.5 | | |
| 16 | 20 | | | | 19.5 | | |
| 4 | 5 | | | | 4.7 | | |
| 90 | 96 | | | | 93 | | |
| -10 | 0 | | | | 0 | | |
| 0.07 | 0.13 | | | | 0.06 | | |
| Pass | Pass | | | | Pass 0.27 | | |
| | | | | | | | |
| | | 88 | 88 | 90 | | 116 | 102 |
| | | 37 | 37 | 40 | | 28 | 22 |
| | | 68 | 68 | 73 | | 61 | 65 |
| | | 60 | 60 | 51 | | 55 | 74 |
| | | 43 | 43 | 40 | | 51 | 66 |
| | | 88 | 88 | 80 | | 87 | 94 |
| | | -10 | -10 | -10 | | -10 | -10 |
| | | 0.48 | 0.24 | 0.93 | | 0.34 | 0.4 |
| | | Pass | Pass | Pass | | Pass | Pass |
| | | | | | | 2 | 1.9 |
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| NO | NO | NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO | NO | NO |
| X | X | X | X | X | X | X | X |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | HENRY CO. |
| 2. | PRODUCT NAME | MODIFIED PLUS NP180gM |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | Polyester |
| | Top surface (indicate granule, smooth or foil) | Granule |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | Type I Grade G |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | Class A Grade 2 |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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. | -10 |
| | Compound stability | 1 |
| | Granule embedment, Grade G only, max. grams | no failures |
| | PHYSICAL PROPERTIES: FOIL-SURFACED | Pass |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 2 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 1.16 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 160 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 3 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 85 |
| | Tensile-tear strength, min., lbf. | 5 |
| | Low temperature flexibility, max., F | 25 |
| | Dimensional stability, max., % | 120 |
| | Compound stability, min., F | 0 |
| | | 0.2 |
| | | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | |
| | Energy Star Label (indicate yes/no) | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | X |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|------------------------|
| 1. | COMPANY NAME | | IKO |
| 2. | PRODUCT NAME | | MODIFLEX MP-250-CAP |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | | GRANULE |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | TYPE II GRADE G |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | CLASS A GRADE 2 |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 |
| | 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 | 92 |
| | Bottom coating thickness (min., mils) | 40 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | 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 | 63 |
| | 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 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | -22 |
| | Dimensional stability, % max. | 1 | 0.35 |
| | Compound stability | no failures | no failures |
| | Granule embedment, Grade G only, max. grams | 2 | 0.4 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|---|--|
| 1. | COMPANY NAME | IKO |
| 2. | PRODUCT NAME | TORCHFLEX TF-95-FF-BASE (22) |
| 3. | PRODUCT DESCRIPTION Reinforcing (indicate fiberglass, polyester or combination) Top surface (indicate granule, smooth or foil) | FIBERGLASS SMOOTH |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE S |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | CLASS C GRADE 1 |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER 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 (heat welding application products min., mils) | Type I: 70; Type II and III: 80 Type I: 110; Type II and III: 130 Type I: 45; Type II: 50; Type III: 55 Type I: 60; Type II: 75; Type III: 85 40 |
| 5B. | DIMENSIONS AND MASSES OF SHEET MATERIALS: 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) | 80 Type I: 95; Type II: 105; Type III: 120 45 Type I: 65; Type II and III: 75 40 |
| 5C. | 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: 85; Type II: 115 130 Type I: 54; Type II: 70 Type I: 75; Type II: 90 41 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED Thickness (min., mils) Net mass per unit area (min., lbs./100 sq. ft.) Back surface coating thickness (min., mils) | 134 80 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. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 75; Type II: 125; Type III: 250 Type I: 1; Type II and III: 2 Type I: 75; Type II: 80; Type III: 250 Type I: 2; Type II: 4; Type III: 3 Type I: 26; Type II: 75; Type III: 3 Type I: 9; Type II: 30; Type III: 3 Type I: 65; Type II: 90; Type III: 280 0 0.5 no failures 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. Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 150; Type III: 180 Type I: 1; Type II and III: 2 Type I: 30; Type II: 80; Type III: 150 Type I: 2; Type II: 4; Type III: 3 Type I: 3; Type II: 40; Type III: 2 Type I: 3; Type II: 20; Type III: 2 Type I: 35; Type II: 110; Type III: 210 Type I and II: 0; Type III: +5 0.5 no failures 2 |
| 6C. | PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min. at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 100 20 Type I: 50; Type II: 70 Type I: 35; Type II: 50 Type I: 38; Type II: 60 Type I: 55; Type II: 70 0 1 no failures 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, min., % Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, min., % Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % Tensile-tear strength, min., lbf. Low temperature flexibility, max., F Dimensional stability, max., % Compound stability, min., F | 160 3 85 5 25 120 0 0.2 225 |
| 7. | REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 408 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | JOHNS MANVILLE |
| 2. | PRODUCT NAME | DYNAGLAS FR |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS |
| | Top surface (indicate granule, smooth or foil) | GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 75 |
| | Bottom coating thickness (min., mils) | 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | JOHNS MANVILLE |
| 2. | PRODUCT NAME | DYNAMAX FR |
| 3. | PRODUCT DESCRIPTION Reinforcing (indicate fiberglass, polyester or combination) Top surface (indicate granule, smooth or foil) | COMBINATION GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | TYPE III GRADE G |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 2 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 408 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | KOPPERS | KOPPERS | KOPPERS |
|------------------------|------------------------|--------------------|----------------------|-----------------------|----------------------|---------------------|----------------------|
| DYNAKAP | DYNAKAP FR | DYNACLAD | DYNAWELD BASE | DYNAWELD CAP FR | 2041 M | 2041 S | 2041 MFR |
| COMBINATION GRANULE | COMBINATION GRANULE | FIBERGLASS FOIL | FIBERGLASS SMOOTH | FIBERGLASS GRANULE | POLYESTER GRANULE | POLYESTER SMOOTH | POLYESTER GRANULE |
| TYPE II GRADE E | TYPE II GRADE E | | | | | | |
| | | | TYPE I GRADE S | TYPE I GRADE G | | | |
| | | | | | TYPE I GRADE G | TYPE I GRADE S | TYPE I GRADE G |
| | | X | | | | | |
| | | | | | | | |
| | | | | | | | |
| 160 | 160 | | | | | | |
| 115 | 115 | | | | | | |
| | | | | | | | |
| | | | 120 | 160 | | | |
| | | | 90 | | | | |
| | | | 40 | 40 | | | |
| | | | | | | | |
| | | | | | 150 | 118 | 150 |
| | | | | | | | 101 |
| | | | | | | | |
| | | 160 | | | | | |
| | | 100 | | | | | |
| | | 40 | | | | | |
| 150 | 150 | | | | | | |
| 4 | 4 | | | | | | |
| 81 | 81 | | | | | | |
| 5 | 5 | | | | | | |
| 75 | 75 | | | | | | |
| 30 | 30 | | | | | | |
| 125 | 125 | | | | | | |
| -10 | -10 | | | | | | |
| 0.2 | 0.2 | | | | | | |
| no failures | no failures | | | | | | |
| 2 | 2 | | | | | | |
| | | | | | | | |
| | | | 70 | 95 | | | |
| | | | 4 | 4 | | | |
| | | | 41 | 55 | | | |
| | | | 5 | 5 | | | |
| | | | 6 | 8 | | | |
| | | | 4 | 5 | | | |
| | | | 90 | 100 | | | |
| | | | -10 | -10 | | | |
| | | | 0.2 | 0.2 | | | |
| | | | no failures | no failures | | | |
| | | | | 2 | | | |
| | | | | | | | |
| | | | | | 80 | 80 | 80 |
| | | | | | 35 | 35 | 35 |
| | | | | | 54 | 54 | 50 |
| | | | | | 57 | 57 | 48 |
| | | | | | | | |
| | | | | | 80 | 80 | 80 |
| | | | | | -10 | -10 | -10 |
| | | | | | 4.7 | 4.7 | 0.7 |
| | | | | | no failures | no failures | no failures |
| | | | | | | | |
| | | 160 | | | | | |
| | | 3 | | | | | |
| | | 85 | | | | | |
| | | 5 | | | | | |
| | | 25 | | | | | |
| | | 120 | | | | | |
| | | 0 | | | | | |
| | | 0.2 | | | | | |
| | | 225 | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | NO | NO | NO |
| | | | | | NO | NO | NO |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | KOPPERS |
| 2. | PRODUCT NAME | 2045 M |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | |
| | Energy Star Label (indicate yes/no) | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | SIPLAST/ICOPAL |
| 2. | PRODUCT NAME | PARAFOR 50 LT |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | COMBINATION |
| | Top surface (indicate granule, smooth or foil) | GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | TYPE II GRADE G |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL | SIPLAST/ICOPAL |
|------------------------|----------------------|-------------------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| VERAL ALUMINUM FACE | VERAL COPPER | VERAL STAINLESS STEEL | PARADIENE 20 HV | PARADIENE 20 TG | PARADIENE 20 HT TG | PARADIENE 20 PR TG | PARADIENE 20 EG TG |
| FIBERGLASS ALUMINUM | FIBERGLASS COPPER | FIBERGLASS STAINLESS STEEL | FIBERGLASS SMOOTH | FIBERGLASS SMOOTH | FIBERGLASS SMOOTH | COMBINATION SMOOTH | FIBERGLASS SMOOTH |
| | | | | | | TYPE II S | |
| | | | TYPE I GRADE S | TYPE I GRADE S | TYPE II GRADE S | | TYPE II GRADE S |
| | | | | | | | |
| X | X | X | | | | | |
| | | | | | | | |
| | | | | | | 134 | |
| | | | | | | 96 | |
| | | | | | | 70 | |
| | | | 114 | 110 | 110 | | 134 |
| | | | 90 | 76 | 76 | | 96 |
| | | | | 70 | 70 | | 90 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 146 | 146 | | | | | | |
| 96 | 115 | | | | | | |
| | | | | | | | |
| | | | | | | 150 | |
| | | | | | | 4 | |
| | | | | | | 80 | |
| | | | | | | 5 | |
| | | | | | | | |
| | | | | | | 120 | |
| | | | | | | 0 | |
| | | | | | | 0.2 | |
| | | | | | | no failures | |
| | | | | | | | |
| | | | 75 | 75 | 150 | | 150 |
| | | | 3 | 3 | 4 | | 4 |
| | | | 30 | 30 | 80 | | 80 |
| | | | 3 | 3 | 5 | | 5 |
| | | | | | | | |
| | | | 40 | 40 | 120 | | 120 |
| | | | -5 | -5 | -5 | | 0 |
| | | | 0.1 | 0.1 | 0.1 | | 0.1 |
| | | | no failures | no failures | no failures | | no failures |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 180 | 200 | | | | | | |
| 4 | 4 | | | | | | |
| 85 | 110 | | | | | | |
| 5 | 5 | | | | | | |
| | | | | | | | |
| 120 | 120 | | | | | | |
| 0 | 0 | | | | | | |
| .1 | .1 | | | | | | |
| NO FAILURES | NO FAILURES | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| X | X | X | | | | | |

SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | SIPLAST/ICOPAL | |
| 2. | PRODUCT NAME | PARADIENE 20 HV TG | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS | |
| | Top surface (indicate granule, smooth or foil) | SMOOTH | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE S | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

[illegible]

SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|-----|
| 1. | COMPANY NAME | SOPRAMA | |
| 2. | PRODUCT NAME | SOPRALENE FLAM 180 GR | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | 40 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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 | 22 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. | Type I: 50; Type II: 70 | 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 | no failures | 250 |
| | Granule embedment, Grade G only, max. grams | 2 | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | SOPREMA | |
| 2. | PRODUCT NAME | ELASTOPHENE GR | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | GLASS | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | no failures | |
| | Granule embedment, Grade G only, max. grams | 250 | |
| | | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

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SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|--|
| 1. | COMPANY NAME | SOPREMA | |
| 2. | PRODUCT NAME | ELASTOPHENE FLAM FR GR | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | GLASS | |
| | Top surface (indicate granule, smooth or foil) | GRANULE | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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; Type III: 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 and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | no failures | |
| | Granule embedment, Grade G only, max. grams | 250 | |
| | | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

[illegible]

SBS Modified Bitumen, Part 2 - Test Results

| | | | |
|-----|--|---|----|
| 1. | COMPANY NAME | SOPERMA | |
| 2. | PRODUCT NAME | LASTOBOND | |
| 3. | PRODUCT DESCRIPTION | | |
| | Reinforcing (indicate fiberglass, polyester or combination) | GLASS | |
| | Top surface (indicate granule, smooth or foil) | SMOOTH | |
| 4. | COMPLIES WITH: | | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 | |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 | |
| | 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 | 68 |
| | Thickness (min., mils) Grade G | Type I: 95; Type II: 105; Type III: 120 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | 45 | 38 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 65; Type II and III: 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 | |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | | |
| | Thickness (min., mils) | 134 | |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 | |
| | Back surface 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; Type III: 250 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 | |
| | 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; Type III: 3 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 | |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 | |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 | |
| | Dimensional stability, % max. | 0.5 | |
| | Compound stability | 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; Type III: 180 | 91 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 | 41 |
| | 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; Type III: 3 | 4 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 | |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 | |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 | 73 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 | -5 |
| | Dimensional stability, % max. | 0.5 | 0 |
| | Compound stability | 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: 70 | |
| | 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 | no failures | |
| | Granule embedment, Grade G only, max. grams | 2 | |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 | |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 | |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 | |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 | |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 | |
| | Tensile-tear strength, min., lbf. | 120 | |
| | Low temperature flexibility, max., F | 0 | |
| | Dimensional stability, max., % | 0.2 | |
| | Compound stability, min., F | 225 | |
| 7. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | | |

SBS Modified Bitumen, Part 2 - Test Results

| SOPERMA | SOPERMA | SOPERMA | SOPERMA | SOPREMA | TREMCO | TREMCO | TREMCO |
|------------------|-------------------|-------------------|-----------------------|---------------------|-------------------------|----------------------|-------------------------|
| COLPHENE GR | COLPHENE FR GR | COLPHENE HR GR | COLPHENE HR FR GR | SOPRAFIX (X) | POWERPLY STANDARD FR | POWERPLY HE FR | POWERPLY PREMIUM FR |
| GLASS GRANULE | GLASS GRANULE | GLASS GRANULE | FIBERGLASS GRANULE | POLYESTER SMOOTH | FIBERGLASS GRANULE | POLYESTER GRANULE | COMBINATION GRANULES |
| | | | | | | | TYPE II GRADE G |
| | | | | | TYPE I GRADE G | | |
| | | | | TYPE II GRADE S | | TYPE I GRADE G | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | 150 |
| | | | | | | | 93.4 |
| | | | | | | | 50 |
| | | | | | | | |
| 140 | 140 | 140 | 140 | | 120 | | |
| 83 | 83 | 85 | 85 | | 88 | | |
| | | | | | 50 | | |
| | | | | 160 | | | |
| | | | | 112 | | 160 | |
| | | | | 40 | | 104 | |
| | | | | | | 75 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | 240.9 |
| | | | | | | | 3.3 |
| | | | | | | | 276 |
| | | | | | | | 6.7 |
| | | | | | | | |
| | | | | | | | 379 |
| | | | | | | | -40 |
| | | | | | | | 0 |
| | | | | | | | no failures |
| | | | | | | | 0.4 |
| 91 | 91 | 175 | 175 | | 91 | | |
| 4 | 4 | 10 | 10 | | 2.85 | | |
| 41 | 41 | 130 | 130 | | 76 | | |
| 4 | 4 | 8 | 8 | | 7.7 | | |
| | | | | | | | |
| 73 | 73 | 130 | 130 | | 104 | | |
| -5 | -5 | -5 | -5 | | -4 | | |
| 0 | 0 | 0 | 0 | | 0 | | |
| 1 | 1 | 1 | 1 | | no failures | | |
| | | | | | 1.5 | | |
| | | | | 115 | | 92 | |
| | | | | 25 | | 27.4 | |
| | | | | 100 | | 73.6 | |
| | | | | 55 | | 55.1 | |
| | | | | | | | |
| | | | | 125 | | 88.8 | |
| | | | | -5 | | -4 | |
| | | | | 0.3 | | 0 | |
| | | | | 250 | | no failures | |
| | | | | 1 | | 1.7 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | 0.26 | 0.26 | 0.26 |
| | | | | | 0.90 | 0.90 | 0.90 |
| | | | | | NO | NO | NO |
| | | | | | NO | NO | NO |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|---|---|
| 1. | COMPANY NAME | TREMCO |
| 2. | PRODUCT NAME | POWERPLY PREMIUM SMOOTH |
| 3. | PRODUCT DESCRIPTION Reinforcing (indicate fiberglass, polyester or combination) Top surface (indicate granule, smooth or foil) | COMBINATION SMOOTH |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | TYPE II S |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER 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 (heat welding application products min., mils) | Type I: 70; Type II and III: 80 Type I: 110; Type II and III: 130 Type I: 45; Type II: 50; Type III: 55 Type I: 60; Type II: 75; Type III: 85 40 80 46.1 |
| 5B. | DIMENSIONS AND MASSES OF SHEET MATERIALS: 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) | 80 Type I: 95; Type II: 105; Type III: 120 45 Type I: 65; Type II and III: 75 40 |
| 5C. | 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: 85; Type II: 115 130 Type I: 54; Type II: 70 Type I: 75; Type II: 90 40 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED Thickness (min., mils) Net mass per unit area (min., lbs./100 sq. ft.) Back surface coating thickness (min., mils) | 134 80 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. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 75; Type II: 125; Type III: 250 Type I: 1; Type II and III: 2 Type I: 75; Type II: 80; Type III: 250 Type I: 2; Type II: 4; Type III: 3 Type I: 26; Type II: 75; Type III: 3 Type I: 9; Type II: 30; Type III: 3 Type I: 65; Type II: 90; Type III: 280 0 0.5 no failures 2 235.2 4.0 219.9 7.2 416.7 -16.6 0 no failures |
| 6B. | PHYSICAL PROPERTIES: GLASS FIBER REINFORCEMENTS Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 150; Type III: 180 Type I: 1; Type II and III: 2 Type I: 30; Type II: 80; Type III: 150 Type I: 2; Type II: 4; Type III: 3 Type I: 3; Type II: 40; Type III: 2 Type I: 3; Type II: 20; Type III: 12 Type I: 35; Type II: 110; Type III: 210 Type I and II: 0; Type III: +5 0.5 no failures 2 |
| 6C. | PHYSICAL PROPERTIES: POLYESTER REINFORCEMENTS Maximum load at 0 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning Maximum load at 73.4 ± 3.6 F MD and XMD, min., before and after heat conditioning, lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., at max. load, before and after heat conditioning Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., before and after heat conditioning Tear strength at 73.4 ± 3.6 F, lbf, min. Low temperature flexibility, before and after heat conditioning, F, max. Dimensional stability, % max. Compound stability Granule embedment, Grade G only, max., grams | Type I: 70; Type II: 100 20 Type I: 50; Type II: 70 Type I: 35; Type II: 50 Type I: 38; Type II: 60 Type I: 55; Type II: 70 0 1 no failures 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. Elongation at 0 ± 3.6 F, MD and XMD, % min., Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. Elongation at 73.4 ± 3.6 F MD and XMD, % min., Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % Tensile-tear strength, min., lbf. Low temperature flexibility, max., F Dimensional stability, max., % Compound stability, min., F | 160 3 85 5 25 120 0 0.2 225 |
| 7. | REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 409 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicate yes/no) | NA NA NA NA |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| TREMCO | TREMCO | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC |
|-----------------------|---------------------------|--------------------------------|----------------------------------|--------------------------------|-----------------------------------|---------------------------------|------------------------------|
| POWERPLY SUPREME | POWERPLY SUPREME HT FR | BRAI SUPREME SBS POLY GRAND | BRAI SUPREME FR SBS POLY PLUS | BRAI SUPREME SBS GLASS BASE | BRAI SUPREME SBS POLYGRANUL/FR | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GLASS FR |
| COMBINATION SMOOTH | COMBINATION GRANULES | POLYESTER GRANULE | POLYESTER GRANULE | FIBERGLASS SMOOTH | POLYESTER GRANULE | POLYESTER GRANULE | FIBERGLASS GRANULE |
| TYPE III S | TYPE III GRADE G | | | | | | |
| | | | | TYPE I GRADE S | | | TYPE I GRADE G |
| | | TYPE I GRADE G | TYPE II GRADE G | | TYPE I GRADE G | TYPE I GRADE S | |
| | | | | | | | |
| | | | | | | | |
| 105 | | | | | | | |
| 70 | 138 | | | | | | |
| | 100 | | | | | | |
| | | | | | | | |
| | | | | 88 | | | 80 |
| | | | | 58 | | | 150 |
| | | | | | | | 45 |
| | | | | | | | 86 |
| | | | | NA | | | 40 |
| | | | | | | | |
| | | 160 | 162 | | 160 | 85 | |
| | | | | | | 153 | |
| | | 92 | 92 | | 90 | 54 | |
| | | 40 | 40 | | 40 | 88 | |
| | | | | | | 40 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 342 | 348 | | | | | | |
| 3.4 | 3.5 | | | | | | |
| 332 | 325 | | | | | | |
| 5.5 | 6.5 | | | | | | |
| 6 | 7.6 | | | | | | |
| 603 | 556 | | | | | | |
| -38 | -38 | | | | | | |
| 0 | 0 | | | | | | |
| no failures | no failures | | | | | | |
| | 0.92 | | | | | | |
| | | | | | | | |
| | | | | 145 | | | 116 |
| | | | | 4 | | | 4 |
| | | | | 110 | | | 72 |
| | | | | 8 | | | 4 |
| | | | | 3 | | | 3 |
| | | | | 3 | | | 3 |
| | | | | 92 | | | 85 |
| | | | | -22 | | | -22 |
| | | | | 0.5 | | | 0.5 |
| | | | | PASS | | | no failures |
| | | | | NA | | | 2 |
| | | | | | | | |
| | | 140 | 164 | | 140 | 140 | |
| | | 45 | 50 | | 45 | 45 | |
| | | 102 | 121 | | 104 | 100 | |
| | | 60 | 60 | | 63 | 70 | |
| | | 40 | 60 | | | 40 | |
| | | 126 | 157 | | 128 | 120 | |
| | | -22 | -22 | | -22 | -22 | |
| | | PASS | PASS | | PASS | PASS | |
| | | PASS | PASS | | no failures | no failures | |
| | | 1.0 | 1.0 | | 2 | NA | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| NA | 0.26 | | | | | | |
| NA | 0.9 | | | | | | |
| NA | NO | | | | | | |
| NA | NO | | | | | | |

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | U.S. INTEC |
| 2. | PRODUCT NAME | ULTRACLAD SBS |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | FIBERGLASS |
| | Top surface (indicate granule, smooth or foil) | FOIL |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | X |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

[illegible]

SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | W.P. HICKMAN |
| 2. | PRODUCT NAME | PIKA PLY SS-3P |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | SMOOTH |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

| W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN | W.P. HICKMAN |
|----------------------|---------------------|------------------------|------------------------|------------------------|-----------------------|------------------------|--------------------------|
| PIKA PLY SS-3G | PIKA PLY SS-2 | PIKA PLY SS-3P (TG) | PIKA PLY SS-3G (TG) | PIKA PLY ALUMINUM | PIKA PLY MS-4 (TG) | PIKA PLY MS 4G (TG) | PERFORMANCE PLY MS FR |
| FIBERGLASS SMOOTH | POLYESTER SMOOTH | POLYESTER SMOOTH | FIBERGLASS SMOOTH | FIBERGLASS ALUMINUM | POLYESTER GRANULE | FIBERGLASS GRANULE | POLYESTER GRANULE |
| | | | | | | | |
| | | | | | | | |
| TYPE I GRADE S | | | TYPE I GRADE S | | | TYPE I GRADE G | |
| | | TYPE I GRADE S | | | TYPE I GRADE G | | TYPE I GRADE G |
| | | | | X | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| 120 | | | 120 | | | 160 | |
| >45 | | | >45 | | | >65 | |
| 40 | | | 40 | | | 40 | |
| | <85 | 120 | | | 160 | | 160 |
| | | >54 | | | >75 | | >90 |
| | | | | | 40 | | 40 |
| | | | | 160 | | | |
| | | | | >80 | | | |
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| >70 | | | >70 | | | >70 | |
| >1 | | | >1 | | | >1 | |
| >30 | | | >30 | | | >30 | |
| >2 | | | >1 | | | >2 | |
| >3 | | | >3 | | | >3 | |
| >3 | | | >3 | | | >3 | |
| >35 | | | >35 | | | >35 | |
| <0 | | | <0 | | | <0 | |
| <0.5 | | | <0.5 | | | <0.5 | |
| NO FAILURES | | | NO FAILURES | | | NO FAILURES 2 | |
| | | | | | | | |
| | >70 | >70 | | | >70 | | >70 |
| | >20 | >20 | | | >20 | | >20 |
| | >50 | >50 | | | >50 | | >50 |
| | >35 | >35 | | | >35 | | >35 |
| | >38 | >38 | | | >38 | | >38 |
| | >55 | >55 | | | >55 | | >55 |
| | <0 | <0 | | | <0 | | <0 |
| | <1 | <1 | | | <1 | | <1 |
| | NO FAILURES | NO FAILURES | | | NO FAILURES 2 | | NO FAILURES 2 |
| | | | | | | | |
| | | | | >160 | | | |
| | | | | >3 | | | |
| | | | | >85 | | | |
| | | | | >5 | | | |
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| | | | | >120 | | | |
| | | | | <0 | | | |
| | | | | 0.2 | | | |
| | | | | 225 | | | |
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SBS Modified Bitumen, Part 2 - Test Results

| | | |
|-----|--|---|
| 1. | COMPANY NAME | W.P. HICKMAN |
| 2. | PRODUCT NAME | PERFORMANCE PLY MS |
| 3. | PRODUCT DESCRIPTION | |
| | Reinforcing (indicate fiberglass, polyester or combination) | POLYESTER |
| | Top surface (indicate granule, smooth or foil) | GRANULE |
| 4. | COMPLIES WITH: | |
| 4A. | ASTM D 6162-00 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements</i> (indicate Type I, II or III, and Grade G or S as appropriate) | |
| 4B. | ASTM D 6163-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Bituminous Materials Using Glass Fiber Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | |
| 4C. | ASTM D 6164-98 <i>Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements</i> (indicate Type I, II, or III, and Grade G or S as appropriate) | TYPE I GRADE G |
| 4D. | ASTM D 6298-98 <i>Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface</i> (indicate "X" or NA) | |
| 4E. | CGSB 37-GP-56M <i>Standard for Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing</i> (indicate Class A, B, or C, and Grade 1 or 2) | |
| 5A. | DIMENSIONS AND MASSES OF SHEET MATERIALS: COMBINATION OF POLYESTER AND GLASS FIBER | |
| | Thickness (min., mils) Grade S | Type I: 70; Type II and III: 80 |
| | Thickness (min., mils) Grade G | Type I: 110; Type II and III: 130 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade S | Type I: 45; Type II: 50; Type III: 55 |
| | Net mass per unit area (min., lbs./100 sq. ft.) Grade G | Type I: 60; Type II: 75; Type III: 85 |
| | 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; Type III: 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 and III: 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 |
| 5D. | DIMENSIONS AND MASSES OF SHEET MATERIAL: FOIL-SURFACED | |
| | Thickness (min., mils) | 134 |
| | Net mass per unit area (min., lbs./100 sq. ft.) | 80 |
| | Back surface 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; Type III: 250 |
| | Elongation at 0 ± 3.6 F, MD and XMD, % min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 250 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 26; Type II: 75; Type III: 3 |
| | Elongation at 5% max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 9; Type II: 30; Type III: 3 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 65; Type II: 90; Type III: 280 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | 0 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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; Type III: 180 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., at max. load, before and after heat conditioning | Type I: 1; Type II and III: 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; Type III: 150 |
| | 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; Type III: 3 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., as manufactured | Type I: 3; Type II: 40; Type III: 2 |
| | Elongation at 5% of max. load 73.4 ± 3.6 F, MD and XMD, % min., after heat conditioning | Type I: 3; Type II: 20; Type III: 12 |
| | Tear strength at 73.4 ± 3.6 F, lbf, min. | Type I: 35; Type II: 110; Type III: 210 |
| | Low temperature flexibility, before and after heat conditioning, F, max. | Type I and II: 0; Type III: +5 |
| | Dimensional stability, % max. | 0.5 |
| | Compound stability | 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: 70 |
| | 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 | no failures |
| | Granule embedment, Grade G only, max. grams | 2 |
| 6D. | PHYSICAL PROPERTIES: FOIL-SURFACED | |
| | Maximum load at 0 ± 3.6 F MD and XMD, min. lbf/in. | 160 |
| | Elongation at 0 ± 3.6 F, MD and XMD, min., % | 3 |
| | Maximum load at 73.4 ± 3.6 F MD and XMD, min., lbf/in. | 85 |
| | Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 5 |
| | Ultimate Elongation at 73.4 ± 3.6 F MD and XMD, min., % | 25 |
| | Tensile-tear strength, min., lbf. | 120 |
| | Low temperature flexibility, max., F | 0 |
| | Dimensional stability, max., % | 0.2 |
| | Compound stability, min., F | 225 |
| 7. | REFLECTIVITY | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | |
| | Emissivity ASTM C 1371 or E 409 (indicate value) | |
| | Energy Star Label (indicate yes/no) | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | |
| 8. | SEE MEMBRANE APPENDIX IF CHECKED | |

SBS Modified Bitumen, Part 2 - Test Results

[illegible]

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 BITEC INC. | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 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 W/COATING | | |
| APS-4T.1.15 | 3 | BETA BASE | FA-2T | APS-4T W/COATING | |
| 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 OR FS-2H | SPS-3H | SPS-3H GRAVEL |
| APS-4T.1.20 | 3 | BETA BASE | APS-4T | APS-4T W/COATING | |
| APS-4T.1.20 | 3 | NONE | FA-2T | APS-4T | APS-4T W/COATING |
| 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-4T | APM-4.5T | |
| APM4.5T.1.20 | 3 | NONE | FA-2T | APS-4T | 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 W/COATING | | |
| APS-4T.2.15 | 3 | BETA BASE | FA-2T | APS-4T W/COATING | |
| 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 | |
| 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 W/COATING | |
| APS-4T.2.20 | 3 | NONE | FA-2T | APS-4T | APS-4TW/COATING |
| 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-4T | APM-4.5T | |
| APM4.5T.2.20 | 3 | NONE | FA-2T | APS-4T | 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 Non-nailable | | | | | |
| RECOVER EXISTING ROOF See New Replacement, Nailable and Non-nailable | | | | | |
| RECOVER EXISTING ROOF INSULATION ADDED See New Replacement, Nailable and Non-nailable | | | | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 CERTAINTED ROOFING PRODUCTS GROUP | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| FSA-C-B3 | 3 | | FLINTASTIC SA BASE | FLINTASTIC SA MID PLY | FLINTLASTIC SA CAP |
| FSA-C-B2 | 2 | | FLINTASTIC SA BASE OR SA MIDPLY | FLINTASTIC SA CAP | |
| STA-C-B2 | 2 | GLASBASE | - | FLINTLASTIC STA | |
| STA-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTLASTIC STA | FLINTLASTIC STA |
| STA-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC STA |
| GTA-C-B2 | 2 | GLASBASE | - | FLINTLASTIC GTA | - |
| GTA-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTLASTIC STA | FLINTLASTIC GTA |
| GTA-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC GTA |
| GTAFR-C-B2 | 2 | GLASBASE | - | FLINTLASTIC GTA-FR | - |
| GTAFR-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTLASTIC STA | FLINTLASTIC GTA-FR |
| GTAFR-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC GTA-FR |
| GMS-C-B2 | 2 | GLASBASE | - | FLINTLASTIC GMS | - |
| GMS-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV | FLINTLASTIC GMS |
| GMS-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC GMS |
| FRP-C-B2 | 2 | GLASBASE | - | FLINTLASTIC FR-P | - |
| FRP-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTLASTIC PLY IV | FLINTLASTIC FR-P |
| FRP-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTLASTIC PLY IV (2 PLIES) | FLINTLASTIC FR-P |
| GTS-C-B2 | 2 | GLASBASE | - | FLINTLASTIC GTS | - |
| GTS-C-B3 | 3 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV | FLINTLASTIC GTS |
| GTS-C-B4 | 4 | - | FLEXIGLAS BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC GTS |
| FRBC-C-B2 | 2 | - | FLEXIGLAS FR BASE | FLINTLASTIC FR CAP | - |
| FRBC-C-B3 | 3 | - | FLEXIGLAS FR BASE | FLEXIGLAS FR BASE | FLINTLASTIC FR CAP |
| FRBC-C-B4 | 4 | - | FLEXIGLAS FR BASE | FLINTGLAS PLY IV (2 PLIES) | FLINTLASTIC FR CAP |
| NEW / REPLACEMENT NAILABLE | | | | | |
| STA-N-B2 | 2 | GLASBASE | - | 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 GTA | - |
| 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 |
| FSA-N-B2 | 2 | | FLINTLASTIC SA BASE | FLINTLASTIC SA CAP | |
| FSA-N-B3 | 3 | | FLINTLASTIC SA BASE | FLINTLASTIC SA MIDPLY | FLINTLASTIC SA CAP |
| NEW / REPLACEMENT INSULATED See description of the following specs under New / Replacement Nailable and Non-Nailable | | | | | |
| STA-N-B2/IN | GMS-C-B2/IC | & (All New/Replacement Specs /IS) | | | |
| 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 | | | | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 CERTAINTED ROOFING PRODUCTS GROUP (continued) | | | | | |
| RECOVER EXISTING ROOF See description of the following specs under New / Replacement Nailable and Non-Nailable | | | | | |
| 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 INSULATION ADDED (All New/Replacement Specs /R) | | | | | |
| Company Name DIBITEN | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 403 | 1 | NONE | POLY/4 | POLY/4 POLY/4.5 GRANULAR | |
| 453 | 1 | NONE | POLY/4.5 GRANULAR | | |
| 403-2 | 2 | NONE | POLY/4 | | |
| 453-2 | 2 | NONE | POLY/4 | | |
| 503 | 2 | NONE | POLY/4 | | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| 401 | 2 | APPROVED | POLY/4 | POLY/4 POLY/4.5 GRANULAR | |
| 451 | 2 | APPROVED | POLY/4.5 GRANULAR | | |
| 401-2 | 3 | APPROVED | POLY/4 | | |
| 451-2 | 3 | APPROVED | POLY/4 | | |
| 501 | 2 | APPROVED | POLY/5 | | |
| NEW / REPLACEMENT INSULATED | | | | | |
| 402 | 2 | FIBERGLASS | POLY/4 | POLY/4 POLY/4.5 GRANULAR POLY/4 POLY/4.5 GRANULAR POLY/4 POLY/4.5 GRANULAR POLY/5 POLY/5 | |
| 152 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| 404 | 2 | FIBERGLASS | POLY/4 | | |
| 454 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| 402-2 | 3 | FIBERGLASS | POLY/4 | | |
| 452-2 | 3 | FIBERGLASS | POLY/4 | | |
| 404-2 | 3 | FIBERGLASS | POLY/4 | | |
| 454-2 | 3 | FIBERGLASS | POLY/4 | | |
| 502 | 2 | FIBERGLASS | POLY/5 | | |
| 504 | 2 | FIBERGLASS | POLY/5 | | |
| RECOVER EXISTING ROOF | | | | | |
| R 405 | 2 | FIBERGLASS | POLY/4 | | |
| R 455 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| R 406 | 2 | FIBERGLASS | POLY/4 | | |
| R 456 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| R 505 | 2 | FIBERGLASS | POLY/5 | | |
| R 506 | 2 | FIBERGLASS | POLY/5 | | |
| RECOVER EXISTING ROOF INSULATION ADDED | | | | | |
| 402 | 2 | FIBERGLASS | POLY/4 | POLY/4 POLY/4.5 GRANULAR POLY/4 POLY/4.5 GRANULAR POLY/4 POLY/4 | |
| 452 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| 404 | 2 | FIBERGLASS | POLY/4 | | |
| 454 | 2 | FIBERGLASS | POLY/4.5 GRANULAR | | |
| 402-2 | 3 | FIBERGLASS | POLY/4 | | |
| 452-2 | 3 | FIBERGLASS | POLY/4 | | |
| 404-2 | 3 | FIBERGLASS | POLY/4 | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 |
| 454-2 | 3 | FIBERGLASS | POLY/4 | POLY/4.5 GRANULAR | |
| 502 | 2 | FIBERGLASS | POLY/5 | | |
| 504 | 2 | FIBERGLASS | POLY/5 | | |
| Company Name ECOLOGY ROOF SYSTEMS | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 2000-2-CON-M | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500,600 OR 700 SERIES | |
| 2000-2-CON-C | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500,600 OR 700 SERIES | |
| 2000-2-CON-G | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500,600 OR 700 SERIES | |
| 2000-3-CON-M | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-CON-C | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-CON-G | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 S0 | ANY ERS 500, 600 OR 700 SERIES |
| 2002-2-CON-M | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-CON- C | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-CON-G | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 3000-2-CON-M | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | |
| 3000-2-CON-C | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | |
| 3000-2-CON-G | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | |
| 3000-3-CON-M | 3 | ERS 401 | ANY ERS 400, 500 SERIES | ANY ERS 400, 500 SERIES | |
| 3000-3-CON-C | 3 | ERS 401 | ANY ERS 400, 500 SERIES | ANY ERS 400, 500 SERIES | |
| 3000-3-CON-G | 3 | ERS 401 | ANY ERS 400, 500 SERIES | ANY ERS 400, 500 SERIES | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| 2000-2-ND-M | 2 | ERS 401 | ANY ERS 300 SERIES | ANY ERS 500,600 OR 700 SERIES | |
| 2000-2-ND-C | 2 | ERS 401 | ANY ERS 300 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-ND-G | 2 | ERS 401 | ANY ERS 300 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-ND-M | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-ND-C | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-ND-G | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600, OR 700 SERIES |
| 2002-2-ND-M | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-ND-C | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-ND-G | 2 | | ANY ERS 500 SERIES | ANY 505, 507 | |
| 2002-2-ND-M | 3 | | ANY ERS 500 SERIES | ANY ERS 600 SERIES | |
| 3000-2-ND-C | 3 | | ANY ERS 500 SERIES | ANY ERS 600 SERIES | |
| 3000-3-ND-G | 3 | | ANY ERS 500 SERIES | ANY ERS 600 SERIES | |
| 3000-3-ND-M | 3 | ERS 400, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-ND-C | 3 | ERS 400, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-ND-G | 3 | ERS 400, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| NEW / REPLACEMENT INSULATED | | | | | |
| 2000-2-IN-M | 2 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-IN-C | 2 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-IN-G | 2 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-3-IN-M | 3 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-3-IN-C | 3 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-IN-G | 3 | ERS 400 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2002-2-IN-M | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-IN-C | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-IN-G | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 3000-2-IN-M | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 3000-2-IN-C | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 3000-2-IN-G | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 3000-3-IN-M | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-IN-C | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-IN-G | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| RECOVER EXISTING ROOF | | | | | |
| RECOVER EXISTING ROOF INSULATION ADDED | | | | | |
| 2000-2-IN-M | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-IN-C | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-2-IN-G | 2 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2000-3-IN-M | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-IN-C | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2000-3-IN-G | 3 | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 2002-2-IN-M | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-IN-C | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 2002-2-IN-G | | | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES | |
| 3000-2-IN-M | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | ANY ERS 500, 600 OR 700 SERIES |
| 3000-2-IN-C | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | |
| 3000-2-IN-G | | ERS 401 | ANY ERS 500 SERIES | ANY ERS 500 SERIES | |
| 3000-3-IN-M | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-IN-C | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |
| 3000-3-IN-G | 3 | ERS 400, 400-6, 401 | ANY ERS 500, 600 SERIES | ANY ERS 500, 600 SERIES | ANY ERS 600, 700 SERIES |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 FIRESTONE BUILDING PRODUCTS | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| C-P44-36M | 2 | | SBS POLYBASE | SBS PREMIUM FR | |
| C-P32-33M | 2 | | SBS SMOOTH | SBS PREMIUM | |
| C-PX-31M | 2 | | SBS PREMIUM BASE | SBS FR | |
| C-PX-30M | 2 | | SBS BASE | SBS | |
| C-P45-37M | 2 | | SBS POLY TORCH BASE | SBS PREMIUM FM TORCH | |
| C-P41-37M | 2 | | SBS POLY TORCH BASE | SBS FR TORCH | |
| C-P46-40M | 2 | | SBS GLASS TORCH BASE | SBS TORCH | |
| C-P47-37M | 2 | | SBS BASE SA | SBS PREMIUM FR TORCH | |
| C-P-47-41M | 2 | | SBS BASE SA | SBS FR TORCH | |
| C-P48-40M | 2 | | MB BASE SA | SBS TORCH | |
| C-PM16-18FR-M | 3 | MB BASE SHEET | APP 160 | APP 180 FR | |
| C-PM16-18-M | 3 | MB BASE SHEET | APP 160 | APP 180 | |
| C-PM80-18FR-M | 3 | MB BASE SHEET | APP80 GLASS BASE | APP 180 FR | |
| C-PM80-16-AC | 3 | MB BASE SHEET | APP80 GLASS BASE | APP 160 | ACRYLIC COATING |
| C-PM80-17-AC | 3 | MB BASE SHEET | APP80 GLASS BASE | APP 170 | ACRYLIC COATING |
| C-PM-16-AC | 2 | MB BASE SHEET | APP 160 | | ACRYLIC COATING |
| C-PM-17-AC | 2 | MB BASE SHEET | APP 170 | | ACRYLIC COATING |
| C-PM-18FR-M | 2 | MB BASE SHEET | APP 180 FR | | |
| C-PM-18-M | 2 | MB BASE SHEET | APP 180 FR | | |
| C-PM-41-M | 2 | MB BASE SHEET | SBS FR TORCH | | |
| C-PM-40-M | 2 | MB BASE SHEET | SBS TORCH | | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| N-M47-48M | 3 | MB BASE SHEET | SBS GLASS BASE SA | SBS PREMIUM TORCH | |
| N-M47-41-M | 3 | MB BASE SHEET | SBS GLASS BASE SA | SBS FRO TORCH | |
| N-M47-40-M | 3 | MB BASE SHEET | MB BASE SA | SBS TORCH | |
| N-MX-36-M | 3 | MB BASE SHEET | SBS PREMIUM BASE | SBS PREMIUM FR | |
| N-MX-33-M | 3 | MB BASE SHEET | SBS PREMIUM BASE | SBS PREMIUM | |
| N-MS-31-M | 3 | MB BASE SHEET | SBS BASE | SBS FRO TORCH | |
| N-MS-30-M | 3 | MB BASE SHEET | SBS BASE | SBS | |
| N-M47-37-M | 3 | MB BASE SHEET | SBS BASE SA | SBS PREMIUM FR TORCH | |
| N-M47-41-M | 3 | MB BASE SHEET | SBS BASE SA | SBS FR TORCH | |
| N-M48-40-M | 3 | MB BASE SHEET | MB BASE SA | SBS TORCH | |
| N-M16-18FR-M | 3 | MB BASE SHEET | APP 160 | APP 180 FR | |
| N-M16-18-M | 3 | MB BASE SHEET | APP 160 | APP 180 | |
| N-VS-36-M | 3 | VENTING BASE | SBS BASE | SBS PREMIUM FR | |
| N-VS-33-M | 3 | VENTING BASE | SBS BASE | APP 180 | |
| N-VS-31-M | 3 | VENTING BASE | SBS BASE | APP PREMIUM FR | |
| N-VS-30-M | 3 | VENTING BASE | SBS BASE | SBS PREMIUM | |
| N-M80-18FR-M | 3 | MB BASE SHEET | APP 80 GLASS BASE | SBS FR | |
| N-M80-18-M | 2 | MB BASE SHEET | APP 80 GLASS BASE | SBS | |
| N-M80-16AC | 2 | MB BASE SHEET | APP 80 GLASS BASE | APP 180 FR | |
| N-M37-M | 2 | MB BASE SHEET | SBS PREMIUM FR TORCH | APP 180 | |
| N-M41-M | 2 | MB BASE SHEET | SBS FR TORCH | APP 160 | ACRYLIC COATING |
| N-M40-M | 2 | MB BASE SHEET | SBS TORCH | | |
| N-M18FR-M | 2 | MB BASE SHEET | APP 180 FR | | |
| N-M18-M | 2 | MB BASE SHEET | APP 180 FR | | |
| NEW / REPLACEMENT INSULATED | | | | | |
| I-32-36-M | 2 | | SBS SMOOTH | SBS PREMIUM FR | |
| I-44-33-M | 2 | | SBS POLYBASE | SBS PREMIUM | |
| I-32-36-M | 2 | | SBS PREMIUM BASE | SBS FR | |
| I-32-36-M | 2 | | SBS BASE | SBS | |
| I-M45-48-M | 3 | MB BASE | SBS POLY TORCH BASE | SBS PREMIUM TORCH | |
| I-M45-41-M | 3 | MB BASE | SBS POLY TORCH BASE | SBS FR TORCH | |
| I-M46-40-M | 3 | MB BASE | SBS GLASS TORCH BASE | SBS TORCH | |
| I-M30-M | 2 | MB BASE | SBS | | |
| I-M32-G | 2 | MB BASE | SBS SMOOTH | | FLOOD COAT |
| I-M16-18FR-M | 3 | MB BASE | APP 160 | APP 180 FR | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 FIRESTONE BUILDING PRODUCTS (continued) | | | | | |
| NEW / REPLACEMENT INSULATED (continued) | | | | | |
| I-47-41-M | 2 | | SBS GLASS BASE SA | SBS FR TORCH | |
| I-48-40-M | 2 | | MB BASE SA | SBS TORCH | |
| NEW / REPLACEMENT INSULATED MECH. ATT. | | | | | |
| I-45-48-M | 2 | | SBS POLY TORCH BASE | SBS PREMIUM FR TORCH | |
| I-41-M | 2 | | SBS POLY TORCH BASE | SBS FR TORCH | |
| I-45-M | 2 | | SBS POLY TORCH BASE | SBS TORCH | |
| RECOVER EXISTING ROOF | | | | | |
| E-M47-48-M | 3 | MB Base | SBS GLASS BASE SA | SBS PREMIUM FR TORCH | |
| E-M47-41-M | 3 | MB Base | SBS GLASS BASE SA | SBS FR TORCH | |
| E-M47-40-M | 3 | MB Base | MB BASE SA | SBS TORCH | |
| E-MX-36-M | 3 | MB Base | SBS PREMIUM BASE | SBS PREMIUM FR | |
| E-MX-33-M | 3 | MB Base | SBS PREMIUM BASE | SBS PREMIUM | |
| E-MS-31-M | 3 | MB Base | SBS BASE | SBS FR | |
| E-MS-30-M | 3 | MB Base | SBS BASE | SBS | |
| E-M47-37-M | 3 | MB Base | SBS BASE SA | SBS PREMIUM FR TORCH | |
| E-M47-41-M | 3 | MB Base | SBS BASE SA | SBS FR TORCH | |
| E-M48-40-M | 3 | MB Base | MB BASE SA | SBS TORCH | |
| E-M16-18FR-M | 3 | MB Base | APP160 | APP180 FR | |
| E-M16-18-M | 3 | MB Base | APP160 | APP180 | |
| E-VS-36-M | 3 | VENTING BASE | SBS BASE | SBS PREMIUM FR | |
| E-VS-33-M | 3 | VENTING BASE | SBS BASE | SBS PREMIUM | |
| E-VS-31-M | 3 | VENTING BASE | SBS BASE | SBS FR | |
| E-VS-30-M | 3 | VENTING BASE | SBS BASE | SBS | |
| E-M80-18FR-M | 3 | MB Base | APP80 GLASS BASE | APP180 FR | |
| E-M80-18-M | 3 | MB Base | APP80 GLASS BASE | APP180 | |
| E-M80-16AC | 3 | MB Base | APP80 GLASS BASE | APP160 | ACRYLIC COATING |
| E-M37-M | 2 | MB Base | SBS PREMIUM FR TORCH | | |
| E-M41-M | 2 | MB Base | SBS FR TORCH | | |
| E-M40-M | 2 | MB Base | SBS TORCH | | |
| E-M18FR-M | 2 | MB Base | APP180 FR | | |
| E-M18-M | 2 | MB Base | APP180 | | |
| E-M16-AC | 2 | MB Base | APP160 | | ACRYLIC COATING |
| RECOVER EXISTING ROOF INSULATION ADDED | | | | | |
| I-M32-36-M | 3 | MB Base | SBS SMOOTH | SBS PREMIUM FR | |
| I-M44-33-M | 3 | MB Base | SBS POLYBASE | SBS PREMIUM | |
| I-M32-36-M | 3 | MB Base | SBS PREMIUM BASE | SBS FR | |
| I-M32-36-M | 3 | MB Base | SBS BASE | SBS | |
| I-M45-48-M | 3 | MB Base | SBS POLY TORCH BASE | SBS PREMIUM FR TORCH | |
| I-M45-41-M | 3 | MB Base | SBS POLY TORCH BASE | SBS FR TORCH | |
| I-M46-40-M | 3 | MB Base | SBS GLASS TORCH BASE | SBS TORCH | |
| I-M30-M | 2 | MB Base | SBS | | |
| I-M32-G | 2 | MB Base | SBS SMOOTH | | FLOOD COAT |
| I-M16-18FR-M | 3 | MB Base | APP160 | APP180FR | |
| I-M47-41-M | 3 | MB Base | SBS GLASS BASE SA | SBS FR TORCH | |
| I-M48-40-M | 3 | MB Base | MB BASE SA | SBS TORCH | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 GAF MATERIALS CORPORATION | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 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 | |
| NN-0-2-TS (PD) | 2 | | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) | |
| NN-0-3-TS (PD) | 3 | | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) |
| NN-0-2-MS (PD) | 2 | | RUBEROID MOP (SMOOTH) | RUBEROID MOP (SMOOTH) | |
| NN-0-3-MS (PD) | 3 | | RUBEROID MOP (SMOOTH) | RUBEROID MOP (SMOOTH) | RUBEROID TORCH (SMOOTH) |
| 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 | RUBEROID TORCH (SMOOTH) | | |
| N-1-1-MGFR | 2 | GAFGLAS 75 BASE SHEET | RUBEROID MOP 170 FR | | |
| N-1-1-MG | 3 | GAFGLAS 75 BASE SHEET | RUBEROID 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 AND 1 PLY 4 OR PLY 6 | RUBEROID MOP PLUS | | |
| N-2-1-MGPFR | 3 | GAFGLAS STRATAVENT AND 1 PLY 4 OR PLY 6 | RUBEROID MOP FR | | |
| N-2-1-TGP | 3 | GAFGLAS STRATAVENT AND GAFGLAS PLY 6 | RUBEROID TORCH PLUS | | |
| N-2-1-TGPFR | 3 | GAFGLAS STRATAVENT AND GAFGLAS PLY 6 | RUBEROID TORCH FR | | |
| N-1-2-20/MGP | 3 | GAFGLAS PLY 6 | RUBEROID 20 | RUBEROID MOP PLUS | |
| N-1-2-20/MGPFR | 3 | GAFGLAS PLY 6 | RUBEROID 20 | RUBEROID MOP FR | |
| N-3-1-MGP | 4 | GAFGLAS STRATAVENT AND 2 PLY 4 OR PLY 6 | RUBEROID MOP PLUS | | |
| N-3-1-MGPFR | 4 | GAFGLAS STRATAVENT AND 2 PLY 4 OR PLY 6 | RUBEROID MOP FR | | |
| N-3-1-TGP | 4 | GAFGLAS STRATAVENT AND 2 GAFGLAS PLY 6 | RUBEROID TORCH PLUS | | |
| N-3-1-TGPFR | 4 | GAFGLAS STRATAVENT AND 2 GAFGLAS PLY 6 | RUBEROID TORCH FR | | |
| N-1-2-20/30 | 3 | GAFGLAS 75 BASE SHEET OR 1 PLY 4 OR PLY 6 | RUBEROID 20 | RUBEROID 30 | |
| N-1-2-20/30 FR | 3 | GAFGLAS 75 BASE SHEET OR 1 PLY 4 OR PLY 6 | RUBEROID 20 | RUBEROID 30 FR | |
| N-1-2-20/MG | 3 | GAFGLAS STRATAVENT BASE SHEET | RUBEROID 20 | RUBEROID MOP (GRANULE) | |
| N-1-2-20/MGP | 3 | GAFGLAS STRATAVENT BASE SHEET | RUBEROID 20 | RUBEROID MOP PLUS | |
| N-1-2-20/MGPFR | 3 | GAFGLAS STRATAVENT BASE SHEET | RUBEROID 20 | RUBEROID MOP 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) | RUBEROID 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 | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 GAF MATERIALS CORPORATION (continued) | | | | | |
| NEW / REPLACEMENT INSULATED (continued) | | | | | |
| 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-O-2-20/MG | 2 | NONE | RUBEROID 20 | RUBEROID MOP (GRANULE) | |
| I-O-2-20/MGP | 2 | NONE | RUBEROID 20 | RUBEROID MOP PLUS | |
| I-O-2-20/MGFR | 2 | NONE | RUBEROID 20 | RUBEROID MOP FR | |
| I-O-2-TS (PD) | 2 | | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) | |
| I-O-3-TS (PD) | 3 | | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) | RUBEROID TORCH (SMOOTH) |
| I-O-2-MS (PD) | 2 | | RUBEROID TORCH (SMOOTH) | RUBEROID MOP (SMOOTH) | |
| I-O-3-MS (PD) | 3 | | RUBEROID MOP (SMOOTH) | RUBEROID MOP (SMOOTH) | RUBEROID MOP (SMOOTH) |
| 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 | | |
| R-1-1-MGFR | 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 HENRY COMPANY | | | | | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| WD - M/M - NP180 FR | 2 | | Sheathing Paper | G 100 s/s; NP 180 s/s | NP 180gM FR |
| WD - C/C - NP180 FR | 2 | | Sheathing Paper | G 100 s/s; NP 180 s/s | NP 180gM FR |
| WD - M/M - NP250 FR | 2 | | Sheathing Paper | G 100 s/s | NP 250gM4 FR |
| WD - C/C - NP250 FR | 2 | | Sheathing Paper | G 100 s/s | NP 250gM4 FR |
| WD - M/M - G100 FR | 2 | | Sheathing Paper | G 100 s/s | G 100gM FR |
| WD - C/C - G100 FR | 2 | | Sheathing Paper | G 100 s/s | G 100gM FR |
| H3 - NMPC - MR | 3 | | Henry #604; G 100 s/s | NP 180 s/s | NP 180gM4 |
| NEW / REPLACEMENT INSULATED | | | | | |
| ID - M/M - G100 FR | 2 | | G 100 s/s; NP 180 s/s | G100gM FR | |
| ID - C/C - G100 FR | 2 | | G 100 s/s; NP 180 s/s | G100gM FR | |
| ID - M/M - NP180 FR | 2 | | G 100 s/s; NP 180 s/s | NP 180gM4 FR | |
| ID - M/M - NP180 | 2 | | G 100 s/s; NP 180 s/s | NP 180gM4 | |
| ID - T/T - NP180 FR | 2 | | G 100 p/p; NP 180 p/p | NP 180gT4 FR | |
| ID - C/C - NP180 FR | 2 | | G 100 s/s; NP 180 s/s | NP 180gM FR | |
| ID - C/C - NP180 | 2 | | G 100 s/s; NP 180 s/s | NP 180gM | |
| ID - M/M - NP250 FR | 2 | | G 100 s/s; NP 180 s/s | NP250gM4 FR | |
| ID - T/T - NP250 FR | 2 | | G 100 p/p; NP 180 p/p | NP250gT4 FR | |
| ID - C/C - NP250 FR | 2 | | G 100 p/p; NP 180 p/p | NP250gM4 FR | |
| H2 - IMPC - MR | 3 | | Henry #604; G 100 s/s | NP 180 s/s | NP 180gM4 |
| NEW / REPLACEMENT LTWGT CONCRETE | | | | | |
| LCD - M/M - NP180 FR | 3 | | G2 Venting Base Sheet | G 100 s/s | NP 180gM4 FR |
| LCD - C/C - NP180 FR | 3 | | G2 Venting Base Sheet | G 100 s/s | NP 180gM4 FR |
| LCD - M/M - NP250 FR | 3 | | G2 Venting Base Sheet | G 100 s/s | NP 250gM4 FR |
| LCD - C/C - NP250 FR | 3 | | G2 Venting Base Sheet | G 100 s/s | NP 250gM4 FR |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 HONEYWELL INTERNATIONAL, INC. | | | | | |
| NEW/REPLACEMENT NON-NAILABLE | | | | | |
| M-100-MP-NN | 2 | BLACK ARMOR ORGANIC BASE | MILLENNIUM GMC | | |
| M-120-MP-NN | 3 | 2 BLACK ARMOR TC GLASS | MILLENNIUM GMC | | |
| M-140-MP-NN | 3 | BLACK ARMOR ORGANIC BASE | MILLENNIUM BASE | MILLENNIUM GMC | |
| M-145-MP-NN | 3 | MILLENNIUM BASE SHEET | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-150-MP-NN | 2 | NONE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-160-MP-NN | 4 | 3 BLACK ARMOR TC GLASS | MILLENNIUM GMC | | |
| M-100-C-NN | 2 | MILLENNIUM BASE SHEET | MILLENNIUM BMC | | |
| M-140-C-NN | 3 | MILLENNIUM BASE SHEET | MILLENNIUM BASE | MILLENNIUM GMC | |
| M-145-C-NN | 3 | MILLENNIUM BASE SHEET | MILLENNIUM SMOOTH MOP | MILLENNIUM GMC | |
| M-150-C-NN | 2 | NONE | MILLENNIUM SMOOTH MOP | MILLENNIUM GMC | |
| M-150-C-HW-NN | 2 | NONE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| I-100-MA-NN | 2 | BLACK ARMOR BASE SHEET | INFINITEE 30 GMC | | |
| I-120-MA-NN | 3 | 2 BLK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| I-130-MA-NN | 2 | NONE | INFINITEE 20 SM | INFINITEE 30 GMC | |
| I-140-MA-NN | 3 | BLACK ARMOR BASE SHEET | INFINITEE 20 SM | INFINITEE 30 GMC | |
| I-160-MA-NN | 4 | 3 BLK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| I-100-C-NN | 2 | BLACK ARMOR BASE | INFINITEE 30 GMC | | |
| I-150-C-NN | 3 | BLACK ARMOR BASE SHEET | INFINITEE 20 SM | INFINITEE 30 GMC | |
| I-140-T-NN | 3 | BLACK ARMOR BASE SHEET | INFINITEE ST | INFINITEE GTC | |
| NEW/REPLACEMENT NAILABLE | | | | | |
| I-100-MA-N | 2 | BLACK ARMOR BASE SHEET | INFINITEE 30 GMC | | |
| I-120-MA-N | 4 | BLACK ARMOR BASE SHEET & 2 BLK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| I-140-MA-N | 3 | BLACK ARMOR BASE SHEET | INFINITEE 20 SM | INFINITEE 30 GMC | |
| I-160-MA-N | 5 | BLACK ARMOR BASE SHEET & 3 BLACK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| M-100-MP-N | 2 | BLACK ARMOR ORGANIC BASE | MILLENNIUM GMC | | |
| M-120-MP-N | 4 | BLK ARMOR ORGANIC BASE & 2 BLK ARMOR TC GLASS | MILLENNIUM GMC | | |
| M-140-MP-N | 3 | BLACK ARMOR ORGANIC BASE | MILLENNIUM BASE SHEET | MILLENNIUM GMC | |
| M-145-MP-N | 3 | BLACK ARMOR ORGANIC BASE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-160-MP-N | 5 | BLK ARMOR ORGANIC BASE & 3 BLK ARMOR TC GLASS | MILLENNIUM GMC | | |
| M-100-C-N | 2 | | MILLENNIUM BASE SHEET | | |
| M-140-C-N | 3 | MILLENNIUM BASE SHEET | MILLENNIUM BASE SHEET | MILLENNIUM GMC | |
| M-145-C-N | 3 | MILLENNIUM BASE SHEET | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-145-C-HN-N | 3 | MILLENNIUM BASE SHEET | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| I-100-C-N | 2 | BLACK ARMOR BASE SHEET | INFINITEE 30 GMC | | |
| I-140-C-N | 3 | BLACK ARMOR BASE SHEET | POLY MOP BASE SHEET | INFINITEE 30 GMC | |
| I-150-C-N | 3 | BLACK ARMOR BASE SHEET | INFINITEE 20 SM | 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 GTC | |
| NEW/REPLACEMENT INSULATED | | | | | |
| M-100-MP-NN | 2 | BLACK ARMOR-ORGANIC | MILLENNIUM GMC | | |
| M-120-MP-NN | 3 | 2 BLACK ARMOR TC GLASS | MILLENNIUM GMC | | |
| M-140-MP-NN | 3 | BLACK ARMOR ORGANIC | MILLENNIUM BASE | MILLENNIUM GMC | |
| M-145-MP-NN | 3 | MILLENNIUM BASE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-150-MP-NN | 2 | NONE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-150-C-HW-NN | 2 | NONE | MILLENNIUM SMOOTH | MILLENNIUM GMC | |
| M-160-MP-NN | 4 | 3 BLACK ARMOR TC GLASS | 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-120-MA-NN | 3 | 2 BLK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| I-130-MA-NN | 2 | NONE | INFINITEE 20 SM | INFINITEE 30 GMC | |
| I-140-MA-NN | 3 | BLACK ARMOR BASE SHEET | INFINITEE 20 SM | | |
| I-160-MA-NN | 4 | 3 BLK ARMOR TYPE IV GLASS | INFINITEE 30 GMC | | |
| I-100-C-NN | 2 | BLACK ARMOR BASE | INFINITEE 30 GMC | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 IKO INDUSTRIES INC. | | | | | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| SM 201 | 4 | NO. 25 GLASS BASE | GLASS PLY | GLASS PLY | MODIFLEX MP-250-CAP |
| SM 202 | 4 | NO. 25 GLASS BASE | GLASS PLY | GLASS PLY | MODIFLEX MP-180-CAP |
| SM 205 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-250-CAP | |
| SM 206 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-180-CAP | |
| SM 210 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | TORCHFLEX TP-180-CAP | |
| SM 211 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | TORCHFLEX TP-180-CAP | |
| SM 215 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | TORCHFLEX TP-180-CAP | |
| SM 220 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-180-CAP | |
| SM 225 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-250-CAP | | |
| SM 226 | 2 | NO. 25 GLASS BASE | TORCHFLEX TP-180 CAP | | |
| SN 250 | 4 | NO. 25 GLASS BASE | GLASS PLY | GLASS PLY SHEET | MODIFLEX MP-250-CAP |
| SN 251 | 4 | NO. 25 GLASS BASE | GLASS PLY | GLASS PLY | MODIFLEX MP=180-CAP |
| SN 255 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-250-CAP | |
| SN 256 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-180-CAP | |
| SN 260 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | TORCHFLEX TP -250-CAP | |
| SN 261 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | TORCHFLEX TP-180-CAP | |
| SN 265 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | TORCHFLEX TP-180-CAP | |
| 2N 270 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | MODIFLEX MP-180-CAP | |
| SN 275 | 2 | NO. 25 GLASS BASE | TORCHFLEX TP-250-CAP | | |
| AM 400 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | ARMOURPLAST GRANULAR | |
| AM 401 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | |
| AM 405 | 3 | NO. 25 GLASS BASE | TORCHFLEX TF-95-FF | ARMOURPLAST GRANULAR | |
| AM 406 | 3 | NO. 25 GLASS BASE | TORCHFLEX TF-95-FF | ARMOURPLAST CLASSIC | |
| AM 410 | 3 | NO. 25 GLASS BASE | ARMOURPLAST GRANULAR | | |
| AM 411 | 3 | NO. 25 GLASS BASE | ARMOURPLAST CLASSIC | | |
| AN 450 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | ARMOURPLAST GRANULAR | |
| AN 451 | 3 | NO. 25 GLASS BASE | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | |
| AN 455 | 3 | NO. 25 GLASS BASE | TORCHFLEX TF-95-FF | ARMOURPLAST GRANULAR | |
| AN 456 | 3 | NO. 25 GLASS BASE | TORCHFLEX TF-95-FF | ARMOURPLAST CLASSIC | |
| AN 460 | 3 | NO. 25 GLASS BASE | ARMOURPLAST GRANULAR | ARMOURPLAST GRANULAR | |
| AN 461 | 3 | NO. 25 GLASS BASE | ARMOURPLAST CLASSIC | | |
| NEW / REPLACEMENT INSULATED | | | | | |
| AI 300 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST GRANULAR |
| AI 301 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST CLASSIC |
| AI 305 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | ARMOURPLAST GRANULAR | |
| AI -306 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | ARMOURPLAST CLASSIC | |
| AI 310 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | ARMOURPLAST GRANULAR | |
| AI 311 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | ARMOURPLAST CLASSIC | |
| AI 315 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | ARMOURPLAST GRANULAR | |
| AI 316 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | ARMOURPLAST CLASSIC | |
| AI 320 | 3 | NO. 25 GLASS BASE | MODIFLEX FS BASE | ARMOURPLAST GRANULAR | |
| AI 321 | 3 | NO. 25 GLASS BASE | MODIFLEX FS BASE | ARMOURPLAST CLASSIC | |
| AI 325 | 3 | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | | |
| AI 326 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | | |
| AI 327 | 2 | GLASS B OR P SHEET | ARMOURPLAST GRANULAR | | |
| AI 328 | 2 | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | | |
| AI 330 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | | |
| AI 331 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST CLASSIC | | |
| AI 335 | 2 | ARMOURPLASTA CLASSIC | ARMOURPLAST GRANULAR | | |
| AI 336 | 2 | ARMOURPLASTA CLASSIC | ARMOURPLAST CLASSIC | | |
| SI 100 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | MODIFLEX MP-250-CAP |
| SI 101 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | MODIFLEX MP-180-CAP |
| SI 105 | 3 | GLASS B OR P SHEET | MODIFLEX SS BASE | MODIFLEX MP-250 CAP | |
| SI 106 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | MODIFLEX MP-180-CAP | |
| SI 110 | 3 | GLASS B OR P SHEET | MODIFLEX MP-180-FS | TORCHFLEX TP-180-CAP | |
| SI 115 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | TORCHFLEX TP-180-CAP | |
| SI 120 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | TORCHFLEX TP-250-CAP | |
| SI 121 | 3 | NO. 25 GLASS BASE | TORCHFLEX TP-180-FF | TORCHFLEX TP-180-CAP | |
| SI 125 | 3 | NO. 25 GLASS BASE | MODIFLEX SS BASE | MODIFLEX MP-250-CAP | |
| SI 126 | 3 | NO. 25 GLASS BASE | MODIFLEX SS BASE | MODIFLEX MP-180-CAP | |
| SI 130 | 3 | NO. 25 GLASS BASE | MODIFLEX SS BASE | MODIFLEX MP-180-CAP | |
| SI 135 | 2 | MODIFLEX MP-180-SS | MODIFLEX MP-250-CAP | | |
| SI 136 | 2 | MODIFLEX MP-180-SS | MODIFLEX MP-180-CAP | | |
| SI 137 | 2 | GLASS PLY SHEET | MODIFLEX MP-250-CAP | | |
| SI 138 | 2 | GLASS PLY SHEET | MODIFLEX MP-180-CAP | | |
| SI 140 | 2 | MODIFLEX MP-180-FS | TORCHFLEX TP-250-CAP | | |
| SI 141 | 2 | MODIFLEX MP-180-FS | TORCHFLE TP-180-CAP | | |
| SI 142 | 2 | GLASS PLY SHEET | TORCHFLEX TP-250-CAP | | |
| SI 143 | 2 | GLASS PLY SHEET | TORCHFLEX TP-180-CAP | | |
| SI 145 | 2 | TORCHFLEX TP-180-FF | TORCHFLEX TP-250-CAP | | |
| SI 146 | 2 | TORCHFLEX TP-180-FF | TORCHFLEX TP-180-CAP | | |
| SI 150 | 2 | MODIFLEX MP-180-FS | TORCHFLEX TP-180-CAP | | |
| SI 160 | 2 | MODIFLEX SS BASE | MODIFLEX MP-250-CAP | | |
| SI 161 | 2 | MODIFLEX SS BASE | MODIFLEX MP-180-CAP | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 |

| | | | | | |
|---|---|--------------------|--------------------|--|--|
| SI 165 | 2 | MODIFLEX MP-180-SS | MODIFLEX MP-180-SS | | |
| Company Name IKO INDUSTRIES INC. (continued) | | | | | |

| | | | | | |
|--------------------------|---|-----------------|--------------------|-----------------------|----------------------|
| RECOVER EXISTING ROOF | | | | | |
| AR 601 | 3 | SEE NOTES 1 & 2 | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | ARMOURPLAST GRANULAR |
| AR 602 | 3 | SEE NOTES 1 & 2 | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | ARMOURPLAST CLASSIC |
| AR 610 | 2 | SEE NOTE 1 | MODIFLEX FS BASE | ARMOURPLASTA GRANULAR | |
| AR 611 | 2 | SEE NOTE 1 | MODIFLEX FS BASE | ARMOURPLAST CLASSIC | |
| AR 620 | 2 | PROTECTORBOARD | MODIFLEX FS BASE | ARMOURPLAST GRANULAR | |
| AR 621 | 2 | PROTECTORBOARD | MODIFLEX FS BASE | ARMOURPLAST CLASSIC | |
| AR 622 | 2 | PROTECTORBOARD | NO. 25 GLASS BASE | ARMOURPLAST GRANULAR | |
| AR 623 | 2 | PROTECTORBOARD | NO. 25 GLASS BASE | ARMOURPLAST CLASSIC | |
| AR 625 | 2 | | NO. 25 GLASS BASE | ARMOURPLAST GRANULAR | |
| AR 626 | 2 | | NO. 25 GLASS BASE | ARMOURPLAST CLASSIC | |
| AR 630 | 2 | | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | |
| AR 631 | 2 | | MODIFLEX MP-180-FS | ARMOURPLAST CLASSIC | |
| AR 635 | 2 | PROTECTORBOARD | TORCHFLEX FF BASE | ARMOURPLAST GRANULAR | |
| AR 636 | 2 | PROTECTORBOARD | TORCHFLEX FF BASE | ARMOURPLAST CLASSIC | |

- NOTES:
1. IKO Protectoborad, perlite or fiberglass insulation over thermal insulation.
 2. 15 year NDL Limited Warranty systems require a full non-destructive moisture survey supplemented with test cuts. All wet material must be remove

| CONCRETE DECK | | | | | |
|---------------|---|---------------------|----------------------|----------------------|----------------------|
| ROOF SYSTEMS | | | | | |
| AC 850 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST GRANULAR |
| AC 851 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST CLASSIC |
| AC 855 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | AMROURPLAST GRANULAR | |
| AC 856 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | ARMOURPLAST CLASSIC | |
| AC 860 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | AMROURPLAST GRANULAR | |
| AC 861 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | ARMOURPLAST CLASSIC | |
| AC 865 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | | |
| AC 866 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST CLASSIC | | |
| AC 867 | 2 | GLASS B OR P SHEET | ARMOURPLAST GRANULAR | | |
| AC 868 | 2 | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | | |
| AC 870 | 2 | ARMOURPLAST CLASSIC | ARMOURPLAST GRANULAR | | |
| AC 871 | 2 | ARMOURPLAST CLASSIC | ARMOURPLAST CLASSIC | | |
| AC 872 | 2 | TORCHFLEX TP-180-FF | ARMOURPLAST GRANULAR | | |
| AC 873 | 2 | TORCHFLEX TP-180-FF | ARMOURPLASTA CLASSIC | | |

| PROTECTED MEMBRANE SYSTEM | | | | | |
|------------------------------|---|---------------------|----------------------|----------------------|----------------------|
| AP 900 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST GRANULAR |
| AP 901 | 4 | GLASS PLY SHEET | GLASS PLY SHEET | GLASS PLY SHEET | ARMOURPLAST CLASSIC |
| AP 905 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | ARMOURPLAST GRANULAR | |
| AP 906 | 3 | GLASS B OR P SHEET | GLASS PLY SHEET | ARMOURPLAT CLASSIC | |
| AP 910 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | ARMOURPLAST GRANULAR | |
| AP 911 | 3 | GLASS B OR P SHEET | TORCHFLEX TP-180-FF | AMROURPLAST CLASSIC | |
| AP 915 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST GRANULAR | | |
| AP 916 | 2 | MODIFLEX MP-180-FS | ARMOURPLAST CLASSIC | | |
| AP 917 | 2 | GLASS B OR P SHEET | ARMOURPLAT GRANULAR | | |
| AP 918 | 2 | GLASS B OR P SHEET | ARMOURPLAST CLASSIC | | |
| AP 920 | 2 | ARMOURPLAST CLASSIC | ARMOURPLAST GRANULAR | | |
| AP 921 | 2 | ARMOURPLAST CLASSIC | ARMOURPLAST CLASSIC | | |
| AP 922 | 2 | TORCHFLEX TP-180-FF | ARMOURPLAST GRANULAR | | |
| AP 923 | 2 | TORCHFLEX TP-180-FF | ARMOURPLAST CLASSIC | | |

| | | | | | |
|------------------------------------|--|--|--|--|--|
| Company Name JOHNS MANVILLE | | | | | |
|------------------------------------|--|--|--|--|--|

| NEW / REPLACEMENT NON-NAILABLE | | | | | |
|-----------------------------------|---|--------------------------------|---|--|--|
| 2CID | 2 | GLASPLY PREMIER | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR, | | |
| 2CID | 2 | GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 2CID | 2 | NONE | DYNABASE DYNAPLY, DYNALASTIC 180S | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 2CID-C | 2 | GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 2CID-C | 2 | NONE | DYNABASE DNYAPLY DYNALASTIC 180S | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 2CIG | 2 | GLASPLY PREMIER OR GLASBASE | DYNAPLY OR DYNAKAP | | |
| 2CIG | 2 | NONE | DYNABASE | DYNAPLY OR DYNAKAP | |
| 2FID | 2 | GLASPLY IV OR GLASBASE | DYNAGLAS OR DYNAGLAS FR | | |
| 2FID | 2 | NONE | DYNABASE DYNALASTIC 180S DYNAPLY | DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 (continued) | | | | | |
| NEW / REPLACEMENT | | | | | |
| NON-NAILABLE (continued) | | | | | |
| 2FID-C | 2 | NONE | DYNABASE DYNAPLY, DC 180S | DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR | |
| 2PID | 2 | GLASPLY PREMIER | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | | |
| 2PID | 2 | PP 28 GLASBASE | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | | |
| 2PID | 2 | NONE | DYNALASTIC 180S DYNABASE, DYNAPLY | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | |
| 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 | | |
| 2CBS-W/2PBS-W | 2 | GLASBASE, PP28 | TRICOR, BICOR, OR APPEX SERIES | | |
| 2CBN-W/2PBN-W | 2 | GLASBASE, PP28 | TRICOR M, TRICOR M FR, OR APPEX SERIES | | |
| 3CBS-W/3PBS-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | TRICOR, BICOR, OR APPEX SERIES | |
| 3CBN-W/3PBN-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | TRICOR M, TRICOR M FR OR APPEX SERIES | |
| 2F10 | 2 | | DYNAWELD BASE | DYNAWELD CAP FR | |
| 3F10 (HW) | 3 | | DYNAWELD BASE | DYNAWELD BASE | DYNAWELD CAP FR |
| 3F10 (A1T) HW | 3 | TWO GLASS PLY | DYNAWELD CAP FR | | |
| 4F10 (HW) A1T | 4 | THREE GLASS PLY PREMIER IV | DYNAWELD CAP FR | | |
| NEW / REPLACEMENT | | | | | |
| NAILABLE | | | | | |
| 2CND | 2 | VENTSULATION OR PP 28GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 2CND | 2 | NONE | DYNABASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 2CND-C | 2 | VENTSULATION OR PP 28 GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 2CND-C | 2 | NONE | DYNABASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 2CNG | 2 | VENTSULATION OR PP 28 GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 2CNG | 2 | NONE | DYNABASE DP DC 180S | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 2FND | 2 | VENTSULATION OR PP 28 GLASBASE | DYNAGLAS OR DYNAGLAS FR | | |
| 2FND | 2 | NONE | DYNABASE DP DC 180S | DYNAGLAS, DYNAGLAS 30FR, OR DYNAGLAS FR | |
| 2FND-C | 2 | VENTSULATION OR PP 28 GLASBASE | DYNAGLAS OR DYNAGLAS FR | | |
| 2PND | 2 | VENTSULATION OR PP 28 GLASBASE | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | | |
| 2PND | 2 | NONE | DYNALASTIC 180S | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | |
| 2PND-C | 2 | VENTSULATION OR PP 28 GLASBASE | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | | |
| 3CND | 3 | VENTSULATION OR PP 28 GLASBASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | | |
| 3CLD | 3 | VENTSULATION | DYNABASE | DYNAKAP, DYNAKAP FR, DYNAMAX, OR DYNAMAX FR | |
| 3FND | 3 | VENTSULATION OR PP 28 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, | | |
| 3PLD | 3 | VENTSULATION | DYNALASTIC 180S | DYNALASTIC 180, DYNALASTIC 180 FR, DYNALASTIC 250, OR DYNALASTIC 250 FR | |
| 2CNS-W/2PNS-W | 2 | GLASBASE, PP28 | TRICOR, BICOR, OR APPEX SERIES | | |
| 2CNS-W/2PNS-W | 2 | NONE | JOHNS MANVILLE APP BASE | TRICOR, BICOR, OR APPEX SERIES | |
| 2CNN-W/2PNN-W | 2 | GLASBASE, PP28 | CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 (continued) | | | | | |
| NEW / REPLACEMENT NAILABLE (continued) | | | | | |
| 2CNN-W/2PNN-W | 2 | NONE | JOHNS MANVILLE APP BASE | TRICOR M, TRICOR M FR OR APPEX SERIES | |
| 3CNS-W/3PNS-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | TRICOR, BICOR, OR APPEX SERIES | |
| 3CNS-W/3PNS-W | 3 | NONE | JOHNS MANVILLE APP BASE | APPEX SERIES | TRICOR, BICOR OR APPEX SERIES |
| 3CNN-W/3PNN-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | CLASSIC SERIES, TRICOR M, TRICOR M FR, OR APPEX SERIES | OR APPEX SERIES |
| 3FLD (HW) | 3 | PP28, GLASBASE, OR VENTSULATION | DYNAWELD BASE | DYNAWELD CAP FR | |
| NEW / REPLACEMENT INSULATED | | | | | |
| 1CIN-W/1PIS-W | 1 | NONE | TRICOR, BICOR, OR APPEX SERIES | | |
| 1CIN-W/1PIN-W | 1 | NONE | TRICOR M, TRICOR M FR, OR APPEX SERIES | | |
| 2CIS-W/2PIS-W | 2 | GLASBASE, PP28 | TRICOR, BICOR, OR APPEX SERIES | | |
| 2CIS-W/2PIS-W | 2 | NONE | JOHNS MANVILLE APP BASE | TRICOR M, TRICOR M FR OR APPEX SERIES | |
| 2CIN-W/2PIN-W | 2 | GLASBASE, PP28 | TRICOR M, TRICOR M FR, OR APPEX SERIES | | |
| 2CIN-W/2PIN-W | 2 | NONE | JOHNS MANVILLE APP BASE | TRICOR M, TRICOR M FR OR APPEX SERIES | |
| 3CIS-W/3PIS-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | TRICOR, BICOR, OR APPEX SERIES | |
| 3CIS-W/3PIS-W | 3 | NONE | JOHNS MANVILLE APP BASE | APPEX SERIES | TRICOR, BICOR APPEX SERIES |
| 3CIN-W/3PIN-W | 3 | GLASBASE, PP28 | JOHNS MANVILLE APP BASE | TRICOR M, TRICOR M FR OR APPEX SERIES | |
| 3CIN-W/3PIN-W | 3 | NONE | JOHNS MANVILLE APP BASE | APPEX SERIES | TRICOR M, TRICOR MFR, OR APPEX SERIES |
| RECOVER EXISTING ROOF See New / Replacement, Non-nailable and Insulated | | | | | |
| INSULATION ADDED | | | | | |
| Company Name KOPPERS INC. | | | | | |
| New / Replacement Non-Nailable | | | | | |
| 403 | 2 | KOPPERS BASE SHEET | 2040-S, 2040-M | | |
| 415 | 2 | KOPPERS BASE SHEET | 2041-S, 2041-M | | |
| 415 | 2 | KOPPERS BASE SHEET | 2045-M | | |
| New / Replacement Nailable | | | | | |
| 401 | 2 | KOPPERS BASE SHEET | 2040-S, 2040-M | | |
| 402 | 2 | KOPPERS BASE SHEET | 2040-S, 2040-M | | |
| 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 | | |
| 427 | 3 | KOPPERS BASE SHEET | | 2045 MFR CAP | |
| New / Replacement Insulated | | | | | |
| 404 | 2 | KOPPERS BASE SHEET | 2040-S, 2040-M | | |
| 416 | 2 | KOPPERS BASE SHEET | 2041-S, 2041-M | | |
| 416 | 2 | KOPPERS BASE SHEET | 2045-M | | |
| 428 | 3 | KOPPERS BASE SHEET | | 2045 MFR CAP | |
| Recover Existing Roof | | | | | |
| 406 | 2 | KOPPERS BASE SHEET | 2040-S, 2040-M | | |
| 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 | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 |
| 429 | 3 | KOPPERS BASE SHEET | | 2045-MFR CAP | |
| Company Name PERFORMANCE ROOF SYSTEMS, INC. | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| NNC | 2 | APPROVED BASE SHEET | BITUTAK MB OR MB MINERAL | OPTIONAL | OPTIONAL |
| 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 | | |
| 1N2X-() | 3 | GLASS FIBER | DERBIGUM-XPS/DERBICOLOR-XPS | DERBIGUM-XPS/DERBICOLOR-XPS | |
| 1N2G-() | 3 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-GP/DERBICOLOR-GP | |
| 2N2X-() | 4 | GLASS FIBER | DERBIGUM-XPS/DERBICOLOR-XPS | DERBIGUM-XPS/DERBICOLOR-XPS | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 2N2G-() | 4 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-GP/DERBICOLOR-GP | |
| ND | 2 | APPROVED BASE SHEET | BITUTAK MB OR MB MINERAL | OPTIONAL | OPTIONAL |
| NEW / REPLACEMENT INSULATED | | | | | |
| 1I1X-() | 2 | GLASS FIBER | DERBIGUM-XPS/DERBICOLOR-XPS | | |
| 1I1G-() | 2 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | | |
| 2I1X-() | 3 | GLASS FIBER | DERBIGUM-XPS/DERBICOLOR-XPS | | |
| 2I1G-() | 3 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | | |
| 3I1X-() | 4 | GLASS FIBER | DERBIGUM-XPS/DERBICOLOR-XPS | | |
| 3I1G-() | 4 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | | |
| 1I2X-() | 3 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-XPS/DERBICOLOR-XPS | |
| 1I2G-() | 3 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-GP/DERBICOLOR-GP | |
| 2I2X-() | 4 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-XPS/DERBICOLOR-XPS | |
| 2I2G-() | 4 | GLASS FIBER | DERBIGUM-GP/DERBICOLOR-GP | DERBIGUM-GP/DERBICOLOR-GP | |
| 0I2X-() | 2 | NONE | DERBIGUM-XPS/DERBICOLOR-XPS | | |
| 0I2G-() | 2 | NONE | DERBIGUM-GP/DERBICOLOR-GP | | |
| INS | 2 | APPROVED BASE SHEET | BITUTAK MB OR MB MINERAL | OPTIONAL | OPTIONAL |
| 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 | | |
| RCV | 2 | | | | |
| RECOVER EXISTING ROOF INSULATION ADDED See New / Replacement Insulated | | | | | |
| Company Name SIPLAST / ICOPAL | | | | | |
| NEW / REPLACEMENT NON-NAILABLE | | | | | |
| 2030CPH | 3 | PUNCHED GLASS BASE | PARADIENE 20 | PARADIENE 30 | |
| 2030CAA | 3 | PUNCHED GLASS BASE | PARADIENE 20 | PARADIENE 30 | |
| 4040CPT | 3 | PUNCHED GLASS BASE | IREX | VERAL | |
| 5000CPH | 2 | PUNCHED GLASS BASE | PARAFOR 50 | | |
| 5000CAA | 2 | PUNCHED GLASS BASE | PARAFOR 50 | | |
| 5000CPT | 2 | PUNCHED GLASS BASE | PARAFOR 50 | | |
| 1035CPH | 3 | PUNCHED GLASS BASE & PARABASE | PARATECH | | |
| NEW / REPLACEMENT NAILABLE | | | | | |
| 2030PSH | 3 | PARAGLAS | PARADIENE 20 | PARADIENE 30 | |
| 2030WSH | 3 | PARAGLAS | PARADIENE 20 | PARADIENE 30 | |
| 2030CBH | 3 | PARABASE | PARADIENE 20 | PARADIENE 30 | |
| 2030PSA | 3 | PARAGLAS | PARADIENE 20 | PARADIENE 30 | |
| 2030WSA | 3 | PARAGLAS | PARADIENE 20 | PARADIENE 30 | |
| 2030CBA | 3 | PARABASE | PARADIENE 20 | PARADIENE 30 | |
| 5000PSA | 2 | PARAGLAS | PARAFOR 50 | | |
| 5000WSA | 2 | PARAGLAS | PARAFOR 50 | | |
| 5000CBA | 2 | PARABASE | PARAFOR 50 | | |
| 5000PIT | 2 | NONE | IREX | PARAFOR 50 | |
| 5000WIT | 2 | NONE | IREX | PARAFOR 50 | |
| 5000CBT | 2 | PARABASE | PARAFOR 50 | | |
| 3040PGH | 2 | PARABASE | PARADIENE 40 | | |
| 3040CGH | 2 | PARABASE | PARADIENE 40 | | |
| 1035CBH | 3 | PARABASE & PARAGLAS | PARATECH | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 / ICOPAL (continued) | | | | | | | |
| NEW / REPLACEMENT INSULATED | | | | | | | |
| 2030IH | 2 | NONE | PARADIENE 20 | PARADIENE 30 | | | |
| 2030IA | 2 | NONE | PARADIENE 20 | PARADIENE 30 | | | |
| 4040IT | 2 | NONE | IREX | VERAL | | | |
| 5000IH | 1 | NONE | PARAFOR 50 | | | | |
| 5000IA | 1 | NONE | PARAFOR 50 | | | | |
| 5000IT | 1 | NONE | PARAFOR 50 | | | | |
| 1035IH | 2 | PARABASE | PARATECH | | | | |
| RECOVER EXSITING ROOF INSULATION ADDED | | | | | | | |
| 2030IH | 2 | NONE | PARADIENE 20 | PARADIENE 30 | | | |
| 2030IA | 2 | NONE | PARADIENE 20 | PARADIENE 30 | | | |
| 4040IT | 2 | NONE | IREX | VERAL | | | |
| 5000IH | 1 | NONE | PARAFOR 50 | | | | |
| 5000IA | 1 | NONE | PARAFOR 50 | | | | |
| 5000IT | 1 | NONE | PARAFOR 50 | | | | |
| 1035IH | 2 | PARABASE | PARATECH | | | | |
| COMPANY NAME TREMCO INC. | | | | | | | |
| NEW / REPLACEMENT INSULATED | | | | | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY STANDARD FR | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY HE FR | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY PREMIUM FR | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY PREMIUM SMOOTH | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY SUPREME SMOOTH | | | |
| | 2 | | POWERPLY HT BASE | POWERPLY SUPREME HT FR | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY STANDARD FR | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY HE FR | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY PREMIUM FR | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY PREMIUM SMOOTH | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY SUPREME SMOOTH | | | |
| | 2 | | POWERPLY HEAVY DUTY BASE | POWERPLY SUPREME HT FR | | | |
| | COMPANY NAME U.S. INTEC, INC. | | | | | | |
| | New / Replacement Non-Nailable | | | | | | |
| LCSP-1-C | 1 | | BRAI SUPREME APP SMOOTH | | | | |
| GB-1-C | 1 | | BRAI SUPREME APP GRANULE | | | | |
| GBFR-1-C | 1 | | BRAI SUPREME APP GRANULE FR | | | | |
| GB-2-FC-C | 2 | | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE | | | |
| GBFR-2FC-C | 2 | | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE FR | | | |
| GB-2SP-C | 2 | | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | | | |
| GBFR-2SP-C | 2 | | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE FR | | | |
| BF -190-2PP-C | 2 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME SBS POLY GRANULE | | | | |
| BF-190FR-2PP-C | 2 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME SBS POLY GRANULE FR | | | | |
| BF-250FE-2PP-C | 2 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME PLUS SBS POLY GRANULE | | | | |
| CFR-2PP-C | 2 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME SBS DUAL GRANULE FR | | | | |
| G-BFS-2PP-C | 2 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME SBS POLY SMOOTH | | | | |
| BF-190-PP3BFS-C | 3 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME POLY SMOOTH | BRAI SUPREME SBS POLY GRANULE | | | |
| BF-190FR-PP3BFS-C | 3 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME POLY SMOOTH | BRAI SUPREME POLY GRANULE FR | | | |
| BF 250FR-PP3BFS-C | 3 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME POLY SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE | | | |
| DFR-PP3BFS-C | 3 | SUPREME ELIMINATOR PERFORATED | BRAI SUPREME POLY SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | | | |
| New / Replacement Nailable | | | | | | | |
| LCSP-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | | | |
| GB-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE | | | | |
| GBFR-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE FR | | | | |
| BF4.5FR-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | | | |
| BF190-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GRANULE | | | | |
| BF190-FR-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY GRANULE FR | | | | |
| BF250FR-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | | | |
| DFR-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS DUAL GRANULE FR | | | | |
| G-BFS-2B-N | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | | | | |
| LC-LM2-N | 2 | | LIBERTY MA BASE | LIBERTY CAP SHEET | | | |
| BF190-B3TP-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS GRANULE | | | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 U.S. INTEC, INC. (Continued) | | | | | |
| New / Replacement Nailable (continued) | | | | | |
| BF190FR-B3TP-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF4.5FR-B3TP-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-B3TP-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-B3TP-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| GB-B3FC-N | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| GBFR-B4DC-N | 3 | WORKHORSE ULTRA BASE | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE | |
| BF190-B3MBP-N | 3 | WORKHORSE ULTRA BASE | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE FR | |
| BF190FR-B3MP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF250FR-B3MBP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| DFR-B3MBP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | |
| BF4.5FR-B3MBP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR | |
| G-BFS-B3MBP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE | BRAI SUPREME SBS GLASS GRANULE FR | |
| LC-LM3LB-N | 3 | | LIBERTY MA BASE | LIBERTY BASE/PLY SHEET | |
| GB-B4TP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE FR | BRAI SUPREME SBS POLY SMOOTH | |
| GBFR-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS GRANULE | | |
| BF190-B4TPN-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF190FR-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF250FR-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF4.5FR-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-B4TP-N | 4 | WORKHORSE UB & 2 SUPREME PLY R | BRAI SUPREME SBS POLY SMOOTH | | |
| GB-B3SP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | |
| GBFR-B3SP-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | |
| BF190-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF190FR-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| BF250FR-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR | |
| BF4.5FR-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR | |
| DFR-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | |
| G-BFS-B3BFS-N | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY SMOOTH | |
| BF190-B4UP-N | 4 | WORKHORSE UB & 2 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE | | |
| BF190FR-B4UP-N | 4 | WORKHORSE UB & 2 SUPREME PLY 6 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-B4UP-N | 4 | WORKHORSE UB & 2 SUPREME PLY 6 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-B4UP-N | 4 | WORKHORSE UB & 2 SUPREME PLY 6 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-B4UP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE |
| BF190-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE |
| BF190FR-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR |
| BF250FR-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR |
| BF4.5FR-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR |
| DFR-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME DUAL GRANULE FR |
| G-BFS-B4MBP-N | 4 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY SMOOTH |
| BF190-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE | | |
| BF190FR-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-B5UP-N | 5 | WORKHORSE UB & 3 SUPREME PLY 6 | BRAI SUPREME SBS POLY SMOOTH | | |
| BF4.5FR-3TP-LWC | 3 | SUP ELIM NAIL & SUPREME PLY 4 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| G-BFS-3TP-LWC | 3 | SUP ELIM NAIL & SUPREME PLY 4 | BRAI SUPREME SBS POLY SMOOTH | | |
| GB-P3SP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | |
| GBFR-P3SP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE FR | |
| BF-190-P3MBP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF-190FR-P3MBP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| BF250FR-3MBP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR | |
| BF4.5FR-P3MBP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR | |
| DFR-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | |
| G-BFS-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY SMOOTH | |
| BF 190-P4TP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 4 | BRAI SUPREME SBS GRANULE | | |
| BF 190FR-P4TP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 6 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF 250FR-P4TP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 4 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF4.5FR-P4TP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 4 | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-P4TP-LWC | 4 | SUP ELIM NAIL & SUPREME PLY 4 | BRAI SUPREME APP SMOOTH | | |
| GB-P3SP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | |
| GBFR-P3SP-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME GRANULE FR | |
| BF190-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF190FR-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME GRANULE FR | |
| BF250FR-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR | |
| BF4.5FR-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR | |
| DFR-P3BFS-LWC | 3 | SUPREMEM ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 U.S. INTEC, INC. (Continued) | | | | | |
| New / Replacement Nailable | | | | | |
| GBFS-P3BFS-LWC | 3 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY SMOOTH | |
| BF190-P4UP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE | | |
| BF190-FR-P4UP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 6 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-P4UP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 6 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5-P4UP-LWC | 4 | SUP ELIM NAIL & 2 SUPREME PLY 6 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF190-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE |
| BF190FR-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR |
| BF250FR-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR |
| BF4.5FR-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR |
| DFR-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR |
| G-BFS-P4MBP-LWC | 4 | SUPREME ELIMINATOR NAILABLE | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY SMOOTH |
| BF190-P5UP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE | | |
| BF190FR-P5UP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-P5UP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-PUP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-P5UP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-P5UP-LWC | 5 | SUP ELIM NAIL & 3 SUPREME PLY 6 | BRAI SUPREME SBS POLY SMOOTH | | |
| New / Replacement Insulated | | | | | |
| LCSP-WB-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | |
| GB-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE | | |
| GBFR-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE FR | | |
| BF4.5FR-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF190-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GRANULE | | |
| BF190FR-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-2B-RI | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | | |
| LCSP-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME APP SMOOTH | | |
| BF190-B3TP-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS GRANULE | | |
| BF190FR-B3TP-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-2BFS-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-2BFS-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-2BFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTHQ | BRAI SUPREME SBS DUAL GRANULE FR | |
| G-BFS-B3TP-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME SBS POLY SMOOTH | | |
| BF190-2BFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF190FR-2BFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| BF250FR-WBFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR | |
| BF4.5FR-WBFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR | |
| DFR-2BFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREM SBS DUAL GRANULE FR | |
| G-BFS-WBFS-RI | 2 | | BRAI SUPREME SBS POLY SMOOTH | BRAI SUPREME SBS POLY SMOOTH | |
| LC-LM2-RI | 2 | | LIBERTY MA BASE | LIBERTY CAP SHEET | |
| GB-B3SP-RI | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | |
| GBFR-B3SP-RI | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | |
| BF190-3MBP-RI | 3 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE |
| BF190FR-3MBP-RI | 3 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR |
| BF2R0FR-3MBP-RI | 3 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME PLUS SBS POLY GRANULE FR |
| BF4.5FR-3MBP-RI | 3 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS GRANULE FR |
| G-BFS-3MBP-RI | 3 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY SMOOTH |
| LC-LM3LB-RI | 2 | | LIBERTY MA BASE | LIBERTY BASE/PLY SHEET | LIBERTY CAP SHEET |
| BF190-WMBP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS GRANULE | |
| BF190FR-2MBP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| BF250FR-2MBP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| BF4.5FR-2MBP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY GRANULE FR | |
| DFR-2BP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS DUAL GRANULE FR | |
| G-BFS-WMBP-RI | 2 | | BRAI SUPREME SBS GLASS SMOOTH | BRAI SUPREME SBS POLY SMOOTH | |
| GB-B3FC-RI | 3 | WORKHORSE ULTRA BASE | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE | |
| GBFR-B3FC-RI | 3 | WORKHORSE ULTRA BASE | WORKHORSE APP SMOOTH | BRAI SUPREME APP GRANULE FR | |
| GB-B3SP-RI | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE | |
| GBFR-B3SP-RI | 3 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | BRAI SUPREME APP GRANULE FR | |
| GB-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE | | |
| GBFR-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE FR | | |
| GB-3UP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE | | |
| GBFR-3UP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE FR | | |
| GB-B3TP-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME APP GRANULE | | |
| GBFR-B3TP-RI | 3 | WORKHORSE ULTRA BASE & SUPREME PLY 4 | BRAI SUPREME APP GRANULE FR | | |
| BF190-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME SBS GRANULE | | |
| BF190FR-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME SBS GLASS GRANULE FR | | |

Modified Bitumen, Part 3 - Specifications

| TYPE OF ROOF INSTALLATION & SUBSTRATE | TOTAL NUMBER 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 U.S. INTEC, INC. (Continued) | | | | | |
| New / Replacement Insulated (continued) | | | | | |
| DFR-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-3TP-RI | 3 | 2 SUPREME 4 PLY | BRAI SUPREME SBS POLY SMOOTH | | |
| GB-4TP-RI | 4 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE | | |
| GBFR-4TP-RI | 4 | 2 SUPREME 4 PLY | BRAI SUPREME APP GRANULE FR | | |
| BF190-MBP3UP-RI | 3 | BRAI SUP SBS GLASS SMOOTH & SUP 6 PLY | BRAI SUPREME SBS GRANULE | | |
| BF190FR-MBP3UP-RI | 3 | BRAI SUP SBS GLASS SMOOTH & SUP 6 PLY | BRAI SUPREME SBS GRANULE FR | | |
| BF250FR-MBP3UP-RI | 3 | BRAI SUP SBS GLASS SMOOTH & SUP 6 PLY | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-MBP3UP-RI | 3 | BRAI SUP SBS GLASS SMOOTH & SUP 6 PLY | BRAI SUPREME SBS GLASS GRANULE FR | | |
| DFR-MBP3UP-RI | 3 | BRAI SUP SBS GLASS SMOOTH & SUP 6 PLY | BRAI SUPREME SBS DUAL GRANULE FR | | |
| GB-4UP-IR | 4 | 3 SUPREME PLY 6 | BRAI SUPREME APP GRANULE | | |
| GBFR-4UP-IR | 4 | 3 SUPREME PLY 6 | BRAI SUPREME APP GRANULE FR | | |
| BF190-4UP-RI | 4 | 3 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE | | |
| BF-190FR-UP-RI | 4 | 3 SUPREME PLY 6 | BRAI SUPREME SBS GRANULE FR | | |
| BF250FR-4UP-RI | 4 | 3 SUPREME PLY 6 | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| BF4.5FR-4UP-RI | 4 | 3 SUPREME PLY 6 | BRAI SUPREME SBS GLASS GRANULE FR | | |
| G-BFS-4UP-RI | 4 | 3 SUPREME PLY 6 | BRAI SUPREME SBS POLY SMOOTH | | |
| Recover Existing Roof | | | | | |
| LCSP-1RC | 1 | | BRAI SUPREME APP SMOOTH | | |
| GB-1-RC | 1 | | BRAI SUPREME APP GRANULE | | |
| GBFR-1-RC | 1 | | BRAI SUPREME APP GRANULE FR | | |
| LCSB-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | |
| GB-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE | | |
| GBFR-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE FR | | |
| BF4.5FR-WB-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF190-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GRANULE | | |
| BF190FR-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF250FR-2BPRC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| DFR-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS DUAL GRANULE FR | | |
| LC-LM2-RC | 2 | | LIBERTY MA BASE | LIBERTY CAP SHEET | |
| G-BFS-2B-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | | |
| Recover Existing Roof Insulation Added | | | | | |
| LCSP-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP SMOOTH | | |
| GB-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE | | |
| GBFR-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME APP GRANULE FR | | |
| BF4.5FR-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GLASS GRANULE FR | | |
| BF190-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS GRANULE | | |
| BF190FR-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY GRANULE FR | | |
| BF20FR-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME PLUS SBS POLY GRANULE FR | | |
| DFR-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS DUAL GRANULE FR | | |
| G-BFS-2B-RI-RC | 2 | WORKHORSE ULTRA BASE | BRAI SUPREME SBS POLY SMOOTH | | |

PVC, Part 1 - General Information

| | | | | | |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 1. COMPANY NAME | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS |
| 2. PRODUCT NAME | BONDCOTE 350 | BONDCOTE 400 | BONDCOTE 450 | BONDCOTE 500 | 400 E PLUS |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| Colors | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| Installed Weight (lbs./ft ² w/o ballast) | 0.24 | 0.28 | 0.30 | 0.33 | 0.28 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | | |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | VARIOUS ADHES. | VARIOUS ADHES. | VARIOUS ADHES. | VARIOUS ADHES. | VARIOUS ADHES. |
| Protected Roof Membrane Assembly | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | 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) | | | | | |
| Glass Fiber | X O | X O | X O | X O | X O |
| Mineral Fiber | X O | X O | X O | X O | X O |
| Polystyrene | S O | S O | S O | S O | S O |
| Cellular Glass | X O | X O | X O | X O | X O |
| Phenolic | | | | | |
| Fiberboard | X O | X O | X O | X O | X O |
| Perlite | X O | X O | X O | X O | X O |
| Polyisocyanurate | X O | X O | X O | X O | X O |
| Polyurethane | X O | X O | X O | X O | X O |
| Gypsum | X | X | X | X | X |
| Concrete | O | O | O | O | O |
| Wood Plank | O | O | O | O | O |
| Plywood | O | O | O | O | O |
| Existing Built-Up Membrane | O | O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 0 - 180 | 0 - 180 | 0 - 180 | 0 - 180 | 0 - 180 |
| 12. FLASHING MATERIAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL |
| 13. FLASHING METHOD | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | |
| Origin | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA/CANADA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | 1987 | | | |
| Within USA | 1977 | 1977 | 1995 | 1991 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | | | |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 3 | 3 | 3 | 3 | 3 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. 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 |
| 22. 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 |
| 23. SEE APPENDIX IF CHECKED | X | X | X | X | X |

PVC, Part 1 - General Information

| BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|--|--|--|--|
| 500 E PLUS | 600 E PLUS | 800 E PLUS | FLEECEBOND PLUS | FLEX MF/F 50 | FLEX MF/R 60 | EVERGUARD SR-50 | EVERGUARD SR-60 | EVERGUARD SR-80 | EVERGUARD EGFB-50 |
| POLYESTER VARIOUS | POLYESTER VARIOUS | POLYESTER VARIOUS | POLYESTER VARIOUS | REINF POLY. WHITE / OFF WHITE | REINF POLY. WHITE / OFF WHITE | POLYESTER WHITE / GRAY / TAN | POLYESTER WHITE / GRAY / TAN | POLYESTER WHITE / GRAY / TAN | POLY/FLEECEBACK WHITE / GRAY / TAN |
| 0.35 | 0.41 | 0.56 | 0.73 | 0.35 | 0.45 | 0.33 | 0.38 | 0.54 | 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 |
| HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD |
| | | | | | | | | | |
| | | | | 10 MIN. | 10 MIN. | 10 | 10 | 10 | 10 |
| MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| VARIOUS ADHES. | VARIOUS ADHES. | VARIOUS ADHES. | VARIOUS ADHES. | CONT. ADHES. | CONT. ADHES. | ADHESIVE | ADHESIVE | ADHESIVE | ADHESIVE/ASPHALT |
| X | X | X | X | | | X | X | X | X |
| DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | PER CODE | PER CODE | PER CODE | PER CODE |
| | | | | | | | | | |
| X O | X O | X O | X O | S O | S O | | | | |
| X O | X O | X O | X O | S O | S O | | | | |
| S O | S O | S O | S O | S O | S O | X O | X O | X | X O |
| X O | X O | X O | X O | S O | S O | | | | |
| | | | | | | | | | |
| X O | X O | X O | X O | X | X | X | X | X | X |
| X O | X O | X O | X O | X O | X O | | | | X |
| X O | X O | X O | X O | X | X | X | X | X | X |
| X O | X O | X O | X O | O | O | X | X | X | X |
| X | X | X | X | X O | X O | O S | O S | O S | O S |
| O | O | O | O | S O | S O | O S | O S | O S | O S |
| O | O | O | O | S O | S O | O S | O S | O S | O S |
| O | O | O | O | X O | X S | O S | O S | O S | O S |
| O | O | O | X O | S O | S O | O S | O S | O S | O S |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| 0 - 180 | 0 - 180 | 0 - 180 | 0 - 180 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 |
| ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE NBP COATED METAL | ROOF MEMBRANE / CTD METAL | ROOF MEMBRANE / CTD METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL |
| HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD OR ADHESIVE | HEAT WELD OR ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | | |
| USA USA/CANADA | USA USA/CANADA | USA USA/CANADA | USA USA/CANADA | USA USA | USA USA | CANADA CANADA | CANADA CANADA | CANADA CANADA | CANADA CANADA |
| | | | | | | | | | |
| 1997 | 1999 | 1999 | 1999 | 1988 | 1988 | | | | 1990 |
| | | | | | | | | | |
| THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIRECT | DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT |
| 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| SALES DEPT. 800/368-2160 | SALES DEPT. 800/368-2160 | SALES DEPT. 800/368-2160 | SALES DEPT. 800/368-2160 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| TECH. DEPT. 800/368-2160 | TECH. DEPT. 800/368-2160 | TECH. DEPT. 800/368-2160 | TECH. DEPT. 800/368-2160 | M GIANGIACOMO 610/286-7788 | M GIANGIACOMO 610/286-7788 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 |
| X | X | X | X | | | | | | |

PVC, Part 1 - General Information

| | | | | | |
|---|--|--|--|--|--|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEMS | GLENFLEX ROOFING SYSTEMS | GLENFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | EVERGUARD EGFB-60 | EVERGUARD EGFB-80 | GENFLEX RM.048 | GENFLEX RM .060 | GENFLEX RM-T .080 |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLY/FLEECEBACK | POLY/FLEECEBACK | POLYESTER | POLYESTER | POLYESTER |
| Colors | WHITE / GRAY / TAN | WHITE / GRAY / TAN | WHITE / GRAY / TAN | WHITE / GRAY / TAN | WHITE |
| Installed Weight (lbs./ft ² w/o ballast) | 0.43 | 0.55 | 0.32 | 0.37 | 0.56 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | 10 | | | |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | ADHESIVE/ASPHALT | ADHESIVE/ASPHALT | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | X | X | | |
| 8. MINIMUM SLOPE REQUIRED | PER CODE | PER CODE | NONE | NONE | NONE |
| 9. ACCEPTABLE SUBSTRATES | | | | | |
| (X=direct application permitted) | | | | | |
| (S=separator sheet required) | | | | | |
| (O=overlayment required in some or all circumstances) | | | | | |
| Glass Fiber | | | X | X | X |
| Mineral Fiber | | | X | X | X |
| Polystyrene | X O | X O | S | S | S |
| Cellular Glass | | | X | X | X |
| Phenolic | | | | | |
| Fiberboard | X | X | X | X | X |
| Perlite | X | X | X | X | X |
| Polyisocyanurate | X | X | X | X | X |
| Polyurethane | X | X | | | |
| Gypsum | O S | O S | X | X | X |
| Concrete | O S | O S | O | O | O |
| Wood Plank | O S | O S | O | O | O |
| Plywood | O S | O S | O | O | O |
| Existing Built-Up Membrane | O S | O S | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | SEE SPECS | SEE SPECS | SEE SPECS |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 0 - 120 | 0 - 120 | 0 - 140 | 0 - 140 | 0 - 140 |
| 12. FLASHING MATERIAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | PVC MEMBRANE OR PVC-COATED METAL | PVC MEMBRANE OR PVC-COATED METAL | PVC MEMBRANE OR PVC-COATED METAL |
| 13. FLASHING METHOD | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | |
| Origin | CANADA | CANADA | USA | USA | USA |
| Manufacture | CANADA | CANADA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | | 1983 | 1983 | |
| Within USA | 1990 | 1990 | 1980 | 1980 | 1989 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | | | |
| Within USA | THOUSANDS | THOUSANDS | MILLIONS | MILLIONS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST/DIRECT | DIST/DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 8 | 8 | 8 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | SALES OFFICE 800/443-4272 | SALES OFFICE 800/443-4272 | SALES OFFICE 800/443-4272 |
| 22. TECHNICAL INFORMATION, CONTACT: | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH. SERVICE 800/443-4272 | TECH. SERVICE 800/443-4272 | TECH. SERVICE 800/443-4272 |
| 23. SEE APPENDIX IF CHECKED | | | | | |

PVC, Part 1 - General Information

| GLENFLEX ROOFING SYSTEMS | GLENFLEX ROOFING SYSTEMS | GLENFLEX ROOFING SYSTEMS | GLENFLEX ROOFING SYSTEMS | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | MULE-HIDE PRODUCTS CO., INC. |
|--|--|--|--|---|---|---|---|---|---|
| GLENFLEX RM-T .072 | GLENFLEX RM-T .100 | GLENFLEX RM-FB 0.045 | GLENFLEX RM-FB 0.6 | ULTRAGARD V250 | ULTRAGARD V260 | ULTRAGARD SR 50 | ULTRAGARD SR 60 | ULTRAGARD SR80 | MH 50 |
| POLYESTER WHITE | POLYESTER WHITE | POLYESTER WHITIE | POLYESTER WHITIE | POLYESTER BLACK | POLYESTER BLACK | POLYESTER WHITE | POLYESTER WHITE | POLYESTER WHITE | POLYESTER WHITE |
| 0.49 | 0.69 | 0.30 | 0.40 | 0.42 | 0.44 | 0.42 | 0.44 | 0.58 | 0.42 |
| 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 WELD | HOT AIR WELD | HOT AIR | HOT AIR | HOT AIR | HOT AIR | HOT AIR | HEAT WELD |
| MECH. FAST. | MECH. FAST. | MECH. FAST. | | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| CONT. ADHES. | CONT. ADHES. | ADHES/ASPHALT | ADHES/ASPHALT | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| NONE | NONE | NONE | NONE | | | | | | NONE |
| X | X | | | O | O | O | O | O | O |
| X | X | | | S O | S O | S O | S O | S O | S O |
| S | S | O | O | S O | S O | S O | S O | S O | S O |
| X | X | | | S O | S O | S O | S O | S O | S O |
| 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 | 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 |
| O | O | X O | X O | S O | S O | S O | S O | S O | S O |
| O | O | X O | X O | S O | S O | S O | S O | S O | S O |
| O | O | X O | X O | X S | X S | X S | X S | X S | X S |
| O | O | X O | X O | S O | S O | S O | S O | S O | S O |
| SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE SPECS | SEE MFR | SEE SPECS |
| 0 - 140 | 0 - 140 | 0 - 140 | 0 - 140 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 |
| PVC MEMBRANE OR PVC-COATED METAL | PVC MEMBRANE OR PVC-COATED METAL | PVC MEMBRANE OR PVC-COATED METAL | PVC MEMBRANE OR PVC-COATED METAL | PVC-COATED METAL / REINFORCED MEMBRANE | PVC-COATED METAL / REINFORCED MEMBRANE | PVC-COATED METAL / REINFORCED MEMBRANE | PVC-COATED METAL / REINFORCED MEMBRANE | PVC-COATED METAL / REINFORCED MEMBRANE | PVC-COATED METAL / REINFORCED MEMBRANE |
| HOT AIR WELD | HOT AIR WELD | 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 HOT WELD |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| USA USA | USA USA | USA USA | USA USA | USA | USA | USA | USA | USA | USA |
| 1995 | 1995 | 1999 1999 | 1999 1999 | 1994 | 1994 | 1989 | 1986 | 1990 | 1989 |
| THOUSANDS DISTRIBUTORS | THOUSANDS DISTRIBUTORS | THOUSANDS DISTRIBUTORS | THOUSANDS DISTRIBUTORS | THOUSANDS DIRECT | THOUSANDS DIRECT | THOUSANDS THOUSANDS DIRECT | THOUSANDS THOUSANDS DIRECT | THOUSANDS THOUSANDS DIRECT | THOUSANDS DISTRIBUTORS |
| 8 | 8 | 8 | 8 | 4 | 4 | 4 | 4 | 4 | 12 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| SALES OFFICE 800/443-4272 | SALES OFFICE 800/443-4272 | SALES OFFICE 800/443-4272 | SALES OFFICE 800/443-4272 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | 800/786-1492 |
| TECH. SERVICE 800/443-4272 | TECH. SERVICE 800/443-4272 | TECH. SERVICE 800/443-4272 | TECH. SERVICE 800/443-4272 | | | | | | 800/786-1492 |

PVC, Part 1 - General Information

| | | | | | |
|---|--|---------------------------------|---------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | MULE-HIDE PRODUCTS CO., INC. | SARNAFIL INC. | SARNAFIL INC. | STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY |
| 2. PRODUCT NAME | MH 60 | SARNAFIL S 327 | SARNAFIL G 476 | STEVENS EV 0.045 | STEVENS EV 0.06 |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | POLYESTER | FIBERGLASS | POLYESTER | POLYESTER |
| Colors | WHITE | ASSORTED | ORANGE | WHITE | WHITE |
| Installed Weight (lbs./ft ² w/o ballast) | 0.44 | 0.33 | 0.33 | 0.25 | 0.35 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HEAT WELD | HOT AIR WEL | HOT AIR WEL | HEAT WELD | HEAT WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | | | 10 - 15 LBS. | 10 - 15 LBS. |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | CONT. ADHES. | | | CONT. ADHES | CONT. ADHES |
| 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) | | | | | |
| Glass Fiber | O | O | O | O | O |
| Mineral Fiber | S O | O | O | O | O |
| Polystyrene | S O | S | S | X | X |
| Cellular Glass | S O | O | | O | O |
| Phenolic | | | | O | O |
| Fiberboard | X | X | | X | X |
| Perlite | X O | O | | O | O |
| Polyisocyanurate | X | X | X | X | X |
| Polyurethane | X | X | X | O | O |
| Gypsum | X O | S O | S O | X | X |
| Concrete | S O | S O | S O | X | X |
| Wood Plank | S O | S O | S O | O | O |
| Plywood | X S | X S O | | X | X |
| Existing Built-Up Membrane | S O | S O | O | O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | SEE SPECS | NONE | NONE | | |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 0 - 120 | 0 - 120 | 0 - 120 | -15 - 140 | -15 - 140 |
| 12. FLASHING MATERIAL | PVC-COATED METAL / REINFORCED MEMBRANE | G410, G459, S 327 OR CLAD METAL | G410, G459, S 327 OR CLAD METAL | REINFORCED & UNREINFORCED EV MEMBRANE | REINFORCED & UNREINFORCED EV MEMBRANE |
| 13. FLASHING METHOD | ADHESIVE OR HOT WELD | ADHESIVE AND HEAT WELD | ADHESIVE AND HEAT WELD | HEAT WELD AND CONTACT ADHESIVE | HEAT WELD AND CONTACT ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | |
| Origin | | SWITZERLAND | SWITZERLAND | USA | USA |
| Manufacture | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | 1964 | 1964 | 2001 | 2001 |
| Within USA | 1986 | 1978 | 1978 | 2001 | 2001 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | THOUSANDS | THOUSANDS | N/A | N/A |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DIRECT | DIRECT | DIST / DIRECT | DIST / DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 12 | 6 | 6 | 125 | 125 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/786-1492 | SALES DEPT. | SALES DEPT. | K. HARRIS 800/621-ROOF | K. HARRIS 800/621-ROOF |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/786-1492 | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. 800/621-ROOF | TECH. DEPT. 800/621-ROOF |
| 23. SEE APPENDIX IF CHECKED | | X | X | X | X |

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PVC, Part 2 - Test Results

| | | |
|---|--------------------------------|--------------------------------|
| 1. COMPANY NAME | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS |
| 2. PRODUCT NAME | BOND COTE 350 | BONDCOTE 400 |
| 3. COMPLIES WITH: | | |
| ASTM D 4434 <i>STANDARD SPECIFICATION FOR POLY (VINYL CHLORIDE) SHEET</i> (indicate X as appropriate) | | |
| TYPE II, GRADE 1 (fiber reinforced sheet) | | |
| TYPE II, GRADE 2 (fabric reinforced sheet) | | |
| TYPE III (fabric reinforced sheet that may also have a fabric backing) | | |
| TYPE IV (fabric reinforced sheet that may also have a min. 0.036 in fabric backing) | | X |
| 4. THICKNESS: | | |
| Overall PVC sheet thickness (min., in.) Type II and Type III: 0.045; Type IV: 0.036 | 0.0315 | 0.036 |
| Thickness over scrim (min., in.) | | |
| 5. TENSILE STRENGTH AT BREAK (min. psi) Type II, Grade 1 only: 1500 | | |
| 6. BREAKING STRENGTH (min. lbf/in.) Type II, Grade 2 and Type III: 200 | 450 X 324 | 453 X 342 |
| Type IV: 275 | 450 X 324 | 453 X 342 |
| 7. ELONGATION AT BREAK (min. %) TYPE II; GRADE 1 | | |
| Type II, Grade 1: 250 MD and 220 XMD | | |
| Type II, Grade 2 and Type III: 15 | 31 X 34 | 32 X 36 |
| Type IV: 25 | 31 X 34 | 32 X 36 |
| 8. SEAM STRENGTH (min. % of tensile or breaking strength) 75.0 | PASS | PASS |
| 9. RETENTION OF PROPERTIES AFTER HEAT AGING | | |
| Tensile Strength (min., % of original) Type II, Grade 1: 90 | | |
| Breaking Strength (min., % of original) Type II, Grade 2; Type III; Type IV: 90 | 95 | 95 |
| Elongation at Break (min., % of original) 90 | 95 | 95 |
| 10. TEAR RESISTANCE (min., lbf) Type II, Grade 1: 10.0 | | |
| 11. TEARING STRENGTH (min., lbf) Type II, Grade 2 and Type III: 45.0; Type IV: 90.0 | 120 x 113 | 125 X 113 |
| 12. LOW TEMPERATURE BEND (pass/fail) pass | PASS | PASS |
| 13. ACCELERATED WEATHERING TEST (pass/fail) pass | PASS | PASS |
| 14. LINEAR DIMENSIONAL CHANGE (max., %) Type II: 0.1; Type III and Type IV: 0.5 | <0.5 | <0.5 |
| 15. CHANGE IN WEIGHT AFTER IMMERSION (max., %) ±3.0 | | |
| 16. PUNCTURE RESISTANCE, STATIC AND DYNAMIC (pass/fail) pass | PASS | PASS |
| 17. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.79 | 0.79 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | 0.87 | 0.87 |
| Energy Star Label (indicate yes/no) | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 18. SEE APPENDIX IF CHECKED | X | X |

PVC, Part 2 - Test Results

| BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | FLEX MEMBRANE INTERNATIONAL |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------------|
| BONDCOTE 450 | BONDCOTE 500 | 400 E PLUS | 500 E PLUS | 600 E PLUS | 800 E PLUS | FLEECEBOND PLUS | FLEX MF/R 50 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | X | | X | X | X | X | X |
| X | | | | | | | |
| | | | | | | | |
| 0.405 | 0.0405 | 0.040 | 0.050 | 0.060 | 0.080 | 0.050 | 0.050 |
| | | | | | | | |
| | | | | | | | |
| 456 X 360 | 465X 378 | | 380 X 343 | 415 X 372 | 440 X 440 | | >230 |
| 456 X 360 | 465 X 378 | 330 X 310 | | | | | |
| | | | | | | | |
| | | | | | | | |
| 32 X 36 | 35 X 43 | | 75 X 60 | 82 X 68 | 130 X 90 | | |
| 32 X 36 | 35 X 43 | 60 X 40 | | | | | |
| | | | | | | 90 | >80 |
| | | | | | | | |
| | | | | | | | |
| 95 | 90 | 90 | 90 | 90 | 90 | 90 | >80 |
| 95 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| | | | | | | | |
| 132 X 114 | 136 X 127 | 54 X 52 | 58 X 56 | 61 X 59 | 73 X 60 | 58 X 56 | >50 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | |
| <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| | | | | | | | <0.2 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | |
| | | | | | | | |
| 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | |
| 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | |
| YES | YES | YES | YES | YES | YES | YES | |
| NO | NO | NO | NO | NO | NO | NO | |
| X | X | X | X | X | X | X | |

PVC, Part 2 - Test Results

| | | |
|--|-----------------------------------|---------------------------|
| 1. COMPANY NAME | FLEX MEMBRANE INTERNATIONAL | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | FLEX MF/R 60 | EVERGUARD SR-50 |
| 3. COMPLIES WITH: | | |
| ASTM D 4434 STANDARD SPECIFICATION FOR POLY (VINYL CHLORIDE) SHEET (indicate X as appropriate) | | |
| TYPE II, GRADE 1 (fiber reinforced sheet) | | |
| TYPE II, GRADE 2 (fabric reinforced sheet) | | |
| TYPE III (fabric reinforced sheet that may also have a fabric backing) | X | X |
| TYPE IV (fabric reinforced sheet that may also have a min. 0.036 in fabric backing) | | |
| 4. THICKNESS: | | |
| Overall PVC sheet thickness (min., in.) Type II and Type III: 0.045; Type IV: 0.036 | 0.06 | 0.050 |
| Thickness over scrim (min., in.) | | |
| 5. TENSILE STRENGTH AT BREAK (min. psi) Type II, Grade 1 only: 1500 | | |
| 6. BREAKING STRENGTH (min. lbf/in.) Type II, Grade 2 and Type III: 200 | >250 | 310 X 270 |
| Type IV: 275 | | |
| 7. ELONGATION AT BREAK (min. %) TYPE II; GRADE 1 | | |
| Type II, Grade 1: 250 MD and 220 XMD | | |
| Type II, Grade 2 and Type III: 15 | | 35 |
| Type IV: 25 | | 35 |
| 8. SEAM STRENGTH (min. % of tensile or breaking strength) 75.0 | >80 | >95 |
| 9. RETENTION OF PROPERTIES AFTER HEAT AGING | | |
| Tensile Strength (min., % of original) Type II, Grade 1: 90 | | |
| Breaking Strength (min., % of original) Type II, Grade 2; Type III; Type IV: 90 | >80 | >90 |
| Elongation at Break (min., % of original) 90 | 90 | >90 |
| 10. TEAR RESISTANCE (min., lbf) Type II, Grade 1: 10.0 | | |
| 11. TEARING STRENGTH (min., lbf) Type II, Grade 2 and Type III: 45.0; Type IV: 90.0 | >50 | 70 X 80 |
| 12. LOW TEMPERATURE BEND (pass/fail) pass | PASS | PASS |
| 13. ACCELERATED WEATHERING TEST (pass/fail) pass | | PASS |
| 14. LINEAR DIMENSIONAL CHANGE (max., %) Type II: 0.1; Type III and Type IV: 0.5 | <0.2 | 0.4 |
| 15. CHANGE IN WEIGHT AFTER IMMERSION (max., %) ±3.0 | <0.2 | 1.2 |
| 16. PUNCTURE RESISTANCE, STATIC AND DYNAMIC (pass/fail) pass | | |
| 17. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 0.084 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | 0.95 |
| Energy Star Label (indicate yes/no) | | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 18. SEE APPENDIX IF CHECKED | | |

PVC, Part 2 - Test Results

| GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|-------------------------------|-------------------------------|
| EVERGUARD SR-60 | EVERGUARD SR-80 | EVERGUARD EGFB-50 | EVERGUARD EGFB-60 | EVERGUARD EGFB-80 | GENFLEX RM .048 | GENFLEX RM .060 | GENFLEX RM-T .060 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| 0.060 | 0.080 | 0.065 | 0.075 | 0.095 | 0.048 | 0.060 | 0.060 |
| | | | | | 0.016 | 0.016 | 0.016 |
| | | | | | | | |
| 320 X 280 | 350 X 320 | 486 X 390 | 480 X 390 | 519 X 482 | 290 | 290 | 300 |
| | | | | | | | |
| | | | | | | | |
| 35 | 35 | 40 | 40 | 40 | 27 | 27 | 25 |
| 35 | 35 | 35 | 35 | 40 | 27 | 27 | 35 |
| >95 | >95 | >95 | >95 | >95 | 90 | 90 | >90 |
| | | | | | | | |
| | | | | | | | |
| >90 | >90 | >95 | >95 | >95 | 90 | 90 | 90 |
| >90 | >90 | >95 | >95 | >95 | 90 | 90 | 90 |
| | | | | | | | |
| 70 X 80 | 70 X 80 | 144 X 159 | 101 X 136 | 66 X 112 | 50 | 50 | 80 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 |
| 1.1 | 0.6 | 1.1 | 0.7 | 0.6 | 0.1 | 0.1 | +1.0 |
| | | | | | | | PASS |
| | | | | | | | |
| 0.084 | 0.084 | 0.083 | 0.083 | 0.083 | 78 | 78 | 83 |
| 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.94 | 0.94 | 0.95 |
| YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | YES | YES | NO |
| | | | | | | | |

PVC, Part 2 - Test Results

| | | |
|--|-------------------------------|-------------------------------|
| 1. COMPANY NAME | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | GENFLEX RM-T .072 | GENFLEX RM-T .080 |
| 3. COMPLIES WITH: | | |
| ASTM D 4434 STANDARD SPECIFICATION FOR POLY (VINYL CHLORIDE) SHEET (indicate X as appropriate) | | |
| TYPE II, GRADE 1 (fiber reinforced sheet) | | |
| TYPE II, GRADE 2 (fabric reinforced sheet) | | |
| TYPE III (fabric reinforced sheet that may also have a fabric backing) | X | X |
| TYPE IV (fabric reinforced sheet that may also have a min. 0.036 in fabric backing) | | |
| 4. THICKNESS: | | |
| Overall PVC sheet thickness (min., in.) Type II and Type III: 0.045; Type IV: 0.036 | 0.072 | 0.080 |
| Thickness over scrim (min., in.) | 0.025 | 0.025 |
| 5. TENSILE STRENGTH AT BREAK (min. psi) Type II, Grade 1 only: 1500 | | |
| 6. BREAKING STRENGTH (min. lbf/in.) Type II, Grade 2 and Type III: 200 | 300 | 300 |
| Type IV: 275 | | |
| 7. ELONGATION AT BREAK (min. %) TYPE II; GRADE 1 | | |
| Type II, Grade 1: 250 MD and 220 XMD | | |
| Type II, Grade 2 and Type III: 15 | 35 | 35 |
| Type IV: 25 | 35 | 40 |
| 8. SEAM STRENGTH (min. % of tensile or breaking strength) 75.0 | >90 | >90 |
| 9. RETENTION OF PROPERTIES AFTER HEAT AGING | | |
| Tensile Strength (min., % of original) Type II, Grade 1: 90 | | |
| Breaking Strength (min., % of original) Type II, Grade 2; Type III; Type IV: 90 | 90 | 90 |
| Elongation at Break (min., % of original) 90 | 90 | 90 |
| 10. TEAR RESISTANCE (min., lbf) Type II, Grade 1: 10.0 | | |
| 11. TEARING STRENGTH (min., lbf) Type II, Grade 2 and Type III: 45.0; Type IV: 90.0 | 80 | 80 |
| 12. LOW TEMPERATURE BEND (pass/fail) pass | PASS | PASS |
| 13. ACCELERATED WEATHERING TEST (pass/fail) pass | PASS | PASS |
| 14. LINEAR DIMENSIONAL CHANGE (max., %) Type II: 0.1; Type III and Type IV: 0.5 | 0.3 | 0.3 |
| 15. CHANGE IN WEIGHT AFTER IMMERSION (max., %) ±3.0 | +1.0 | +1.0 |
| 16. PUNCTURE RESISTANCE, STATIC AND DYNAMIC (pass/fail) pass | PASS | PASS |
| 17. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 83 | 83 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | 0.95 | 0.95 |
| Energy Star Label (indicate yes/no) | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 18. SEE APPENDIX IF CHECKED | | |

PVC, Part 2 - Test Results

| GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL |
|-------------------------------|-------------------------------|-------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| GENFLEX RM-T .100 | GENFLEX RM-FB .045 | GENFLEX RM-FB .060 | ULTRAGARD V 250 | ULTRAGARD V 260 | ULTRAGARD SR 50 | ULTRAGARD SR 60 | ULTRAGARD SR 80 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| 0.100 | 0.060 | 0.075 | 0.047 | 0.054 | 0.047 | 0.054 | 0.072 |
| 0.025 | 0.016 | 0.016 | | | | | |
| | | | | | | | |
| 300 | 300 | 300 | 412 | 396 | 412 | 396 | 420 |
| | | | | | | | |
| | | | | | | | |
| 35 | | | 32 | 32 | 32 | 32 | 33 |
| 35 | 25 | 25 | 32 | 34 | 33 | 34 | 37 |
| >90 | >90 | >90 | 101 | 103 | 101 | 103 | 129 |
| | | | | | | | |
| | | | | | | | |
| 90 | 90 | 90 | 107 | 91 | 107 | 91 | 99 |
| 90 | 90 | 90 | 125 | 127 | 125 | 127 | 223 |
| | | | | | | | |
| 80 | 90 | 90 | 69 | 53 | 69 | 53 | 74 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| 0.3 | 0.4 | 0.4 | 0.14 | 0.12 | 0.14 | 0.12 | 0.14 |
| +1.0 | <3.0 | <3.0 | 1.73 | 1.46 | 1.73 | 1.46 | 1.71 |
| PASS | PASS | PASS | | | | | |
| | | | | | | | |
| 83 | 83 | 83 | | | | | |
| 0.95 | 0.95 | 0.95 | | | | | |
| YES | YES | YES | | | | | |
| NO | NO | NO | | | | | |
| | | | | | | | |

PVC, Part 2 - Test Results

| | | |
|--|------------------------------|------------------------------|
| 1. COMPANY NAME | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. |
| 2. PRODUCT NAME | MH-50 | MH-60 |
| 3. COMPLIES WITH: | | |
| ASTM D 4434 STANDARD SPECIFICATION FOR POLY (VINYL CHLORIDE) SHEET (indicate X as appropriate) | | |
| TYPE II, GRADE 1 (fiber reinforced sheet) | | |
| TYPE II, GRADE 2 (fabric reinforced sheet) | X | X |
| TYPE III (fabric reinforced sheet that may also have a fabric backing) | | |
| TYPE IV (fabric reinforced sheet that may also have a min. 0.036 in fabric backing) | | |
| 4. THICKNESS: | | |
| Overall PVC sheet thickness (min., in.) Type II and Type III: 0.045; Type IV: 0.036 | 0.050 | 0.060 |
| Thickness over scrim (min., in.) | | |
| 5. TENSILE STRENGTH AT BREAK (min. psi) Type II, Grade 1 only: 1500 | | |
| 6. BREAKING STRENGTH (min. lbf/in.) Type II, Grade 2 and Type III: 200 | >200 | >200 |
| Type IV: 275 | | |
| 7. ELONGATION AT BREAK (min. %) TYPE II; GRADE 1 | | |
| Type II, Grade 1: 250 MD and 220 XMD | | |
| Type II, Grade 2 and Type III: 15 | >20 | >20 |
| Type IV: 25 | | |
| 8. SEAM STRENGTH (min. % of tensile or breaking strength) 75.0 | | |
| 9. RETENTION OF PROPERTIES AFTER HEAT AGING | | |
| Tensile Strength (min., % of original) Type II, Grade 1: 90 | | |
| Breaking Strength (min., % of original) Type II, Grade 2; Type III; Type IV: 90 | >200 | >200 |
| Elongation at Break (min., % of original) 90 | | |
| 10. TEAR RESISTANCE (min., lbf) Type II, Grade 1: 10.0 | | |
| 11. TEARING STRENGTH (min., lbf) Type II, Grade 2 and Type III: 45.0; Type IV: 90.0 | >45 | >45 |
| 12. LOW TEMPERATURE BEND (pass/fail) pass | PASS | PASS |
| 13. ACCELERATED WEATHERING TEST (pass/fail) pass | PASS | PASS |
| 14. LINEAR DIMENSIONAL CHANGE (max., %) Type II: 0.1; Type III and Type IV: 0.5 | <0.5 | <0.5 |
| 15. CHANGE IN WEIGHT AFTER IMMERSION (max., %) ±3.0 | <3.0 | <3.0 |
| 16. PUNCTURE RESISTANCE, STATIC AND DYNAMIC (pass/fail) pass | | |
| 17. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.84 | 0.84 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | 0.9 | 0.9 |
| Energy Star Label (indicate yes/no) | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 18. SEE APPENDIX IF CHECKED | | |

PVC, Part 2 - Test Results

| SARNAFIL INC. | SARNAFIL INC. | STEVENS ROOFING SYSTEMS | STEVENS ROOFING SYSTEMS |
|---------------|---------------|-------------------------------|-------------------------------|
| S 327 | G 476 | STEVENS EV 0.045 | STEVENS EV 0.060 |
| | | | |
| | | X | X |
| | | | |
| | | | |
| | | X | X |
| | | | |
| 0.048 | 0.048 | 0.045 | 0.060 |
| | | 18 | 20 |
| | 1650 | | |
| 230 | | 275 | 295 |
| | | | |
| | | | |
| | 280 | | |
| 20 | | 25 | 25 |
| | | | |
| >85 | >80 | 90 | 90 |
| | | | |
| | 95 | | |
| 95 | | 90 | 90 |
| 90 | 90 | 90 | 90 |
| | 14 | | |
| 50 | | 68 | 50 |
| PASS | PASS | PASS | PASS |
| PASS | | PASS | PASS |
| | | -0.3 | -0.3 |
| 2.5 | 2.5 | | |
| | | PASS | PASS |
| | | | |
| | | 0.82 | 0.82 |
| | | 0.95 | 0.95 |
| | | NO | NO |
| | | NO | NO |
| X | X | X | X |

EPDM, Part 1 - General Information

| | | | | | | |
|---|--------------------------------|--------------------------------|-----------------------------|---------------------------------|------------------------------------|--------------------------------|
| 1. COMPANY NAME | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. |
| 2. PRODUCT NAME | SURE-SEAL EPDM | SURE-SEAL FR EPDM | BRITE-PLY EPDM | SURE-SEAL REINFORCED EPDM | SURE-SEAL FR REINFORCED EPDM | SURE-SEAL SURE-TOUGH |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | NONE | NONE | NONE | YES | YES | YES |
| Colors | BLACK | BLACK | WHITE ON BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.28 | 0.31 | 0.35 | 0.30 | 0.30 | 0.35 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | TAPE OR CONTACT ADHESIVE | TAPE OR CONTACT ADHESIVE | CONTACT ADHESIVE | TAPE OR CONTACT ADHESIVE | TAPE OR CONTACT ADHESIVE | TAPE OR CONTACT ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | 10 | 10 | 10 | 10 | 10 |
| Partially Adhered (method) | | | | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | 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) | | | | | | |
| Glass Fiber | X O | X O | X O | X O | X O | X O |
| Mineral Fiber | X O | X O | X O | X O | X O | X O |
| Polystyrene | X O | X O | X O | X O | X O | X O |
| Cellular Glass | X O | X O | X O | X O | X O | X O |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | X O | X O | X O | X O | X O | X O |
| Polyisocyanurate | X O | X O | X O | X O | X O | X O |
| Polyurethane | X O | X O | X O | X O | X O | X O |
| Gypsum | X O | X O | X O | X O | X O | X O |
| Concrete | X O | X O | X O | X O | X O | X O |
| Wood Plank | X O | X O | X O | X O | X O | X O |
| Plywood | X O | X O | X O | X O | X O | X O |
| Existing Built-up 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: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | 1963 | 1983 | 1977 | 1986 | 1986 | 1986 |
| Within USA | 1963 | 1983 | 1977 | 1986 | 1986 | 1986 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| 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. SALES INFORMATION, CONTACT: | C. KUHL 717/245-7000 | C. KUHL 717/245-7000 | C. KUHL 717/245-7000 | C. KUHL 717/245-7000 | C. KUHL 717/245-7000 | C. KUHL 717/245-7000 |
| 22. TECHNICAL INFORMATION, CONTACT: | S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

EPDM, Part 1 - General Information

| | | | | | | | | | |
|---------------------------------|--------------------------------|--|---------------------------------------|---|--|--|--|-----------------------------------|-----------------------------------|
| CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| SURE-SEAL FLEECEBACK EPDM | BRITE-PLY FLEECEACK EPDM | ERSYSTEMS RUBBER ROOF .060 BLACK | ERSYSTEM RUBBER ROOF .045 BLACK | ERSYSTEMS RUBBER ROOF .060 BLACK FR | ERSYSTEMS RUBBER ROOF .045 BLACK | ERSYSTEMS REINFORCED-90 .045 BLACK | ERSYSTEMS REINFORCED-90 .060 BLACK | RUBBERGARD .045 | RUBBERGARD .060 |
| YES | YES | NONE | NONE | NONE | NONE | WOVEN POLY INSERT | WOVEN POLY INSERT | NONE | NONE |
| BLACK | WHITE ON BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| 0.32 | 0.32 | 0.35 | 0.25 | 0.35 | 0.25 | 0.30 | 0.40 | 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 |
| TAPE OR CONTACT ADHESIVE | CONTACT ADHESIVE | TAPE | TAPE | TAPE | TAPE | TAPE | TAPE | SEAM TAPE | SEAM TAPE |
| | | | | | | | | | |
| | | 10 MIN | 10 MIN | 10 MIN | 10 MIN | 10 MIN | 10 MIN | 10 MIN | 10 MIN |
| | | PLATE BONDED | PLATE BONDED | PLATE BONDED | PLATE BONDED | MECH. FAST. | MECH. FAST. | BATTENS | BATTENS |
| URETHANE ADHES | URETHANE 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 |
| NONE | NONE | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | POS. DRAIN | POS. DRAIN |
| | | | | | | | | | |
| X O | X O | O | O | O | O | O | O | O | O |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | O | O | O | O | O | O | X | X |
| | | O | O | O | O | O | O | | |
| X | X | X | X | X | X | X | X | X | X |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | X | X | X | X | X | X | X | X |
| X O | X O | O | O | O | O | O | O | X | X |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | O | O | O | O | O | O | X O | X O |
| X O | X O | O | O | O | O | O | O | X O | X |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| -49 TO 180 | -49 TO 180 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0-120 | 0-100 | 0 - 100 |
| UNCURED OR CURED EPDM | UNCURED OR CURED EPDM | UNCURED TAPE | UNCURED TAPE | UNCURED TAPE | UNCURED TAPE | UNCURED TAPE | UNCURED TAPE | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING |
| ADHESIVE | ADHESIVE | TAPE | TAPE | TAPE | TAPE | TAPE | 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 |
| | | | | | | | | | |
| | | | | | | | | | |
| 1985 | 1985 | 1965 | 1965 | 1965 | 1965 | 1989 | 1989 | 1982 | 1982 |
| | | | | | | | | | |
| | | | | | | | | THOUSANDS | THOUSANDS |
| MILLIONS | MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS | MILLIONS |
| DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT |
| 70 | 70 | 14 | 14 | 14 | 14 | 14 | 14 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| C. KUHL 717/245-7000 | C. KUHL 717/245-7000 | 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 | T. LEONARD 800/403-7747 | 800/428-4442 | 800/428-4442 |
| S. IBRAHIM 717/245-7000 | S. IBRAHIM 717/245-7000 | 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 | J. LEONARD 800/403-7747 | 800/428-4511 | 800/428-4511 |
| | | | | | | | | | |

EPDM, Part 1 - General Information

| | | | | | | |
|---|-----------------------------|-----------------------------|-------------------------------------|--------------------------------|--------------------------------|-----------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | RUBBERGARD .045 FR | RUBBERGARD .060 FR | RUBBERGARD .090 (PLATINUM) | RUBBERGARD MAX .045 REINFORCED | RUBBERGARD MAX .060 REINFORCED | RUBBERGARD 0.45 LSFR |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | NONE | NONE | NONE | POLYESTER | POLYESTER | NONE |
| Colors | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.32 | 0.43 | 0.64 | 0.28 | 0.38 | 0.28 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | SEAM TAPE | SEAM TAPE | SEAM TAPE W/ FLASHING STRIP OVERLAY | SEAM TAPE | SEAM TAPE | SEAM TAPE |
| 7. TYPES OF ROOF SYSTEMS | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 MIN | 10 MIN | X | 10 MIN | 10 MIN | 10 |
| Partially Adhered (method) | BATTENS | BATTENS | X | BATTEN OR PLATE | BATTEN OR PLATE | BATTENS |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | X | X | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | POS. DRAIN | POS. DRAIN | POS. DRAIN | POS. DRAIN | POS. DRAIN | POS. DRAIN |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances) | | | | | | |
| Glass Fiber | O | O | O | X O | X O | X O |
| Mineral Fiber | X O | X O | | X O | X O | X O |
| Polystyrene | X O | X O | | X O | X O | X O |
| Cellular Glass | X | X | | X O | X | X |
| Phenolic | | | | | | |
| Fiberboard | X | X | | X | X | X |
| Perlite | X O | X O | | X O | X O | X O |
| Polyisocyanurate | X | X | X | X | X | X |
| Polyurethane | X | X | | X | X | X |
| Gypsum | X O | X O | X | X O | X O | X O |
| Concrete | X O | X O | X O | X O | X O | X O |
| Wood Plank | X O | X O | X O | X O | X O | X O |
| Plywood | X O | X O | X O | X O | X O | X O |
| Existing Built-up 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 – 100 | 0 – 100 | 0 – 100 | 0 – 100 | 0 – 100 | 0 – 100 |
| 12. FLASHING MATERIAL | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING | EPDM / QUICKSEAM FLASHING |
| 13. FLASHING METHOD | CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | 1990 | 1990 | 1990 | 1990 | 1994 |
| Within USA | 1985 | 1985 | 1985 | 1990 | 1990 | 1994 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| Within USA | MILLIONS | MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 | 800/428-4442 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 | 800/428-4511 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

EPDM, Part 1 - General Information

| FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS |
|-----------------------------|--------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|--|---------------------------------|---------------------------------|---------------------------|---------------------------|
| RUBBERGARD 0.060 LSFR | RUBBERGARD .075 MAX REINFORCED | EVERGUARD NON REINF .045 EPDM MEMB. | EVERGUARD NON REINF .060 EPDM MEMB. | EVERGUARD NON-REINF .045 EPDM MEMB FR | EVERGUARD NON REINF .060 EPDM MEMB. FR | EVERGUARD REINF .045 EPDM MEMB. | EVERGUARD REINF. 060 EPDM MEMB. | GENFLEX .045 BLACK | GENFLEX .060 BLACK |
| NONE | POLYESTER | NONE | NONE | NONE | NONE | POLYESTER | POLYESTER | NONE | NONE |
| BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| 0.38 | 0.05 | | | | | | | 0.29 | 0.40 |
| 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 |
| SEAM TAPE | SEAM TAPE | IN SEAM TAPE | IN SEAM TAPE | IN SEAM TAPE | IN SEAM TAPE | IN SEAM TAPE | IN SEAM TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE |
| | | | | | | | | | |
| 10 | 10 MIN | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| BATTENS | BATTEN OR PLAT | MAS/BITS | MAS/BITS | MAS/BITS | MAS/BITS | MAS/BITS | MAS/BITS | MECH. FAST. | MECH. FAST. |
| CONT. ADHES. | CONT. ADHES. | BONDING ADHES | BONDING ADHES | BONDING ADHES | BONDING ADHES | BONDING ADHES | BONDING ADHES | CONT. ADHES. | CONT. ADHES. |
| 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 | NONE | NONE |
| | | | | | | | | | |
| X O | | | | | | | | X | X |
| X O | O | | | | | | | X | X |
| X O | O | | | | | | | O | O |
| X | O | | | | | | | X | X |
| | | O | O | O | O | O | O | | |
| X | O | X O | X O | X O | X O | X O | X O | X | X |
| X O | O | X O | X O | X O | X O | X O | X O | X | X |
| X | X | X | X | X | X | X | X | X | X |
| X | O | O | O | O | O | O | O | X | X |
| X O | 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 | O | O |
| X O | O | O | O | O | O | O | O | O | O |
| X O | O | S O | S O | S O | S O | S O | S O | O | O |
| X O | O | S O | S O | S O | S O | S O | S O | O | O |
| NONE | NONE | | | | | | | NONE | NONE |
| 0 - 100 | 0 - 100 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 100 | 0 - 100 |
| EPDM QUICKSEAM FLASHING | EPDM QUICKSEAM FLASHING | | | | | | | UNCURED EPDM | UNCURED EPDM |
| CONTACT ADHESIVE / TAPE | CONTACT ADHESIVE / TAPE | IN SEAM TAPE UNCURED MEMBRANE | IN SEAM TAPE UNCURED MEMBRANE | IN SEAM TAPE UNCURED MEMBRANE | IN SEAM TAPE UNCURED MEMBRANE | IN SEAM TAPE UNCURED MEMBRANE | IN SEAM TAPE UNCURED MEMBRANE | 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 | 2001 | | | | | | | | |
| 1994 | 2001 | | | | | | | 1979 | 1979 |
| | | | | | | | | | |
| THOUSANDS | HUNDREDS | | | | | | | | |
| MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS | MILLIONS |
| DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DISTRIBUTORS | DISTRIBUTORS |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 800/428-4442 | 800/428-4442 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | SALES 800/443-4272 | SALES 800/443-4272 |
| 800/428-4511 | 800/428-4511 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SVCS. 800/ROOF-411 | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 |
| | | | | | | | | | |

EPDM, Part 1 - General Information

| | | | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1. COMPANY NAME | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | GENFLEX FRM .045 BLACK | GENFLEX FRM 0.60 BLACK | GENFLEX AFR .060 BLACK | GENFLEX AFR .045 BLACK | GENFLEX FR .045 BLACK | GENFLEX FR .060 BLACK |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | YES | YES | NONE | NONE | NONE | NONE |
| Colors | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.32 | 0.42 | 0.43 | 0.31 | 0.31 | 0.43 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE |
| 7. TYPES OF ROOF SYSTEMS | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | 10 | 10 | 10 | 10 | 10 |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | X | 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) | | | | | | |
| Glass Fiber | X | X | X | X | X | X |
| Mineral Fiber | X | X | X | X | X | X |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | X | X | X | X | X | X |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | X | X | X | X | X | X |
| Polyisocyanurate | X | X | X | X | X | X |
| Polyurethane | X | X | X | X | X | X |
| Gypsum | X O | X O | X O | X O | X O | X O |
| Concrete | O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 0 – 100 | 0 – 100 | 0 – 100 | 0 – 100 | 0 – 100 | 0 – 100 |
| 12. FLASHING MATERIAL | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM |
| 13. FLASHING METHOD | CONTACT ADHESIVE OR TAPE | 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: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1989 | 1989 | 1994 | 1994 | 1989 | 1989 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | THOUSANDS | THOUSANDS | MILLIONS | MILLIONS | MILLIONS | MILLIONS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 8 | 8 | 8 | 8 | 8 | 8 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | SALES 800/443-4272 | SALES 800/443-4272 | SALES 800/443-4272 | SALES 800/443-4272 | SALES 800/443-4272 | SALES 800/443-4272 |
| 22. TECHNICAL INFORMATION, CONTACT: | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 | TECH SERVICE 800/443-4272 |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

EPDM, Part 1 - General Information

| INTERNATIONAL DIAMOND SYSTEMS, INC. | INTERNATIONAL DIAMOND SYSTEMS, INC. | INTERNATIONAL DIAMOND SYSTEMS, INC. | INTERNATIONAL DIAMOND SYSTEMS, INC. | INTERNATIONAL DIAMOND SYSTEMS, INC. | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL |
|---|---|---|---|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| INTERNATIONAL BLACK EPDM .045 | INTERNATIONAL BLACK .060 | INTERNATIONAL FIRE RETARDANT .060 | INTERNATIONAL REINFORCED .045 | INTERNATIONAL REINFORCED .060 | SPM 45 BLACK | SPM 45R BLACK | SPM 60 BLACK | SPM 60R BLACK | SP 60 FR BLACK |
| NONE | NONE | NONE | SCRIM | SCRIM | NONE | POLYESTER | NONE | POLYESTER | NONE |
| BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| 0.30 | 0.40 | 0.50 | 0.40 | 0.50 | 0.29 | 0.30 | 0.38 | 0.39 | 0.39 |
| NONE | NONE | NONE | SCRIM | SCRIM | 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 | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONTACT ADHESIVE OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE |
| | | | | | 10 MIN | 10 MIN | 10 MIN | 10 MIN | |
| | | | | | | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| | | | | | | ADHESIVE | ADHESIVE | ADHESIVE | ADHESIVE |
| DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | NONE | NONE | NONE | NONE | NONE |
| X | X | X | X | X | O | O | O | O | O |
| X | X | X | X | X | O | O | O | O | O |
| O | O | O | O | O | O | O | O | O | O |
| X | X | X | X | X | O | O | O | O | O |
| X | X | X | X | X | X | X | X | X | X |
| O | O | O | O | O | X | X | 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 | X O | X O | O | O | O |
| S | S | S | S | S | X O | X O | X O | X O | X O |
| S | S | S | S | S | X O | X O | X O | X O | X O |
| X | X | X | X | X | X O | X O | X O | X O | X O |
| S | S | S | S | S | 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 | 25 – 160 | 25 – 160 | 25 – 160 | 25 – 160 | 25 – 160 |
| 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 | 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 |
| 1982 | 1982 | 1982 | 1982 | 1982 | | | | | |
| 1982 | 1982 | 1982 | 1982 | 1982 | 1979 | 1993 | 1979 | 1993 | 1983 |
| MILLIONS | MILLIONS | MILLIONS | THOUSANDS | THOUSANDS | MILLIONS | THOUSANDS | MILLIONS | THOUSANDS | MILLIONS |
| DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT | DISTRS,DIRECT |
| 40 | 40 | 40 | 40 | 40 | 5 | 5 | 5 | 5 | 5 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| SALES 800/248-1558 | SALES 800/248-1558 | SALES 800/248-1558 | SALES 800/248-1558 | SALES 800/248-1558 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| TECH. SERVICE 800/248-1558 | TECH. SERVICE 800/248-1558 | TECH. SERVICE 800/248-1558 | TECH. SERVICE 800/248-1558 | TECH. SERVICE 800/248-1558 | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES | GUARANTEE SERVICES |

EPDM, Part 1 - General Information

| | | | | | | |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL |
| 2. PRODUCT NAME | SPM 60 W WHITE | ULTRAGARD .045 EPDM | ULTRAGARD .045 R EPDM | ULTRAGARD .060 FR EPDM | ULTRAGARD .060 EPDM | ULTRAGARD .060 R EPDM |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | NONE | NONE | POLYESTER | NONE | NONE | POLYESTER |
| Colors | WHITE | BLACK | BLACK | BLACK | WHITE | BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.41 | 0.29 | 0.30 | 0.35 | 0.41 | 0.39 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE |
| 7. TYPES OF ROOF SYSTEMS | | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | 10 min. | 10 min. | 10 min. | | 10 min. |
| Partially Adhered (method) | MECH. FAST. | | | | | |
| Fully Adhered (method) | ADHESIVE | | | | | |
| Protected Roof Membrane Assembly | | | | | | |
| 8. MINIMUM SLOPE REQUIRED | NONE | | | | | |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances) | | | | | | |
| Glass Fiber | O | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O | O |
| Polystyrene | O | O | O | O | O | O |
| Cellular Glass | O | O | O | O | O | O |
| Phenolic | | | | | | |
| Fiberboard | X | X | X | X | X | X |
| Perlite | X O | X | X | X O | X | X |
| Polyisocyanurate | X | X | X | X | X | X |
| Polyurethane | X | X | X | X | X | X |
| Gypsum | O | X O | X O | O | O | O |
| Concrete | X O | X O | X O | X O | X O | X O |
| Wood Plank | X O | X O | X O | X O | X O | X O |
| Plywood | X O | X O | X O | X O | X O | X O |
| Existing Built-up 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 | 25 - 160 | 25 - 160 | 25 - 160 | 25 - 160 |
| 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 TAPR | 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: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1983 | 1979 | 1993 | 1979 | 1983 | 1993 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRS,DIRECT | DISTRS/DIRECDT | DISTRS/DIRECDT | DISTRS/DIRECDT | DISTRS/DIRECDT | DISTRS/DIRECDT |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 5 | 5 | 5 | 5 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 22. TECHNICAL INFORMATION, CONTACT: | GUARANTEE SERVICES | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 23. SEE APPENDIX IF CHECKED | | | | | | |

EPDM, Part 1 - General Information

| MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL |
|---|---|---|---|------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| M-H EPDM .045 | M-H EPDM .060 | M-H REINFORCED 0.45 | M-H REINFORCED .060 | M-H W/B .060 | RP EPDM BLACK .045 | RPI EPDM BLACK .060 | RPI EPDM BLACK .045 | RPI EPDM BLACK .060 | RPI EPDM WHITE .045 |
| NONE | NONE | YES | YES | NONE | NONE | NONE | POLYESTER | POLYESTER | NONE |
| BLACK | BLACK | BLACK | BLACK | WHITE/BLACK | BLACK | BLACK | BLACK | BLACK | WHITE |
| 0.30 | 0.40 | 0.30 | 0.40 | 0.40 | 0.28 | 0.38 | | | 0.30 |
| 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 |
| CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONTACT ADHESIVE AND TAPE | CONTACT ADHESIVE AND SEALANT | CONTACT ADHESIVE AND SEALANT | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE |
| 10 | 10 | 10 | 10 | | 10-15 | 10-15 | 10-15 | 10-15 | 10-15 |
| | | MECH. FAST. | MECH. FAST. | MECH. FAST. | BATTEN | BATTEN | PLATES | PLATES | BATTEN |
| 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 |
| NONE | NONE | NONE | NONE | NONE | LEVEL | LEVEL | LEVEL | LEVEL | LEVEL |
| 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 | O | O |
| X O | X O | X O | X O | X | O | O | O | O | O |
| X | X | X | X | X | X | X | X | X | X |
| X O | X O | X O | X O | O | O | O | O | O | O |
| X | X | X | X | X | X O | X O | X O | X O | X O |
| X | X | X | X | X 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 |
| X O | X O | X O | X O | X O | X O | X O | X O | X O | X O |
| X O | X O | X O | X O | X 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 |
| | | | | | S O | S O | S O | S O | S O |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| -49 - 180 | -49 - 180 | -49 - 180 | -49 - 180 | -49 - 180 | 40 & ABOVE | 40 & ABOVE | 40 & ABOVE | 40 & ABOVE | 40 & ABOVE |
| UNCURED OR CURED EPDM | UNCURED OR CURED EPDM | UNCURED OR CURED EPDM | UNCURED OR CURED EPDM | UNCURED OR CURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM |
| CONTACT ADHESIVE OR FLASHING TAPE | CONTACT ADHESIVE OR FLASHING TAPE | CONTACT ADHESIVE OR FLASHING TAPE | CONTACT ADHESIVE OR FLASHING TAPE | CONTACT ADHESIVE | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED |
| 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 | | | | | | | | |
| 1963 | 1963 | 1986 | 1986 | 1986 | 1965 | 1965 | 1965 | 1965 | 1965 |
| MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS | MILLIONS |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 12 | 12 | 12 | 12 | 12 | 75 | 75 | 75 | 75 | 75 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| L. PUNZEL 608/365-3111 | L. PUNZEL 608/365-3111 | L. PUNZEL 608/365-3111 | L. PUNZEL 608/365-3111 | L. PUNZEL 608/365-3111 | 800/628-2957 | 800/628-2957 | 800/628-2957 | 800/628-2957 | 800/628-2957 |
| T. MCFARLAND 608/365-3111 | T. MCFARLAND 608/365-3111 | T. MCFARLAND 608/365-3111 | T. MCFARLAND 608/365-3111 | T. MCFARLAND 608/365-3111 | 800/628-2957 | 800/628-2957 | 800/628-2957 | 800/628-2957 | 800/628-2957 |

EPDM, Part 1 - General Information

| | | | |
|---|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL |
| 2. PRODUCT NAME | RPI EPDM WHITE .060 | RPI EPDM FR BLACK .045 | RPI EPDM FR BLACK .060 |
| 3. PRODUCT DESCRIPTION | | | |
| Reinforcement | NONE | NONE | NONE |
| Colors | WHITE | BLACK | BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.40 | 0.30 | 0.40 |
| 4. COATING REQUIRED | NONE | NONE | NONE |
| 5. USE IN | | | |
| New Roofing | X | X | X |
| Reroofing | X | X | X |
| 6. FIELD LAP JOINT METHOD | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE | CONT ADHESIVE & SEALANT OR TAPE |
| 7. TYPES OF ROOF SYSTEMS | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10-15 | 10-15 | 10-15 |
| Partially Adhered (method) | BATTEN | BATTEN | BATTEN |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | LEVEL | LEVEL | LEVEL |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances) | | | |
| Glass Fiber | O | O | O |
| Mineral Fiber | O | O | O |
| Polystyrene | O | O | O |
| Cellular Glass | O | O | O |
| Phenolic | O | O | O |
| Fiberboard | X | X | X |
| Perlite | O | O | O |
| Polyisocyanurate | X O | X O | X O |
| Polyurethane | O | O | O |
| Gypsum | X O | X O | X O |
| Concrete | X O | X O | X O |
| Wood Plank | O | O | O |
| Plywood | X O | X O | X O |
| Existing Built-up Membrane | S O | S O | S O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 40 & ABOVE | 40 & ABOVE | 40 & ABOVE |
| 12. FLASHING MATERIAL | UNCURED EPDM | UNCURED EPDM | UNCURED EPDM |
| 13. FLASHING METHOD | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED | CONTACT ADHESIVE OR TAPE BACKED |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES |
| 15. COUNTRY OF: | | | |
| Origin | USA | USA | USA |
| Manufacture | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | |
| Outside USA | | | |
| Within USA | 1965 | 1965 | 1965 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | |
| Outside USA | | | |
| Within USA | MILLIONS | MILLIONS | MILLIONS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 75 | 75 | 75 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/628-2957 | 800/628-2957 | 800/628-2957 |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/628-2957 | 800/628-2957 | 800/628-2957 |
| 23. SEE APPENDIX IF CHECKED | | | |

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EPDM, Part 2 - Test Results

| | | | | |
|--|-------------------------|-------------------------|-------------------------|---------------------------------|
| 1. COMPANY NAME | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. |
| 2. PRODUCT NAME | SURE-SEAL EPDM | SURE-SEAL FR EPDM | BRITE-PLY EPDM | SURE-SEAL REINFORCED EPDM |
| 3. COMPLIES WITH: ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE (indicate X as appropriate) | | | | |
| Type I (non-reinforced sheet) | X | X | X | |
| Type II (scrim or fabric reinforced sheet) | | | | X |
| Type III (fabric backed) | | | | |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) Type I and Type II: 0.040 | 0.045 | 0.060 | 0.060 | 0.045 |
| Thickness over scrim (min., in.) Type II: 0.015; Type III: 0.030 | | | | 0.015 |
| 5. BREAKING STRENGTH (min., lbf.in.) Type II and Type III: 90 | | | | 180 |
| 6. TENSILE STRENGTH AT BREAK (min., psi) Type I: 1305 | 1630 | 1630 | 1685 | |
| 7. ELONGATION, ULTIMATE (min., %) Type I and Type III: 300; Type II: 250 | 520 | 520 | 550 | 500 |
| 8. TENSILE SET (max., %) Type I: 10 | 5 | 5 | 7 | |
| 9. TEAR RESISTANCE (min., lbf.) Type I: 150 | 230 | 230 | 200 | |
| 10. TEARING STRENGTH (min., lbf.) Type II and Type III: 10 | | | | 30 |
| 11. BRITTLENESS POINT (max., F) -49 | -85 | -85 | -75 | -75 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. HEAT AGING | | | | |
| Breaking strength (min., lbf.) Type II and Type III: 80 | | | | 175 |
| Tensile strength (min., psi.) Type I: 1205 | 1500 | 1500 | 1550 | |
| Elongation, ultimate (min., %) 200 | 310 | 310 | 250 | 250 |
| Tear resistance (min., lbf./in.) Type: 125 | 215 | 215 | 185 | |
| Linear dimensional change (max., %) ± 1 | -0.4 | -0.4 | -0.5 | -0.7 |
| 14. WATER ABSORPTION (max., mass %) +8, -2 | +2.0 | +2.0 | +3.6 | +2.0 |
| 15. FACTORY SEAM STRENGTH (min., lbf./in.) Type II: 50 | | | | |
| 16. WEATHER RESISTANCE | | | | |
| Visual inspection (pass/fail) pass | PASS | PASS | PASS | PASS |
| PRSFE (min., %) Type I: 30 | | | | |
| Elongation, ultimate (min., %) Type I: 200 | | | | |
| 17. FABRIC ADHESION (min., lbf./in.) Type III: 3 | | | | |
| 18. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | 0.84 | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | | 0.90 | |
| Energy Star Label (indicate yes/no) | NO | NO | YES | NO |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO | | NO |
| 19. SEE MEMBRANE APPENDIX IF CHECKED | | | | |

EPDM, Part 2 - Test Results

| | | | | | | | | | |
|-------------------------|------------------------------------|-------------------------|---------------------------------|---------------------------------|--|----------------------------------|---|---|--|
| CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS |
| SURE-SEAL FLEECEBACK | SURE-SEAL FR REINFORCED EPDM | SURE-SEAL SURE-TOUGH | SURE-SEAL FLEECEBACK EPDM | BRITE-PLY FLEECEBACK EPDM | ERSYSTEMS RUBBER ROOF .060 BLACK | ERSYSTEMS RUBBER ROOF .045 | ERSYSTEMS RUBBER ROOF .060 BLACK FR | ERSYSTEMS RUBBER ROOF .045 BLACK FR | ERSYSTEMS REINFORCED 90 .045 BLACK |
| | | | | | | | | | |
| | | | | | X | X | X | X | |
| | X | X | | | | | | | |
| X | | | X | X | | | | | X |
| | | | | | | | | | |
| 0.090; 0.105 | 0.045 | 0.750 | 0.100; 0.115 | 0.100; 0.115 | 0.055 | 0.040 | 0.055 | 0.040 | 0.045 |
| 0.045 | 0.015 | 0.020 | 0.045 | 0.045 | | | | | 0.015 |
| 200 | 180 | 230 | 200 | 200 | | | | | 100 |
| | | | | | 1305 | 1305 | 1305 | 1305 | |
| 480 | 500 | 500 | 500 | 500 | 300 | 300 | 300 | 300 | 400 |
| | | | | | 10 | 10 | 10 | 10 | |
| | | | | | 150 | 150 | 150 | 150 | |
| | 30 | 74 | 45 | 45 | | | | | 200 |
| -67 | -75 | -75 | -75 | -75 | -49 | -49 | -49 | -49 | -75 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| 200 | 175 | 220 | 200 | 200 | | | | | 90 |
| | | | | | 1205 | 1205 | 1205 | 1205 | |
| 225 | 250 | 250 | 310 | 250 | 200 | 200 | 200 | 200 | 250 |
| | | | | | 125 | 125 | 125 | 125 | |
| -0.7 | -0.7 | -0.7 | -0.7 | -0.7 | ±2 | ±2 | ±2 | ±2 | +1.0 |
| +2.0 | +2.0 | +2.0 | +2.0 | +3.6 | +8, -2 | +8, -2 | +8, -2 | +8, -2 | +1.0 |
| | | | | | | | | | |
| | | | | | | | | | |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | 0.84 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| | | | | 0.90 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| NO | NO | NO | NO | YES | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | | NO | NO | NO | NO | NO |
| | | | | | | | | | |

EPDM, Part 2 - Test Results

| | | | | |
|---|--|-----------------------------------|-----------------------------------|-----------------------------------|
| 1. COMPANY NAME | ERSYTEMs | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | ERSYSTEMS REINFORCED 90 .060 BLACK | RUBBERGARD .045 | RUBBERGARD .060 | RUBBERGARD .045 FR |
| 3. COMPLIES WITH: ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE (indicate X as appropriate) | | | | |
| Type I (non-reinforced sheet) | | X | X | X |
| Type II (scrim or fabric reinforced sheet) | | | | |
| Type III (fabric backed) | X | | | |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) Type I and Type II: 0.040 | 0.060 | 0.045 | 0.060 | 0.045 |
| Thickness over scrim (min., in.) Type II: 0.015; Type III: 0.030 | | | | |
| 5. BREAKING STRENGTH (min., lbf.in.) Type II and Type III: 90 | | | | |
| 6. TENSILE STRENGTH AT BREAK (min., psi) Type I: 1305 | | 1425 | 1425 | 1465 |
| 7. ELONGATION, ULTIMATE (min., %) Type I and Type III: 300; Type II: 250 | 400 | 450 | 450 | 350 |
| 8. TENSILE SET (max., %) Type I: 10 | | 10 | 10 | 10 |
| 9. TEAR RESISTANCE (min., lbf.) Type I: 150 | | 200 | 200 | 190 |
| 10. TEARING STRENGTH (min., lbf.) Type II and Type III: 10 | 200 | | | |
| 11. BRITTLENESS POINT (max., F) -49 | -75 | -49 | -49 | -49 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. HEAT AGING | | | | |
| Breaking strength (min., lbf.) Type II and Type III: 80 | 90 | | | |
| Tensile strength (min., psi.) Type I: 1205 | | 1415 | 1450 | 1450 |
| Elongation, ultimate (min., %) 200 | 250 | 580 | 280 | 225 |
| Tear resistance (min., lbf./in.) Type: 125 | | 180 | 180 | 180 |
| Linear dimensional change (max., %) ± 1 | 1 | ±1 | ±1 | ±1 |
| 14. WATER ABSORPTION (max., mass %) +8, -2 | +1.0 | +8, -2 | +8, -2 | +8, -2 |
| 15. FACTORY SEAM STRENGTH (min., lbf./in.) Type II: 50 | | | | |
| 16. WEATHER RESISTANCE | | | | |
| Visual inspection (pass/fail) pass | PASS | PASS | PASS | PASS |
| PRSF (min., %) Type I: 30 | | | | |
| Elongation, ultimate (min., %) Type I: 200 | | | | |
| 17. FABRIC ADHESION (min., lbf./in.) Type III: 3 | | | | |
| 18. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | | | |
| Energy Star Label (indicate yes/no) | NO | | | |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | | | |
| 19. SEE MEMBRANE APPENDIX IF CHECKED | | | | |

EPDM, Part 2 - Test Results

| FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|---|---|--|
| RUBBERGARD .060 FR | RUBBERGARD .090 (PLATINUM) | RUBBERGARD MAX .045 REINFORCED | RUBBERGARD MAX .060 REINFORCED | RUBBERGARD .075 MAX REINFORCED | RUBBERGARD 0.45 LSFR | RUBBERGARD 0.060 LSFR | EVERGUARD NON REINF .045 EPDM MEMB. | EVERGUARD NON REINF .060 EPDM MEMB. | EVERGUARD NON REINF .045 EPDM MEMB. (FR) |
| | | | | | | | | | |
| X | X | | | | X | X | X | X | X |
| | | X | X | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 0.060 | 0.090 | 0.045 | 0.060 | | 0.045 | 0.045 | 0.045 | 0.060 | 0.045 |
| | | 0.015 | 0.015 | | | | N/A | N/A | N/A |
| | | 240 | 240 | | 240 | | | | |
| 1465 | 1465 | | | | 1305 | 1435 | 1425 | 1425 | 1435 |
| 350 | 350 | 475 | 475 | | 300; 475 | 450 | 450 | 450 | 450 |
| 10 | 10 | | | | 10 | 10 | | | |
| 190 | 180 | | | | 150 | 200 | 200 | 200 | 200 |
| | | 60 | 60 | | 60 | | | | |
| -49 | -49 | -49 | -49 | | -49 | -49 | -63 | -63 | -63 |
| PASS | PASS | PASS | PASS | | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| | | 80 | 80 | | | | | | |
| 1450 | 1450 | | | | 1205 | 1425 | 1415 | 1415 | 1425 |
| 225 | 225 | 300 | 300 | | 300 | 450 | 290 | 290 | 240 |
| 180 | 180 | | | | 125 | 205 | 180 | 180 | 205 |
| ±1 | ±1 | ±1 | ±1 | | ±1 | ±1 | <1.0 | <1.0 | -0.5 |
| +8, -2 | +8, -2 | +8, -2 | +8, -2 | | +8, -2 | +8, -2 | 1.73 | 1.73 | 1.8 |
| | | | | | | | | | |
| | | | | | | | | | |
| PASS | PASS | PASS | PASS | | PASS | PASS | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | NO | NO | NO |
| | | | | | | | | | |
| | | | | | | | | | |

EPDM, Part 2 - Test Results

| | | | | |
|---|---|--|--|-------------------------------|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | EVERGUARD NON REINF. .060 EPDM MEMB. (FR) | EVERGUARD REINFORCED .045 EPDM MEMB. | EVERGUARD REINFORCED .060 EPDM MEMB. | GENFLEX .045 BLACK |
| 3. COMPLIES WITH: ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE (indicate X as appropriate) | | | | |
| Type I (non-reinforced sheet) | X | | | X |
| Type II (scrim or fabric reinforced sheet) | | X | X | N/A |
| Type III (fabric backed) | | | | N/A |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) Type I and Type II: 0.040 | 0.060 | 0.045 | 0.060 | 0.040 |
| Thickness over scrim (min., in.) Type II: 0.015; Type III: 0.030 | | 0.015 | 0.015 | N/A |
| 5. BREAKING STRENGTH (min., lbf.in.) Type II and Type III: 90 | | 240 | 240 | N/A |
| 6. TENSILE STRENGTH AT BREAK (min., psi) Type I: 1305 | 1435 | | | 1425 |
| 7. ELONGATION, ULTIMATE (min., %) Type I and Type III: 300; Type II: 250 | 450 | 475 | 475 | 450 |
| 8. TENSILE SET (max., %) Type I: 10 | | | | 5 |
| 9. TEAR RESISTANCE (min., lbf.) Type I: 150 | 200 | | | 200 |
| 10. TEARING STRENGTH (min., lbf.) Type II and Type III: 10 | | 60 | 60 | N/A |
| 11. BRITTLENESS POINT (max., F) -49 | -63 | -65 | -65 | -63 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. HEAT AGING | | | | |
| Breaking strength (min., lbf.) Type II and Type III: 80 | | 275 | 275 | N/A |
| Tensile strength (min., psi.) Type I: 1205 | 1425 | | | 1415 |
| Elongation, ultimate (min., %) 200 | 240 | 300 | 300 | 290 |
| Tear resistance (min., lbf./in.) Type: 125 | 205 | | | 181 |
| Linear dimensional change (max., %) ± 1 | -0.5 | -0.75 | -0.75 | -0.7 |
| 14. WATER ABSORPTION (max., mass %) +8, -2 | 1.8 | 1.79 | 1.79 | 1.8 |
| 15. FACTORY SEAM STRENGTH (min., lbf./in.) Type II: 50 | | | | SHEET FAILURE |
| 16. WEATHER RESISTANCE | | | | |
| Visual inspection (pass/fail) pass | | | | PASS |
| PRSFE (min., %) Type I: 30 | | | | 63 |
| Elongation, ultimate (min., %) Type I: 200 | | | | 290 |
| 17. FABRIC ADHESION (min., lbf./in.) Type III: 3 | | | | N/A |
| 18. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | | 6.4 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | | | 0.90 |
| Energy Star Label (indicate yes/no) | NO | NO | NO | NO |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | | | NO |
| 19. SEE MEMBRANE APPENDIX IF CHECKED | | | | |

EPDM, Part 2 - Test Results

| | | | | | | | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | INTERNATIONAL DIAMOND SYSTEMS | INTERNATIONAL DIAMOND SYSTEMS | INTERNATIONAL DIAMOND SYSTEMS |
| GENFLEX .060 BLACK | GENFLEX AFR .045 BLACK | GENFLEX AFR .060 BLACK | GENFLEX FR .045 BLACK | GENFLEX FR .060 BLACK | GENFLEX FRM .045 BLACK | GENFLEX FRM .060 BLACK | INTERNATIONAL .045 BLACK | INTERNATIONAL .060 BLACK | INTERNATIONAL .060 FR |
| | | | | | | | | | |
| X | X | X | X | X | N/A | N/A | X | X | X |
| N/A | N/A | N/A | N/A | N/A | X | X | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | | | | | | | | | |
| 0.054 | 0.040 | 0.054 | 0.040 | 0.054 | 0.040 | 0.054 | 0.045 | 0.060 | 0.040 |
| N/A | N/A | N/A | N/A | N/A | 0.015 | 0.015 | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A | 240 | 240 | N/A | N/A | N/A |
| 1425 | 1435 | 1435 | 1435 | 1435 | N/A | N/A | 1305 | 1305 | 1305 |
| 450 | 450 | 450 | 450 | 450 | 475 | 475 | 300 | 300 | 300 |
| 5 | 5 | 5 | 5 | 5 | N/A | N/A | 5 | 5 | 5 |
| 200 | 200 | 200 | 200 | 200 | N/A | N/A | 150 | 150 | 150 |
| N/A | N/A | N/A | N/A | N/A | 60 | 60 | N/A | N/A | N/A |
| -63 | -63 | -63 | -63 | -63 | -65 | -65 | -49 | -49 | -49 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| N/A | N/A | N/A | N/A | N/A | 275 | 275 | N/A | N/A | N/A |
| 1415 | 1415 | 1415 | 1415 | 1415 | N/A | N/A | 1305 | 1305 | 1305 |
| 290 | 240 | 240 | 240 | 240 | 300 | 300 | 300 | 300 | 300 |
| 181 | 180 | 180 | 180 | 180 | N/A | N/A | 150 | 150 | 150 |
| -0.7 | -0.5 | -0.5 | -0.7 | -0.7 | -0.7 | -0.7 | 2 | 2 | 2 |
| 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | +8, -2 | +8, -2 | +8, -2 |
| SHEET FAILURE | SHEET FAILURE | SHEET FAILURE | SHEET FAILURE | SHEET FAILURE | SHEET FAILURE | SHEET FAILURE | 30 | 30 | 30 |
| | | | | | | | | | |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| 63 | 63 | 63 | 63 | 63 | N/A | N/A | 30 | 30 | 30 |
| 290 | 240 | 240 | 240 | 240 | N/A | N/A | 200 | 200 | 200 |
| N/A | N/A | N/A | N/A | 15 | 15 | 15 | N/A | N/A | N/A |
| | | | | | | | | | |
| 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | <5 | <5 | <5 |
| 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | <5 | <5 | <5 |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| | | | | | | | | | |

EPDM, Part 2 - Test Results

| | | | | |
|--|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------|
| 1. COMPANY NAME | INTERNATIONAL DIAMOND SYSTEMS | INTERNATIONAL DIAMOND SYSTEMS | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL |
| 2. PRODUCT NAME | INTERNATIONAL .045 REINFORCED | INTERNATIONAL .060 REINFORCED | ULTRAGARD 0.045 FR | ULTRAGARD 0.045R XT |
| 3. COMPLIES WITH: ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE (indicate X as appropriate) | | | | |
| Type I (non-reinforced sheet) | N/A | N/A | X | |
| Type II (scrim or fabric reinforced sheet) | X | X | | X |
| Type III (fabric backed) | N/A | N/A | | |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) Type I and Type II: 0.040 | 0.040 | 0.058 | 0.045 | 0.045 |
| Thickness over scrim (min., in.) Type II: 0.015; Type III: 0.030 | 0.015 | 0.015 | NA | 0.016 |
| 5. BREAKING STRENGTH (min., lbf.in.) Type II and Type III: 90 | 90 | 90 | NA | 210 |
| 6. TENSILE STRENGTH AT BREAK (min., psi) Type I: 1305 | N/A | N/A | 1630 | NA |
| 7. ELONGATION, ULTIMATE (min., %) Type I and Type III: 300; Type II: 250 | 250 | 250 | 520 | 500 |
| 8. TENSILE SET (max., %) Type I: 10 | N/A | N/A | 5 | NA |
| 9. TEAR RESISTANCE (min., lbf.) Type I: 150 | N/A | N/A | 230 | NA |
| 10. TEARING STRENGTH (min., lbf.) Type II and Type III: 10 | 10 | 10 | NA | 50 |
| 11. BRITTLENESS POINT (max., F) -49 | -49 | -49 | -85 | -75 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. HEAT AGING | | | | |
| Breaking strength (min., lbf.) Type II and Type III: 80 | 80 | 80 | NA | 90 |
| Tensile strength (min., psi.) Type I: 1205 | N/A | N/A | 1500 | NA |
| Elongation, ultimate (min., %) 200 | 200 | 200 | 310 | 250 |
| Tear resistance (min., lbf./in.) Type: 125 | N/A | N/A | 245 | NA |
| Linear dimensional change (max., %) ± 1 | ±2 | ±2 | -0.4 | -0.2 |
| 14. WATER ABSORPTION (max., mass %) +8, -2 | +8, -2 | +8, -2 | +2.0 | +2.0 |
| 15. FACTORY SEAM STRENGTH (min., lbf./in.) Type II: 50 | N/A | N/A | | |
| 16. WEATHER RESISTANCE | | | | |
| Visual inspection (pass/fail) pass | PASS | PASS | PASS | PASS |
| PRSFE (min., %) Type I: 30 | N/A | N/A | | |
| Elongation, ultimate (min., %) Type I: 200 | N/A | N/A | | |
| 17. FABRIC ADHESION (min., lbf./in.) Type III: 3 | 3 | 3 | NA | NA |
| 18. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | <5 | <5 | | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | <5 | <5 | | |
| Energy Star Label (indicate yes/no) | NO | NO | NO | NO |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO | | |
| 19. SEE MEMBRANE APPENDIX IF CHECKED | | | | |

EPDM, Part 2 - Test Results

| JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| ULTRAGARD 0.045R FR XT | ULTRAGARD 0.060 FR | ULTRAGARD 0.060 FR XT | ULTRAGARD 0.060R XT | ULTRAGARD 0.060R FR XT | ULTRAGARD 0.060 WHITE | ULTRAGARD 0.090 FR XT | M-H EPDM 0.45 | M-H EPDM .060 | M-H REINFORCED EPDM .045 |
| | | | | | | | | | |
| | X | X | | | X | X | X | X | |
| X | | | X | X | | | | | X |
| | | | | | | | | | |
| | | | | | | | | | |
| 0.045 | 0.060 | 0.060 | 0.060 | 0.060 | 0.060 | 0.060 | 0.045 | 0.060 | 0.045 |
| 0.016 | NA | NA | 0.020 | 0.020 | NA | NA | | | |
| 210 | NA | NA | 210 | 210 | NA | NA | | | 210 |
| NA | 1630 | 1630 | NA | NA | 1685 | 1630 | 1405+ | 1405+ | N/A |
| 500 | 520 | 520 | 500 | 500 | 550 | 520 | 350+ | 350+ | 250+ |
| NA | 5 | 5 | NA | NA | 7 | 5 | 10 | 10 | N/A |
| NA | 230 | 230 | NA | NA | 200 | 230 | 175 | 175 | N/A |
| 50 | NA | NA | 50 | 50 | NA | NA | | | 50 |
| -75 | -85 | -85 | -75 | -75 | -75 | -85 | -75 | -75 | -75 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| 90 | NA | NA | 90 | 90 | NA | NA | N/A | N/A | 220 |
| NA | 1500 | 1500 | NA | NA | 1200 | 1500 | 1205+ | 1205+ | N/A |
| 250 | 310 | 310 | 250 | 250 | 200 | 310 | 250 | 250 | 250 |
| NA | 215 | 215 | NA | NA | 125 | 215 | 150 | 150 | N/A |
| -0.2 | -0.4 | -0.4 | -0.2 | -0.2 | -0.2 | -0.4 | ±2 | ±2 | ±2 |
| +2.0 | +2.0 | +2.0 | +2.0 | +2.0 | +2.0 | +2.0 | +2.0 | 2.0 | 3.6 |
| | | | | | | | | | |
| | | | | | | | | | |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | | | |
| | | | | | | | | | |
| NA | NA | NA | NA | NA | NA | NA | | | |
| | | | | | | | | | |
| | | | | | | | N/A | N/A | N/A |
| | | | | | | | N/A | N/A | N/A |
| NO | NO | NO | NO | NO | NO | NO | N/A | N/A | N/A |
| | | | | | | | N/A | N/A | N/A |
| | | | | | | | | | |

EPDM, Part 2 - Test Results

| | | | | |
|---|------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|
| 1. COMPANY NAME | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL |
| 2. PRODUCT NAME | M-H REINFORCED EPDM .060 | M-H W/B EPDM .060 | RPI EPDM FR BLACK .045 | RPI EPDM FR BLACK .060 |
| 3. COMPLIES WITH: ASTM D4637 STANDARD SPECIFICATION FOR EPDM SHEET USED IN SINGLE-PLY ROOF MEMBRANE (indicate X as appropriate) | | | | |
| Type I (non-reinforced sheet) | | X | X | X |
| Type II (scrim or fabric reinforced sheet) | X | | | |
| Type III (fabric backed) | | | | |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) Type I and Type II: 0.040 | 0.060 | 0.060 | 0.040 | 0.054 |
| Thickness over scrim (min., in.) Type II: 0.015; Type III: 0.030 | | | N/A | N/A |
| 5. BREAKING STRENGTH (min., lbf.in.) Type II and Type III: 90 | 210 | | N/A | N/A |
| 6. TENSILE STRENGTH AT BREAK (min., psi) Type I: 1305 | N/A | 1405+ | 1305 | 1305 |
| 7. ELONGATION, ULTIMATE (min., %) Type I and Type III: 300; Type II: 250 | 250+ | 350+ | 300 | 300 |
| 8. TENSILE SET (max., %) Type I: 10 | N/A | 10 | | |
| 9. TEAR RESISTANCE (min., lbf.) Type I: 150 | N/A | 175 | 150 | 150 |
| 10. TEARING STRENGTH (min., lbf.) Type II and Type III: 10 | 50 | N/A | N/A | N/A |
| 11. BRITTLENESS POINT (max., F) -49 | -75 | -75 | -49 | -49 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. HEAT AGING | | | | |
| Breaking strength (min., lbf.) Type II and Type III: 80 | 220 | N/A | NA | NA |
| Tensile strength (min., psi.) Type I: 1205 | N/A | 1205+ | 1205 | 1205 |
| Elongation, ultimate (min., %) 200 | 250 | 250 | 200 | 200 |
| Tear resistance (min., lbf./in.) Type: 125 | N/A | 150 | 125 | 125 |
| Linear dimensional change (max., %) ± 1 | ±2 | ±2 | -2 | -2 |
| 14. WATER ABSORPTION (max., mass %) +8, -2 | 3.6 | 2.0 | .05 | .05 |
| 15. FACTORY SEAM STRENGTH (min., lbf./in.) Type II: 50 | | | | |
| 16. WEATHER RESISTANCE | | | | |
| Visual inspection (pass/fail) pass | PASS | PASS | PASS | PASS |
| PRSFE (min., %) Type I: 30 | | | | |
| Elongation, ultimate (min., %) Type I: 200 | | | | |
| 17. FABRIC ADHESION (min., lbf./in.) Type III: 3 | | | | |
| 18. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | N/A | 0.78 | N/A | N/A |
| Emissivity ASTM C 1371 or E 408 (indicate value) | N/A | 0.86 | N/A | N/A |
| Energy Star Label (indicate yes/no) | N/A | NO | NO | NO |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | N/A | NO | NO | NO |
| 19. SEE MEMBRANE APPENDIX IF CHECKED | | | | |

EPDM, Part 2 - Test Results

| ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL | ROOFING PRODUCTS INTERNATIONAL |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| RPI EPDM BLACK .045 | RPI EPDM BLACK .045 | RPI EPDM BLACK .060 | RPI EPDM WHITE .060 | RPI EPDM WHITE .045 |
| | | | | |
| | X | X | X | X |
| X | | | | |
| | | | | |
| | | | | |
| | 0.040 | 0.054 | 0.054 | 0.040 |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | 1305 | 1305 | 1305 | 1305 |
| | 300 | 300 | 300 | 300 |
| | | | | |
| | 150 | 150 | 150 | 150 |
| | N/A | N/A | N/A | N/A |
| | -49 | -49 | -49 | -49 |
| | PASS | PASS | PASS | PASS |
| | | | | |
| | NA | NA | NA | NA |
| | 1205 | 1205 | 1205 | 1205 |
| | 200 | 200 | 200 | 200 |
| | 125 | 125 | 125 | 125 |
| | -2 | -2 | -2 | -2 |
| | .05 | .05 | .05 | .05 |
| | | | | |
| | | | | |
| | PASS | PASS | PASS | PASS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| N/A | N/A | N/A | N/A | N/A |
| N/A | N/A | N/A | N/A | N/A |
| NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO |
| | | | | |

CSPE (Hypalon), Part 1 - General Information

| | | | | | |
|--|---------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------|
| 1. COMPANY NAME | CONKLIN CO., INC. | MULE-HIDE PRODUCTS CO., INC. | STEVENS ROOFING SYSTEMS | STEVENS ROOFING SYSTEMS | TREMCO INC. |
| 2. PRODUCT NAME | HY-CROWN 45 MILS | M-H HYPALON 0.045 | STEVENS HYPALON 0.045 | STEVENS HYPALON 0.06 | TREMCO HP 4510 |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | 10 X 10 POLYESTER | POLYESTER | POLYESTER | 10 X 10 WOVEN POLYESTER |
| Color | VARIOUS | WHITE | WHITE | WHITE | WHITE/BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.32 | 0.29 MIN | 0.29 MIN | 0.43 MIN | |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | WELD SOLUTION OR HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | CONTACT ADHESIVE OR HEAT WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | 10 | 10 | 10 | 10 |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. | CONT. ADHES. |
| Protected Roof Membrane Assembly | X | | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | POS DRAIN | NONE | NONE | NONE | 1/4" |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some/all circumstances) | | | | | |
| Glass Fiber | X | | X | X | X |
| Mineral Fiber | X | X | X | X | |
| Polystyrene | S | X S O | X O | X O | O |
| Cellular Glass | X | X | X O | X O | O |
| Phenolic | X | | X O | X O | |
| Fiberboard | X | X | X O | X O | X |
| Perlite | X | X | X O | X O | O |
| Polyisocyanurate | X | X | X | X | X |
| Polyurethane | X | X | X | X | X |
| Gypsum | X | X | X | X | O |
| Concrete | O | X | X | X | O |
| Wood Plank | X O | X | X | X | O |
| Plywood | X O | X | X | X | O |
| Existing Built-Up Membrane | O | O | X O | X O | O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | -25 - 140 | -25 - 140 | -25 - 140 | -25 - 140 | |
| 12. FLASHING MATERIAL | REINFORCED & UNREINFORCED CLAD METAL | REINFORCED & UNREINFORCED HYPALON | REINFORCED & UNREINFORCED HYPALON | REINFORCED & UNREINFORCED HYPALON | REINFORCED HYPALON |
| 13. FLASHING METHOD | CONT ADHESIVE & SOLUTION OR HEAT WELD | CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | |
| Origin | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | | | | |
| Within USA | 1985 | 1978 | 1978 | 1978 | 1981 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | MILLIONS | MILLIONS | |
| Within USA | >2,000,000 | MILLIONS | MILLIONS | MILLIONS | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 12 | 125 | 125 | 14 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | BLDG. PRODS. 800/888-8838 | L. PUNZEL 608/365-3111 | K. HARRIS 800/621-ROOF | K. HARRIS 800/621-ROOF | LOCAL REP |
| 22. TECHNICAL INFORMATION, CONTACT: | PROD. SERVS. 800/888-8838 | T. MCFARLAND 608/365-3111 | K. HARRIS 800/621-ROOF | K. HARRIS 800/621-ROOF | PRODUCT MANAGEMENT |
| 23. SEE APPENDIX IF CHECKED | | | | | |

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CSPE (Hypalon), Part 2 - Test Results

| | | | | |
|--|----------------------|------------------------------------|-------------------------------|-------------------------------|
| 1. COMPANY NAME | CONKLIN CO., INC. | MULE-HIDE PRODUCTS CO., INC. | STEVENS ROOFING SYSTEMS | STEVENS ROOFING SYSTEMS |
| 2. PRODUCT NAME | HY-CROWN 45 MILS | M-H HYPALON 45 | STEVENS HYPALON 0.045 | STEVENS HYPALON 0.060 |
| 3. COMPLIES WITH : ASTM D 5019 <i>Standard Specification for Reinforced Non-Vulcanized Polymeric Sheet Used in Roofing Membranes</i> (indicate X if applicable) Type I Grade 2 (CSPE internally reinforced with fabric) | | | X | X |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) 0.040 | 0.045 | 0.045 | 0.042 | 0.05 |
| Thickness over scrim (min., in.) | | | 0.011 | 0.018 |
| 5. BREAKING STRENGTH (min., lbf./in.) 210 | 225 | 225 | 250 | 250 |
| 6. ELONGATION, ULTIMATE (min., %) 16.5 | 81 | 15 | 22 | 22 |
| 7. TEARING STRENGTH (min., lbf) 68 | 90 | 90 | 90 | 90 |
| 8. LOW-TEMPERATURE BEND (pass/fail) pass | PASS | PASS | PASS | PASS |
| 9. LINEAR DIMENSIONAL CHANGE (max., %) 2 | 1 | 2 | 0.1 | 0.1 |
| 10. PLY ADHESION (min., lbf/in.) 7.5 | 10 | 10 | 10 | 10 |
| 11. HYDROSTATIC RESISTANCE (min., psi) 330 | 300 | 300 | 400 | 400 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS | PASS |
| 13. WEATHER RESISTANCE, NO CRACKS OR CRAZING (pass/fail) pass | PASS | PASS | PASS | PASS |
| 14. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.85 | 0.85 | | |
| Emissivity ASTM C 1371 or E 408 (indicate value) | 0.94 | 0.90 | | |
| Energy Star Label (indicate yes/no) | YES | NO | | |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | NO | YES | YES |
| 15. SEE APPENDIX IF CHECKED | | | | |

CSPE (Hypalon), Part 2 - Test Results

| |
|-------------|
| TREMCO INC. |
| HP 4510 |
| |
| X |
| |
| 0.045 |
| 0.013 |
| 225 |
| 25 |
| 225 |
| PASS |
| 0.1 |
| 10 |
| 330 |
| PASS |
| |
| PASS |
| |
| 0.82 |
| 0.84 |
| YES |
| YES |
| |

PIB (Polyisobutylene), Part 1 - General Information

| | | | |
|---|--------------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | REPUBLIC POWDERED METALS, INC. | TREMCO INC. | TREMCO INC. |
| 2. PRODUCT NAME | GEOFLEX | TREMFAS 100 HD | TREMFAS 120 HD |
| 3. PRODUCT DESCRIPTION | | | |
| Reinforcement | POLYESTER | POLYESTER | POLYESTER |
| Color(s) | WHITE | WHITE | WHITE |
| Installed Weight(lbs./ft ² w/o ballast) | 0.57 | 0.6 | 0.75 |
| 4. COATING REQUIRED | NONE | NONE | NONE |
| 5. USE IN: | | | |
| New Roofing | X | X | X |
| Reroofing | X | X | X |
| 6. FIELD LAP JOINT METHOD | PEEL & STICK | SELF- ADHESIVE | SELF- ADHESIVE |
| 7. TYPES OF ROOF SYSTEMS | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | | |
| Partially Adhered (method) | ASPH OR ADHES | HOT OR COLD | HOT OR COLD |
| Fully Adhered (method) | ADHESIVE | COLD ADHESIVE | COLD ADHESIVE |
| Protected Roof Membrane Assembly | X | X | X |
| 8. MINIMUM SLOPE REQUIRED | POS DRAIN | POS DRAIN | POS DRAIN |
| 9. ACCEPTABLE SUBSTRATES (X=direct application permitted) (S=separator sheet required) (O=overlayment required in some or all circumstances) | | | |
| Glass Fiber | X | X | X |
| Mineral Fiber | X | X | X |
| Polystyrene | O | | |
| Cellular Glass | X | X | X |
| Phenolic | X | | |
| Fiberboard | X | X | X |
| Perlite | X | O | O |
| Polyisocyanurate | X O | X O | X O |
| Polyurethane | O | O | O |
| Gypsum | X O | O | O |
| Concrete | X O | O | O |
| Wood Plank | X O | O | O |
| Plywood | X O | O | O |
| 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) | 40 - 100 | 40 - 100 | 40 - 100 |
| 12. FLASHING MATERIAL | REINFORCED AND UNREINFORCED | REINFORCED AND UNREINFORCED PIB | REINFORCED AND UNREINFORCED PIB |
| 13. FLASHING METHOD | SELF-SEAL AND CONTACT ADHESIVE | SELF-SEAL AND CONTACT ADHESIVE | SELF-SEAL AND CONTACT ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES |
| 15. COUNTRY OF: | | | |
| Origin | GERMANY | GERMANY | GERMANY |
| Manufacture | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | |
| Outside USA | 1950 | 1950 | 1950 |
| Within USA | 1977 | 1997 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | |
| Outside USA | MILLIONS | | |
| Within USA | THOUSANDS | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 6 | 14 | 14 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | 800/551-7081 | LOCAL REP | LOCAL REP. |
| 22. TECHNICAL INFORMATION, CONTACT: | 800/551-7081 | PROD. MANAGEMENT | PROD. MANAGEMENT |
| 23. SEE APPENDIX IF CHECKED | | | |

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PIB (Polyisobutylene), Part 2 - Test Results

| | | | |
|---|--------------------------------------|--------------------|--------------------|
| 1. COMPANY NAME | REPUBLIC POWDERED METALS, INC. | TREMCO INC. | TREMCO INC. |
| 2. PRODUCT NAME | GEOFLEX | TREMFAST 100 HD | TREMFAST 120 HD |
| 3. COMPLIES WITH: ASTM D 5019 <i>STANDARD SPECIFICATION FOR REINFORCED NON-VULCANIZED POLYMERIC SHEET USED IN ROOFING MEMBRANES</i> (indicate X if Type II, Grade 1 (PIB, backed with fibers) | | | |
| 4. THICKNESS: | | | |
| Overall sheet thickness (min., in.) 0.080 | 0.100 | 0.100 | 0.120 |
| Thickness over scrim (min., in.) | | | |
| 5. BREAKING STRENGTH (min., lbf./in.) 160 | 188 | 188 | 188 |
| 6. ELONGATION, ULTIMATE (min., %) 35 | 79 | 79 | 79 |
| 7. TEARING STRENGTH (min., lbf.) 20 | 38 | 38 | 38 |
| 8. LOW TEMPERATURE BEND (pass/fail) pass | PASS | PASS | PASS |
| 9. LINEAR DIMENSIONAL CHANGE (max., %) 0.5 | 0.1 | 0.1 | 0.1 |
| 10. FABRIC ADHESION, WIDTH (min., lbf./in.) 20 | 12 | 12 | 12 |
| 11. HYDROSTATIC RESISTANCE (min., psi.) 175 | 290 | 290 | 290 |
| 12. OZONE RESISTANCE, NO CRACKS (pass/fail) pass | PASS | PASS | PASS |
| 13. WEATHER RESISTANCE, NO CRACKS OR CRAZING (pass/fail) pass | PASS | PASS | PASS |
| 14. REFLECTIVITY | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.84 | 0.84 | 0.84 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | 0.79 | 0.79 | 0.79 |
| Energy Star Label (indicate yes/no) | YES | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | YES | YES |
| 15. SEE APPENDIX IF CHECKED | | | |

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TPO, Part 1 - General Information

| | | | | | |
|---|--|--|--|-----------------------------------|-----------------------------------|
| 1. COMPANY NAME | CARLISLE SYNTEC INC. | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL |
| 2. PRODUCT NAME | SURE-WELD & GSD | ULTRA PLY 45 MIL | ULTRA PLY 60 MIL | FLEX TPO-45 | FLEX TPO-60 |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | POLY/SCRM | POLY/SCRM | POLYESTER | POLYESTER |
| Color(s) | WHITE, GRAY OR TAN ON BLACK | WHITE / TAN / GRAY | WHITE / TAN / GRAY | WHITE / BLACK | WHITE / BLACK |
| Installed Weight (lbs./ft ² w/o ballast) | 0.25 | 0.24 | 0.31 | 0.24 | 0.26 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HEAT WELD | HEAT WELD | HEAT WELD | HOT AIR WELD | HOT AIR WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | | 10 | 10 | 10 | 10 |
| Partially Adhered (method) | MECH. FAST. | PLATES/BATTENS | PLATES/BATTENS | MECH. FAST. | MECH. FAST. |
| Fully Adhered (method) | CONT. ADHES | ADHESIVE | ADHESIVE | ADHESIVE | ADHESIVE |
| Protected Roof Membrane Assembly | | N/A | N/A | X | X |
| 8. MINIMUM SLOPE REQUIRED | DEAD LEVEL | 1/4" | 1/4" | DEAD LEVEL | DEAD LEVEL |
| 9. ACCEPTABLE SUBSTRATES | | | | | |
| (X=direct application permitted) | | | | | |
| (S=separator sheet required) | | | | | |
| (O=overlayment required in some or all circumstances) | | | | | |
| Glass Fiber | | O | O | X | X |
| Mineral Fiber | O | O | O | X | X |
| Polystyrene | O | X | X | X | X |
| Cellular Glass | X | X | X | X | X |
| Phenolic | | N/A | N/A | | |
| Fiberboard | X | X | X | | |
| Perlite | O | O | O | | |
| Polyisocyanurate | X | X | X | X | X |
| Polyurethane | X | O | O | X | X |
| Gypsum | X O | X | X | X | X |
| Concrete | X O | X | X | X | X |
| Wood Plank | X O | X | X | X | X |
| Plywood | X O | X | X | X | X |
| Existing Built-Up Membrane | X O | O | O | X | X |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | N/A | N/A | N/A | N/A |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | -25 - 180 | 0 - 150 | 0 - 150 | 40 - 120 | 40 - 120 |
| 12. FLASHING MATERIAL | REINFORCED & UNREINFORCED MEMBRANE | REINFORCED & UNREINFORCED MEMBRANE | REINFORCED & UNREINFORCED MEMBRANE | SAME MATERIAL | SAME MATERIAL |
| 13. FLASHING METHOD | HEAT WELD & CONTACT ADHESIVE | HEAT WELD OR TAPE | HEAT WELD OR TAPE | HOT AIR BONDING ADHESIVE | HOT AIR BONDING ADHESIVE |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | | | | |
| Within USA | 1991 | 1998 | 1998 | 1997 | 1997 |
| 16. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | | | |
| Within USA | MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 17. MANUFACTURING PLANT LOCATION(S) (City, State) | | | | HILLSIDE, NJ | HILLSIDE, NJ |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 70 | | | | |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | C. KUHL 717/245-7000 | 800/428-4442 | 800/428-4442 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 |
| 22. TECHNICAL INFORMATION, CONTACT: | S. IBRAHIM 717/245-7000 | 800/428-4442 | 800/428-4442 | M. GIANGIANCOMO 610/286-7788 | M. GIANGIANCOMO 610/286-7788 |

TPO, Part 1 - General Information

| FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEM | GENFLEX ROOFING SYSTEMS |
|------------------------------|------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------------------|--------------------------|
| FLEX TPO-45 FB | FLEX TPO-60 FB | EVERGUARD TPO 45 MIL | EVERGUARD TPO 60 MIL | EVERGUARD TPO 80 MIL | EVERGUARD FB 450 ULTRA | EVERGUARD FB 600 ULTRA | EVERGUARD FB 800 ULTRA | GENFLEX .045 TPO | GENFLEX .060 TPO |
| POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| WHITE | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK | WHITE / BLACK / GRAY | WHITE/BLACK/ GRAY |
| 0.35 | 0.45 | 0.26 | 0.38 | 0.438 | 0.272 | 0.35 | 0.465 | .021 | 0.29 |
| 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 WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD |
| | | | | | | | | | |
| 10 | 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 | ADHESIVE | ADHES. / ASPHALT | ADHES. / ASPHALT | ADHES. / ASPHALT | CONT ADHES | CONT ADHES |
| X | X | X | X | X | X | X | X | X | X |
| DEAD LEVEL | DEAD LEVEL | PER CODE | PER CODE | PER CODE | PER CODE | PER CODE | PER CODE | NONE | NONE |
| | | | | | | | | | |
| X | X | | | | | | | O | O |
| X | X | | | | | | | X O | X O |
| X | X | X O | X O | X O | X O | X O | X O | X O | X O |
| X | X | | | | | | | X 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 | X | X | X | X | X |
| X | X | O S | O S | O S | X | X | X | X | X |
| X | X | O S | O S | O S | X | X | X | X | X |
| X | X | O S | O S | O S | X | X | X | X | X |
| X | X | O S | O S | O S | X | X | X | X | X |
| X | X | O S | O S | O S | X O | X O | X O | O | O |
| N/A | N/A | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| 40 - 120 | 40 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 0 - 140 | 0 - 140 |
| ROOF MEMB. COATED MATERIAL | ROOF MEMB. COATED MATERIAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | REINFORCED MEMBRANE COATED METAL | MEMBRANE OR COATED METAL | MEMBRANE OR COATED METAL |
| HOT AIR BONDING ADHESIVE | HOT AIR BONDING ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD AND ADHESIVE | HOT AIR WELD | HOT AIR WELD |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | | |
| 1997 | 1997 | 1998 | 1998 | 2002 | 2002 | 2002 | 2002 | 1995 | 1995 |
| | | | | | | | | | |
| THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | MILLIONS | MILLIONS |
| HILLSIDE, NJ | HILLSIDE, NJ | MT. VERNON, IN | MT. VERNON, IN | MT. VERNON, IN | MT. VERNON, IN | MT. VERNON, IN | MT. VERNON, IN | TUSCUMBIA, AL | TUSCUMBIA, AL |
| | | | | | | | | | |
| DISTRIBUTORS | DISTRIBUTORS | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DIST/DIRECT | DISTRIBUTORS | DISTRIBUTORS |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 8 | 8 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | 800/443-4272 | 800/443-4272 |
| M. GIANGIANCOMO 610/286-7788 | M. GIANGIANCOMO 610/286-7788 | TECH. SERV. 800/ROOF-411 | TECH. SERV. 800/ROOF-411 | TECH. SERV. 800/ROOF-411 | TECH. SERV. 800/ROOF-411 | TECH. SERV. 800/ROOF-411 | TECH. SERV. 800/ROOF-411 | 800/443-4272 | 800/443-4272 |

TPO, Part 1 - General Information

| | | | | | |
|---|--|--|------------------------------------|------------------------------------|--|
| 1. COMPANY NAME | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | STEVENS ROOFING COMPANY |
| 2. PRODUCT NAME | ULTRAGARD SRT-45 | ULTRAGARD SRT-60 | 45 TPO | 60 TPO | STEVENS EP-XL 0.08 |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | POLYESTER | | | POLYESTER |
| Color(s) | WHITE | WHITE | WHITE | WHITE | WHITE |
| Installed Weight (lbs./ft ² w/o ballast) | 0.29 | 0.38 | 0.29 | 0.30 | 0.5 |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT AIR WELD | HOT AIR WELD | HEAT WELD | HEAT WELD | HEAT WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 | 10 | N/A | N/A | N/A |
| Partially Adhered (method) | MECH FAST | MECH FAST | MECH FAST | MECH FAST | MECH. FAST |
| Fully Adhered (method) | ADHESIVE | ADHESIVE | ADHESIVE | ADHESIVE | |
| Protected Roof Membrane Assembly | | | N/A | N/A | |
| 8. MINIMUM SLOPE REQUIRED | NONE | NONE | | | NONE |
| 9. ACCEPTABLE SUBSTRATES | | | | | |
| (X=direct application permitted) | | | | | |
| (S=separator sheet required) | | | | | |
| (O=overlayment required in some or all circumstances) | | | | | |
| Glass Fiber | O | O | O | O | O |
| Mineral Fiber | O | O | O | O | O |
| Polystyrene | X | X | O | O | X S O |
| Cellular Glass | X | X | O | O | O |
| Phenolic | | | | | |
| Fiberboard | X | X | X | X | X S O |
| Perlite | X | X | X O | X O | O |
| Polyisocyanurate | X | X | X | X | X S O |
| Polyurethane | | | X O | X O | X S O |
| Gypsum | X | X | X O | X O | X S O |
| Concrete | X | X | X O | X O | X S O |
| Wood Plank | X | X | X O | X O | O |
| Plywood | X | X | X O | X O | X S O |
| Existing Built-Up Membrane | O | O | O | O | X O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 0 - 120 | 0 - 120 | 32 - 120 | 32 - 120 | -15 - 140 |
| 12. FLASHING MATERIAL | REINFORCED MEMBRANE / COATED METAL | REINFORCED MEMBRANE / COATED METAL | REINFORCED & NON REINFORCED | REINFORCED & NON REINFORCED | REINFORCED & UNREINFORCED STEVENS EP MEMB. |
| 13. FLASHING METHOD | HOT AIR WELD OR ADHESIVE | HOT AIR WELD OR ADHESIVE | HEAT WELD ADHESIVE | HEAT WELD ADHESIVE | CONTACT ADHESIVE & HEAT WELD |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES |
| 15. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | | | | | 2002 |
| Within USA | 1999 | 1999 | 2001 | 2001 | 2002 |
| 16. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | | | |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 17. MANUFACTURING PLANT LOCATION(S) (City, State) | PAWTUCKET, RI | PAWTUCKET, RI | | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST/DIRECT | DIST/DIRECT | DISTRIBUTORS | DISTRIBUTORS | DIST / DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | 12 | 12 | 125 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | L. PUNZEL 608/365-3111 | L. PUNZEL 608/365-3111 | K. HARRIS 800/621-ROOF |
| 22. TECHNICAL INFORMATION, CONTACT: | GUARANTEE SERVICES | GUARANTEE SERVICES | T. MCFARLAND 608/365-3111 | T. MCFARLAND 608/365-3111 | TECH. DEPT. 800/621-ROOF |

TPO, Part 1 - General Information

| | | | |
|--|--|--|--|
| STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY |
| STEVENS EP 0.045 | STEVENS EP 0.06 | STEVENS EP-FLEECE 0.045 W/FLEECE | STEVENS EP-FLEECE 0.060 W/FLEECE |
| POLYESTER | POLYESTER | POLY/FLEECE | POLY/FLEECE |
| WHITE, GRAY, OTHERS | WHITE, GRAY, OTHERS | WHITE, GRAY | WHITE, GRAY |
| 0.22 | 0.31 | | |
| NONE | NONE | NONE | NONE |
| | | | |
| X | X | X | X |
| X | X | X | X |
| HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD |
| | | | |
| 10 | 10 | 10 | 10 |
| MECH. FAST. | MECH. FAST. | MECH. FAST. | MECH. FAST. |
| ADHESIVE | ADHESIVE | ADHESIVE | ADHESIVE |
| | | | |
| NONE | NONE | NONE | NONE |
| | | | |
| O | O | O | O |
| O | O | O | O |
| X S O | X S O | X S O | X S O |
| O | O | O | O |
| | | | |
| X S O | X S O | X S O | X S O |
| O | O | O | O |
| X S O | X S O | X S O | X S O |
| X S O | X S O | X S O | X S O |
| X S O | X S O | X S O | X S O |
| X S O | X S O | X S O | X S O |
| O | O | O | O |
| X S O | X S O | X S O | X S O |
| X O | X O | X O | X O |
| NONE | NONE | NONE | NONE |
| -15 - 140 | -15 - 140 | -15 - 140 | -15 - 140 |
| REINFORCED & UNREINFORCED STEVENS EP MEMB. | REINFORCED & UNREINFORCED STEVENS EP MEMB. | REINFORCED & UNREINFORCED STEVENS EP MEMB. | REINFORCED & UNREINFORCED STEVENS EP MEMB. |
| CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD | CONTACT ADHESIVE & HEAT WELD |
| YES | YES | YES | YES |
| | | | |
| 1992 | 1992 | 1999 | 1999 |
| 1992 | 1992 | 1999 | 1999 |
| | | | |
| MILLIONS MILLIONS | MILLIONS MILLIONS | THOUSANDS | THOUSANDS |
| | | | |
| DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT |
| 125 | 125 | 125 | 125 |
| YES | YES | YES | YES |
| K. HARRIS | K. HARRIS | K. HARRIS | K. HARRIS |
| 800/621-ROOF | 800/621-ROOF | 800/621-ROOF | 800/621-ROOF |
| TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. |
| 800/621-ROOF | 800/621-ROOF | 800/621-ROOF | 800/621-ROOF |

TPO, Part 2 - Test Results

| | | | | |
|--|-------|--------------------------------------|--------------------------------------|-----------------------------------|
| 1. COMPANY NAME | | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. | CARLISLE SYNTEC INC. |
| 2. PRODUCT NAME | | SURE-WELD STANDARD & HS 45 MIL | SURE-WELD STANDARD & HS 60 MIL | SURE-WELD EXTRA 72 & 80 MIL |
| 3. COMPLIES WITH: ASTM D 6878 STANDARD SPECIFICATION FOR THERMOPLASTIC POLYOLEFIN BASED SHEET ROOFING (indicate X if applicable) | | X | X | X |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) | 0.039 | 0.045 | 0.060 | .072 & .080 |
| Thickness over scrim (min., in.) | 0.012 | 0.017 | 0.022 | 0.030 |
| 5. BREAKING STRENGTH (min. lbf/in.) | 220 | 340 | 340 | 400 |
| 6. ELONGATION AT REINFORCEMENT BREAK (min. %) | 15 | 25 | 25 | 25 |
| 7. TEARING STRENGTH (min., lbf/in.) | 55 | 130 | 130 | 130 |
| 8. BRITTLINESS POINT (max., F) | | -50 | -50 | -50 |
| 9. OZONE RESISTANCE (NO CRACKS) (pass/fail) | pass | PASS | PASS | PASS |
| 10. PROPERTIES AFTER HEAT AGING (retained values): | | | | |
| Breaking Strength (min., %) | 90 | 100 | 100 | 100 |
| Elongation at reinforcement break (min., %) | 90 | 100 | 100 | 100 |
| Tear strength (min., %) | 60 | 100 | 100 | 100 |
| Weight (mass) change (max., %) | ±1.0 | 0.5 | 0.5 | 0.5 |
| 11. LINEAR DIMENSIONAL CHANGE (max., %) | ±1.0 | -0.5 | -0.5 | -0.5 |
| 12. WATER ABSORPTION (max., %) | ±3.0 | 2.0 | 2.0 | 2.0 |
| 13. FACTORY SEAM STRENGTH (min., lbf.) | 66 | 150 | 150 | 200 |
| 14. WEATHER RESISTANCE (retained values): | | | | |
| Visual inspection (pass/fail) | pass | PASS | PASS | PASS |
| Breaking Strength (min., %) | 90 | 100 | 100 | 100 |
| Elongation at reinforcement break (min., %) | 90 | 100 | 100 | 100 |
| 15. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 0.87 | 0.87 | 0.87 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | 0.92 | 0.92 | 0.92 |
| Energy Star Label (indicate yes/no) | | YES | YES | YES |
| Cool Roof Rating Council (CRRRC) (indicate yes/no) | | YES | YES | YES |
| 16. SEE APPENDIX IF CHECKED | | | | |

TPO, Part 2 - Test Results

| FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FLEX MEMBRANE INTERNATIONAL INC. | FLEX MEMBRANE INTERNATIONAL INC. | FLEX MEMBRANE INTERNATIONAL INC. | FLEX MEMBRANE INTERNATIONAL INC. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|-----------------------------------|-----------------------------------|--|--|--|--|---------------------------|---------------------------|
| ULTRA PLY 45 MIL | ULTRA PLY 60 MIL | FLEX TPO-45 | FLEX TPO-60 | FLEX TPO-45 FB | FLEX TPO-60 FB | EVERGUARD TPO 80 - MIL | EVERGUARD FB 450 ULTRA |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| 0.040 | 0.055 | 0.045 | 0.060 | 0.060 | 0.075 | 0.080 | 0.045 |
| 0.015 | 0.024 | | | | | | |
| 350 | 350 | 300 | 300 | 330 | 330 | 310 | 330 |
| 30 | 30 | 40 | 50 | 40 | 50 | 30 | 30 |
| 86 | 86 | 90 | 90 | 100 | 100 | 60 | 90 |
| -60 | -60 | -40 | -40 | -40 | -40 | -42 | -42 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | |
| 10 | 10 | 95 | 95 | 95 | 95 | >95 | >95 |
| 30 | 30 | 95 | 95 | 95 | 95 | >95 | >95 |
| 90 | 90 | 65 | 65 | 65 | 65 | | |
| | | | | | | | |
| 0.15 | 0.15 | 0.03 | 0.03 | 0.03 | 0.03 | 0.4 | 0.4 |
| 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 |
| | | 75 | 75 | 75 | 75 | | |
| | | | | | | | |
| PASS | PASS | | | | | PASS | PASS |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 0.86 | 0.86 | 0.86 | 0.86 | 0.74 | 0.74 |
| | | 0.86 | 0.86 | 0.86 | 0.86 | 0.95 | 0.95 |
| YES | YES | YES | YES | YES | YES | YES | YES |
| YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | |

TPO, Part 2 - Test Results

| | | | | |
|--|-------|---------------------------|---------------------------|---------------------------|
| 1. COMPANY NAME | | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | | EVERGUARD FB 600 ULTRA | EVERGUARD FB 800 ULTRA | EVERGUARD TPO 45 MIL |
| 3. COMPLIES WITH: ASTM D 6878 STANDARD SPECIFICATION FOR THERMOPLASTIC POLYOLEFIN BASED SHEET ROOFING (indicate X if applicable) | | X | X | X |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) | 0.039 | 0.060 | 0.080 | 0.045 |
| Thickness over scrim (min., in.) | 0.012 | | | |
| 5. BREAKING STRENGTH (min. lbf/in.) | 220 | 360 | 400 | 279 |
| 6. ELONGATION AT REINFORCEMENT BREAK (min. %) | 15 | 30 | 30 | 29 |
| 7. TEARING STRENGTH (min., lbf./in.) | 55 | 70 | 70 | 124 |
| 8. BRITTLENESS POINT (max., F) | | -42 | -42 | |
| 9. OZONE RESISTANCE (NO CRACKS) (pass/fail) | pass | PASS | PASS | PASS |
| 10. PROPERTIES AFTER HEAT AGING (retained values) | | | | |
| Breaking Strength (min., %) | 90 | >95 | >95 | >95 |
| Elongation at reinforcement break (min., %) | 90 | >95 | >95 | >95 |
| Tear strength (min., %) | 60 | | | |
| Weight (mass) change (max., %) | ±1 | | | |
| 11. LINEAR DIMENSIONAL CHANGE (max., %) | ±1 | 0.4 | 0.4 | 0.2 |
| 12. WATER ABSORPTION (max., %) | ±3.0 | 1.5 | 1.5 | 1.5 |
| 13. FACTORY SEAM STRENGTH (min., lbf.) | 66 | | | |
| 14. WATER RESISTANCE (retained values) | | | | |
| Visual inspection (pass/fail) | pass | PASS | PASS | PASS |
| Breaking Strength (min., %) | 90 | | | |
| Elongation at reinforcement break (min., %) | 90 | | | |
| 15. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 0.74 | 0.74 | 0.74 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | 0.95 | 0.95 | 0.95 |
| Energy Star Label (indicate yes/no) | | YES | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | YES | YES | |
| 16. SEE APPENDIX IF CHECKED | | | | |

TPO, Part 2 - Test Results

| GAF MATERIALS CORP. | GENFLEX ROOFING SYSTEMS | GENFLEX ROOFING SYSTEMS | JOHNS MANVILLE INTERNATIONAL | JOHNS MANVILLE INTERNATIONAL | MULE-HIDE PRODUCTS CO., INC. | MULE-HIDE PRODUCTS CO., INC. | STEVENS ROOFING COMPANY |
|---------------------------|-------------------------------|-------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------|
| EVERGUARD TPO 60 MIL | GENFLEX TPO .045 | GENFLEX TPO .060 | ULTRAGARD SRT-45 | ULTRAGARD SRT-60 | TPO 45 | TPO 60 | STEVENS EP-XL 0.080 |
| | | | | | | | |
| X | X | X | X | X | X | X | X |
| | | | | | | | |
| 0.060 | 0.041 | 0.054 | 0.045 | 0.060 | 0.045 | 0.060 | 0.077 |
| | 0.015 | 0.018 | 0.018 - 0.020 | 0.027 - 0.030 | 0.018 | 0.024 | 0.034 |
| 303 | 330 | 330 | 300 | 300 | 250 | 250 | 373 |
| 22 | 30 | 30 | | | 20 | 20 | 26 |
| 70 | 156 | 156 | 90 | 90 | 80 | 80 | 108 |
| | -49 | -49 | -40 | -40 | -40 | -40 | -40 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | | | | | | | |
| >95 | >90 | >90 | 95 | 95 | >95 | >95 | 90 |
| >95 | >90 | >90 | 95 | 95 | >95 | >95 | 90 |
| | >60 | >60 | 95 | 95 | 80 | 80 | 60 |
| | -0.02 | -0.02 | <1 | <1 | <1 | <1 | -0.2 |
| 0.4 | -0.01 | -0.01 | <1 | <1 | <0.4 | <0.4 | 1 |
| 1.5 | 1.2 | 1.2 | <4 | <4 | <1.5 | <1.5 | 2.0 |
| | 75 | 75 | N/A | N/A | N/A | N/A | 75% OF SHEET STRENGTH |
| | | | | | | | |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | >90 | >90 | | | 90 | 90 | 90 |
| | >90 | >90 | | | 90 | 90 | 90 |
| | | | | | | | |
| 0.74 | 78.3 | 78.3 | 0.87 | 0.87 | 0.74 | 0.74 | 0.77 |
| 0.95 | 0.87 | 0.87 | 0.88 | 0.88 | 0.83 | 0.83 | 0.95 |
| YES | YES | YES | YES | YES | NO | NO | YES |
| | YES | YES | YES | YES | NO | NO | YES |
| | | | | | | | X |

TPO, Part 2 - Test Results

| | | | | |
|---|-------|-------------------------------|-------------------------------|--|
| 1. COMPANY NAME | | STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY | STEVENS ROOFING COMPANY |
| 2. PRODUCT NAME | | STEVENS EP 0.045 | STEVENS EP 0.060 | STEVENS EP-FLEECE 0.045 W/FLEECE |
| 3. COMPLIES WITH: ASTM D 6878 STANDARD SPECIFICATION FOR THERMOPLASTIC POLYOLEFIN BASED SHEET ROOFING (indicate X if applicable) | | X | X | X |
| 4. THICKNESS: | | | | |
| Overall sheet thickness (min., in.) | 0.039 | 0.043 | 0.057 | 0.066 |
| Thickness over scrim (min., in.) | 0.012 | 0.013 | 0.02 | 0.013 |
| 5. BREAKING STRENGTH (min. lbf/in.) | 220 | 277 | 320 | 335 |
| 6. ELONGATION AT REINFORCEMENT BREAK (min. %) | 15 | 29 | 29 | 29 |
| 7. TEARING STRENGTH (min., lbf./in.) | 55 | 130 | 110 | 140 |
| 8. BRITTLENESS POINT (max., F) | | -40 | -40 | -40 |
| 9. OZONE RESISTANCE (NO CRACKS) (pass/fail) | pass | PASS | PASS | PASS |
| 10. PROPERTIES AFTER HEAT AGING (retained values) | | | | |
| Breaking Strength (min., %) | 90 | 90 | 90 | 90 |
| Elongation at reinforcement break (min., %) | 90 | 90 | 90 | 90 |
| Tear strength (min., %) | 60 | 60 | 60 | 60 |
| Weight (mass) change (max., %) | ±1 | -0.3 | -0.3 | -0.2 |
| 11. LINEAR DIMENSIONAL CHANGE (max., %) | ±1 | 1 | 1 | 1 |
| 12. WATER ABSORPTION (max., %) | ±3.0 | 2.0 | 2.0 | 2.0 |
| 13. FACTORY SEAM STRENGTH (min., lbf.) | 66 | 75% OF SHEET STRENGTH | 75% OF SHEET STRENGTH | 75% OF SHEET STRENGTH |
| 14. WATER RESISTANCE (retained values) | | | | |
| Visual inspection (pass/fail) | pass | PASS | PASS | PASS |
| Breaking Strength (min., %) | 90 | 90 | 90 | 90 |
| Elongation at reinforcement break (min., %) | 90 | 90 | 90 | 90 |
| 15. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 0.77 | 0.77 | 0.77 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | 0.95 | 0.95 | 0.95 |
| Energy Star Label (indicate yes/no) | | YES | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | YES | YES | YES |
| 16. SEE APPENDIX IF CHECKED | | X | X | X |

TPO, Part 2 - Test Results

| |
|--|
| STEVENS ROOFING COMPANY |
| STEVENS EP-FLEECE 0.060 W/FLEECE |
| |
| X |
| |
| 0.084 |
| 0.02 |
| 395 |
| 31 |
| 120 |
| -40 |
| PASS |
| |
| 90 |
| 90 |
| 60 |
| -0.2 |
| 1 |
| 2.0 |
| 75% OF SHEET STRENGTH |
| |
| PASS |
| 90 |
| 90 |
| |
| 0.77 |
| 0.95 |
| YES |
| YES |
| X |

KEE (Ketone Ethylene Ester), Part 1 - General Information

| | | | | | |
|---|--|--|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL |
| 2. PRODUCT NAME | ULTRAPLY 0.45 | ULTRAPLY 0.60 | FLEX FB 100 | FLEX FB ELVALOY | FLEX MF/R ELAVOY |
| 3. PRODUCT DESCRIPTION | | | | | |
| Reinforcement | POLYESTER | POLYESTER | REINF POLY W/FLEECE | REINF POLY W/FLEECE | REINF POLYESTER |
| Color(s) | WHITE | WHITE | WHITE / CUSTOM | WHITE / CUSTOM | WHITE / CUSTOM |
| Installed Weight (lbs./ft ² w/o ballast) | 0.26 NOM | 0.35 | | | |
| 4. COATING REQUIRED | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | |
| New Roofing | X | X | X | X | X |
| Reroofing | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HEAT WELD | HEAT WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | |
| Loose Laid/Ballasted (ballast: lbs./ft ²) | 10 LBS. | 10 LBS. | | | |
| Partially Adhered (method) | PLATES/BATTENS | PLATES/BATTENS | | | |
| Fully Adhered (method) | CONT. ADHES. | CONT. ADHES. | | | |
| Protected Roof Membrane Assembly | X | X | | | |
| 8. MINIMUM SLOPE REQUIRED | POSITIVE DRAIN | POSITIVE DRAIN | | | |
| 9. ACCEPTABLE SUBSTRATES | | | | | |
| (X=direct application permitted) | | | | | |
| (S=separator sheet required) | | | | | |
| (O=overlayment required in some or all circumstances) | | | | | |
| Glass Fiber | O | O | X | X | X |
| Mineral Fiber | O | O | X | O | X |
| Polystyrene | O | O | X O | X | S O |
| Cellular Glass | O | O | X | X | X O |
| Phenolic | N/A | N/A | | | |
| Fiberboard | X | X | X | X | X |
| Perlite | X O | X O | X | X | X O |
| Polyisocyanurate | X | X | X | X O | X O |
| Polyurethane | | | X | O | X O |
| Gypsum | O | O | X | X O | X O |
| Concrete | O | O | X | X | S |
| Wood Plank | O | O | X | X O | O |
| Plywood | O | O | X | X O | X O |
| Existing Built-Up Membrane | O | O | X | X O | X O |
| 10. RESTRICTED REGIONS (refer to manufacturer's literature) | NONE | NONE | NONE | NONE | NONE |
| 11. WORKABLE TEMPERATURE RANGE (degrees F) | 0 -120 | 0 -120 | 0 - 120 | 0 - 120 | 0 - 120 |
| 12. FLASHING MATERIAL | ULTRAPLY CTD / METAL/ REINFORCED MEMBRANE | ULTRAPLY CTD / METAL/ REINFORCED MEMBRANE | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL |
| 13. FLASHING METHOD | 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 |
| 15. YEAR OF FIRST COMMERCIAL USE | | | | | |
| Outside USA | 1992 | 1992 | | | |
| Within USA | 1986 | 1986 | 1988 | 1988 | 1988 |
| 16. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | |
| Outside USA | | | | | |
| Within USA | | | THOUSANDS | THOUSANDS | THOUSANDS |
| 17. MANUFACTURING PLANT LOCATION(S) (City, State) | | | HILLSIDE, NV | HILLSIDE, NV | HILLSIDE, NV |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIST / DIRECT | DIST / DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 19. NUMBER OF REGIONAL LOCATIONS | 5 | 5 | | | |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | | | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 |
| | 800/428-4442 | 800/428-4442 | | | |
| 22. TECHNICAL INFORMATION, CONTACT: | | | M. GIANGIACOMO 610/286-7788 | M. GIANGIACOMO 610/286-7788 | M. GIANGIACOMO 610/286-7788 |
| | 800/428-4442 | 800/428-4442 | | | |
| 23. SEE APPENDIX IF CHECKED | | | | | |

KEE (Ketone Ethylene Ester), Part 1 - General Information

| | | | | | | | | |
|-------------------------------------|--|--|--|--|--|--|--|--|
| SEAMAN CORPORATION | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. |
| FIBERTITE | TPA 40 MIL | TPA 45 MIL | TPA 60 MIL | TPA 80 MIL | TPA FB 40 MIL | TAP FB 45 MIL | TPA FB 60 MIL | TPA FB 80 MIL |
| REINF POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER | POLYESTER |
| BIEGE / WHITE / GRAY / TAN | WHITE | WHITE | WHITE | WHITE | WHITE | WHITE | WHITE | WHITE |
| <0.25 | 0.31 | 0.33 | 0.43 | 0.55 | 0.33 | 0.36 | 0.47 | 0.61 |
| 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 |
| HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD | HEAT WELD |
| | | | | | | | | |
| 10 MIN. | 10 | 10 | 10 | 10 | N/A | N/A | N/A | N/A |
| BONDING ADHES | MECH FAST | MECH FAST | MECH FAST | MECH FAST | N/A | N/A | N/A | N/A |
| BONDING ADHES | N/A | N/A | N/A | N/A | HOT/COLD ADHES | HOT/COLD ADHES | HOT/COLD ADHES | HOT/COLD ADHES |
| X | X | X | X | X | X | X | X | X |
| NONE | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN | POSITIVE DRAIN |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| X | | | | | | | | |
| X S O | O | O | O | O | O | O | O | O |
| X S O | O | O | O | O | O | O | O | O |
| X | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| X | O | O | O | O | O | O | O | O |
| 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 |
| S | O | O | O | O | O | O | O | O |
| S | O | O | O | O | O | O | O | O |
| X S O | O | O | O | O | O | O | O | O |
| X S O | O | O | O | O | O | O | O | O |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| -30 - NO LIMIT | | | | | | | | |
| ROOF MEMBRANE / COATED METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL | REINFORCED, UNREINFORCED, AND CLAD METAL |
| HEAT WELD, WALL MASTIC, OR ADHESIVE | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES | HEAT WELD AND ADHESIVES |
| YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | |
| 1982 1978 | 1986 | 1986 | 1986 | 1986 | 1986 | 1986 | 1986 | 1986 |
| THOUSANDS >1,000,000 | | | | | | | | |
| | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA | CLEVELAND, OH VERNON, CA |
| DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 20 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 800/927-8578 | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE | LOCAL REPRESENTATIVE |
| 800/927-8578 | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT |
| | | | | | | | | |

KEE (Keotone Ethylene Ester), Part 2 - Test Results

| | | | | |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL |
| 2. PRODUCT NAME | ULTRAPLY .045 | ULTRAPLY .060 | FLEX FB 100 | FLEX FB ELVALOY |
| 3. COMPLIES WITH: ASTM D6754 STANDARD SPECIFICATION FOR KEOTONE ETHYLENE ESTER BASED SHEET ROOFING (indicate X if applicable) | | | | |
| 4. THICKNESS: Overall sheet thickness (min., in.) 0.031 Thickness over scrim (min., in.) 0.006 | | | 0.100 0.40 | 0.045 0.028 |
| 5. BREAKING STRENGTH (min., lbf./in.) 265 | | | 504 LBF | 439 LBF |
| 6. ELONGATION AT REINFORCEMENT BREAK (min., %) 15 | | | 36 | 35 |
| 7. TEARING STRENGTH (min., lbf.) 75 | | | 120 | 09 |
| 8. LINEAR DIMENSIONAL CHANGE (max., %) 1.3 | | | 0.5 | .05 |
| 9. FABRIC ADHESION (min., lbf.) 13 | | | | |
| 10. RETENTION OF PROPERTIES AFTER HEAT AGING: Breaking strength (min., %) 90 Elongation at break (min., %) 90 Low temperature bend (pass/fail) pass Protected Roof Membrane Assembly | | | 90 90 PASS YES | 90 90 PASS YES |
| 11. LOW TEMPERATURE BEND (pass/fail) pass | | | PASS | PASS |
| 12. CHANGE IN WEIGHT AFTER EXPOSURE IN WATER (max., %) 0.0. +6.0 | | | 1.5 | 1.5 |
| 13. FACTORY SEAM STRENGTH (min., lbf.) 400 | | | | |
| 14. HYDROSTATIC RESISTANCE (min., psi) 500 | | | | |
| 15. STATIC PUNCTURE RESISTANCE (pass/fail) pass | | | | |
| 16. DYNAMIC PUNCTURE RESISTANCE (pass/fail) pass | | | PASS | PASS |
| 17. ACCELERATED WEATHERING, 5000 HOURS: Xenon are light exposure, no cracking or crazing (pass/fail) pass Fluorescent light exposure, no cracking or crazing (pass/fail) pass | | | PASS | PASS |
| 18. FUNGI RESISTANCE: Sustained growth (growth/no growth) no growth Discoloration (pass/fail) pass | | | | |
| 19. ABRASION TEST (min., cycles) 1500 | | | | |
| 20. REFLECTIVITY Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) Emissivity ASTM C 1371 or E 408 (indicate value) Energy Star Label (indicate yes/no) Cool Roof Rating Council (CRRC) (indicates yes/no) | | | .87 .87 YES YES | .87 .87 YES YES |
| 21. SEE APPENDIX IF CHECKED | | | | |

KEE (Keotone Ethylene Ester), Part 2 - Test Results

| FLEX MEMBRANE INTERNATIONAL | SEAMEN CORP. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. |
|-----------------------------------|-----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|
| FLEX MF/R ELVALOY | FIBERTITE | TPA 40 MIL | TPA 45 MIL | TPA 60 MIL | TPA 80 MIL | TPA FB 40 MIL | TPA FB 45 MIL | TPA FB 60 MIL | TPA FB 80 MIL |
| | X | X | X | X | X | X | X | X | X |
| 0.040 | 0.033 | 0.040 | 0.045 | 0.060 | 0.080 | 0.040 | 0.045 | 0.060 | 0.080 |
| 0.023 | 0.007 | 0.020 | 0.023 | 0.030 | 0.042 | 0.020 | 0.023 | 0.030 | 0.042 |
| 337 LBF | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| 31 | 15 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| .05 | 1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| | 15 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 90 | 90 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 |
| 90 | 90 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| YES | YES | X | X | X | X | X | X | X | X |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| 1.5 | +2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH | NO GROWTH |
| | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| | 2000 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| .87 | .81 | .84 | .84 | .84 | .84 | .84 | .84 | .84 | .84 |
| .87 | .90 | .80 | .80 | .80 | .80 | .80 | .80 | .80 | .80 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | X | | | | | | | | |

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 | BONDCOTE 400 | BONDCOTE 450 | BONDCOTE 500 | 400 E PLUS | 500 E PLUS |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | 18 X 12 POLYESTER | 18 X 12 POLYESTER | 18 X 12 POLYESTER | 18 X 12 POLYESTER | 9 X 9 POLYESTER | 9 X 9 POLYESTER |
| Color | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| Installed Weight (lbs./ft ² w/o ballast) | 0.24 | 0.28 | 0.30 | 0.33 | 0.28 | 0.35 |
| 4. COATING REQUIRED: | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | | |
| New Roofing | X | X | X | X | X | X |
| 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 | | | | | | |
| Loose Laid/Ballasted(ballast: lbs./ft ²) | | | | | | |
| Partially Adhered (method) | MECHANICALLY | MECHANICALLY | MECHANICALLY | MECHANICALLY | MECHANICALLY | MECHANICALLY |
| Fully Adhered(method) | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS | VARIOUS |
| 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) | | | | | | |
| Glass Fiber | X O | X O | X O | X O | X O | X O |
| Mineral Fiber | X O | X O | X O | X O | X O | X O |
| Polystyrene | S O | S O | S O | S O | S O | S O |
| Cellular Glass | X O | X O | X O | X O | X O | X O |
| Phenolic | | | | | | |
| Fiberboard | X O | X O | X O | X O | X O | X O |
| Perlite | X O | X O | X O | X O | X O | X O |
| Polyisocyanurate | X O | X O | X O | X O | X O | X O |
| Polyurethane | X O | X O | X O | X O | X O | X O |
| Gypsum | X | X | X | X | O | O |
| Concrete | O | O | O | O | O | O |
| Wood Plank | O | O | O | O | O | O |
| Plywood | O | O | O | O | O | O |
| Existing Built-up 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) | 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 & COATED MATERIAL | ROOF MEMB & COATED MATERIAL |
| 13. FLASHING METHOD | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | HEAT WELD & ADHESIVE | | |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | 1987 | | | | |
| Within USA | 1977 | 1977 | 1995 | 1991 | 1997 | 1997 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | | |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DIRECT | DIRECT | DIST / DIRECT | DIST / DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 4 | 4 | 4 | 4 | 3 | 3 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. 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. 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 APPENDIX IF CHECKED | X | X | X | X | | |

Other Prefabricated Sheet-applied Membranes, Part 1 - General Information

| BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | CARLISLE SYNTEC INC. | COOLEY ENGINEERED MEMBRANE | COOLEY ENGINEERED MEMBRANE | COOLEY ENGINEERED MEMBRANE | DURO-LAST INC. | DURO-LAST INC. | ECOLOGY ROOF SYSTEMS |
|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|----------------------------------|----------------------------------|------------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 600 E PLUS | 800 E PLUS | FLEECEBOND PLUS | SURE-SEAL POLYEPICHLOR HYDRIN | C3 | RAM | C3 - TPO | DURO-LAST 40 MIL | DURO-LAST 50 MIL | ERS 900 |
| 9 X 9 POLYESTER | 9 X 9 POLYESTER | 9 X 9 POLYESTER | NONE | POLYESTER | WOVEN & NONWOVEN POLYESTER | POLYESTER | REINFORCED POLYESTER | REINFORCED POLYESTER | POLYESTER |
| VARIOUS | VARIOUS | VARIOUS | GRAY/ BLACK | | WHITE / TAN / GRAY | WHITE & BLACK | WHITE / TAN / GRAY | WHITE / TAN / GRAY GRAY | BLACK |
| 0.41 | 0.56 | 0.73 | 0.48 | | 0.030 NOM. | | 0.25 | 0.35 | 0.40 |
| 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 |
| HEAT WELD | HEAT WELD | HEAT WELD | CONTACT ADHESIVE | HOT AIR | HOT AIR | HOT AIR | HEAT WELD | HEAT WELD | HEAT WELD |
| | | | | 10 | 10 | | 10 | 10 | |
| MECHANICALLY VARIOUS | MECHANICALLY VARIOUS | MECHANICALLY VARIOUS | CONT. ADHES | MECHANICALLY | MECHANICALLY CONT. ADHES. | | CONT. ADHES. | CONT. ADHES. | BITUMEN |
| X | X | X | | X | X | X | X | X | X |
| DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | 1/4" | LEVEL | LEVEL | LEVEL | NONE | NONE | DEAD LEVEL |
| X O | X O | X O | | X | X | X | X | X | O |
| X O | X O | X O | O | O | O | X | X | X | O |
| S O | S O | X O | O | X | O | X | S | S | O |
| X O | X O | X O | X | O | O | X | X | X | O |
| | | | | X | X | | | | O |
| X O | X O | X O | X | X | X | | O | O | O |
| X O | X O | X O | O | O | O | | O | O | O |
| X O | X O | X O | X | X | X | X | X | X | O |
| X O | X O | X O | X | X | X | X | S | S | O |
| O | O | X | X O | X | O | X | X | X | O |
| O | O | X | X O | O | O | X | X | X | O |
| O | O | X | X O | X | O | X | X | X | O |
| O | O | X | X O | X | O | X | X | X | O |
| O | O | X O | X O | O | O | X | S O | S O | O |
| NONE | NONE | NONE | NONE | NONE | NONE | N/A | NONE | NONE | NONE |
| 0 - 180 | 0 - 180 | 0 - 180 | -20 - 180 | 40 - 120 | 40 - 120 | 40 - 120 | -30 - 120 | -30 - 120 | 40 - 120 |
| ROOF MEMB & COATED MATERIAL | ROOF MEMB & COATED MATERIAL | ROOF MEMB & COATED MATERIAL | UNCURED OR CURED EPDM & ECO/CO | C3, RAM, C3-COATED METAL | C3, RAM, C3-COATED METAL | REINFORCED & NON- REINFORCED | SAME MATERIAL | SAME MATERIAL | SAME MATERIAL |
| | | | CONTACT ADHESIVE | HOT AIR | HOT AIR & BONDING ADHESIVE | HOT AIR / ADHESIVE | HEAT WELD | HEAT WELD | SELF ADHERED W/HEAT WELD |
| YES | YES | YES | NONE | 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 |
| | | | 1977 | | | 1997 | 1986 | 1990 | |
| 1999 | 1999 | 1999 | 1977 | 1988 | 1990 | 1997 | 1978 | 1988 | 1+99 |
| | | | | | | | THOUSANDS | THOUSANDS | |
| | | | THOUSANDS | >1,000,000 | >1,000,000 | | >1,000,000 | >1,000,000 | |
| DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DISTR. DIRECT | | | | DIRECT | DIRECT | DIRECT |
| 3 | 3 | 3 | 70 | 10 | 10 | | 4 | 4 | 20 |
| YES | YES | YES | YES | YES | YES | | YES | YES | YES |
| SALES DEPT. 800/368-2160 | SALES DEPT. 800/368-2160 | SALES DEPT. 800/368-2160 | C. KUHL 717/245-7000 | R. McCAW | R. McCAW | R. McCAW | SALES DEPT. 800/248-0280 | SALES DEPT. 800/248-0280 | E. NELSON |
| TECH. DEPT. 800/368-2160 | TECH. DEPT. 800/368-2160 | TECH. DEPT. 800/368-2160 | S. IBRAHIM 717/245-7000 | B. VENICE | B. VENICE | B. VENICE | ENGR. DEPT. 800/248-0280 | ENGR. DEPT. 800/248-0280 | B. PFIEFER |
| | | | | X | X | X | | | |

Other Prefabricated Sheet-applied Membranes, Part 1 - General Information

| | | | | | | |
|---|---------------------------------------|---------------------------------------|------------------------------|----------------------|---|------------------------------|
| 1. COMPANY NAME | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ERSYSTEMS | ERSYSTEMS |
| 2. PRODUCT NAME | ERS - 8000 - 100 | ERS - 8000 - FB | ERS 8000-MA | ERS 920 | PERMAWELD FLEECE-BACKED | PERMAWELD |
| 3. PRODUCT DESCRIPTION | | | | | | |
| Reinforcement | REINFORCED POLYESTER W/FLEECE BACKING | REINFORCED POLYESTER W/FLEECE BACKING | REINFORCED POLYESTER | POLYESTER | CPA MEMBRANE REINFOR W/FLEECE BACK POLY FAB | CPA POLYESTER REINFORCED |
| Color | WHITE | WHITE | WHITE | BLACK | WHITE | WHITE |
| Installed Weight (lbs./ft ² w/o ballast) | 0.44 | 0.35 | 0.30 | 0.40 | 0.4 | 0.33 |
| 4. COATING REQUIRED: | NONE | NONE | NONE | NONE | NONE | NONE |
| 5. USE IN: | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing | X | X | X | X | X | X |
| 6. FIELD LAP JOINT METHOD | HOT AIR WELDED | HOT AIR WELDED | HOT AIR WELDED | ADHESIVE | HEAT WELD OR SOLVENT WELD | HEAT WELD |
| 7. TYPES OF ROOF SYSTEMS | | | | | | |
| Loose Laid/Ballasted(ballast: lbs./ft ²) | 10 MIN. | 10 MIN. | 10 MIN. | | 10 | 10 |
| Partially Adhered (method) | MECH. FAST. | MECH. FAST. | MECH. FAST. | | MECH. FAST. | MECHANICALLY |
| Fully Adhered(method) | HOT ASP/CLD ADH | HOT ASP/CLD ADH | HOT ASP/CLD ADH | X | HOT AS./CLD AD. | COLD ADHES |
| 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) | | | | | | |
| Glass Fiber | X | X | X | O | X | X |
| Mineral Fiber | X | O | X | O | X | X |
| Polystyrene | X O | X | S O | O | X O | X O |
| Cellular Glass | X | X | X O | O | O | O |
| Phenolic | | | | O | X | X |
| Fiberboard | X | X | X | O | X | X |
| Perlite | X | X | X O | O | X | X |
| Polyisocyanurate | X | X O | X O | O | X | X |
| Polyurethane | X | O | X O | O | X | X |
| Gypsum | X | X O | X O | O | X | X |
| Concrete | X | X | S | O | X O | X O |
| Wood Plank | X | X O | O | O | X | X |
| Plywood | X | X O | X O | O | X | X |
| Existing Built-up Membrane | X | X O | X O | O | S O | S 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 | 40 - 120 | -30 - 160 | -30 - 160 |
| 12. FLASHING MATERIAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL | ROOF MATERIAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL |
| 13. FLASHING METHOD | HOT AIR WELD OR ADHESIVE | HOT AIR WELD OR ADHESIVE | HOT AIR WELD OR ADHESIVE | SELF-ADHERED | HEAT WELD OR WALL MASTIC | HEAT WELD OR WALL MASTIC |
| 14. PREFORMED ACCESSORIES AVAILABLE (yes/no) | YES | YES | YES | YES | YES | YES |
| 15. COUNTRY OF: | | | | | | |
| Origin | USA | USA | USA | USA | USA | USA |
| Manufacture | USA | USA | USA | USA | USA | USA |
| 16. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| Outside USA | | | | | | |
| Within USA | 1992 | 1992 | 1992 | 1992 | 1994 | 1984 |
| 17. NUMBER OF SQUARES INSTALLED (100 ft ²) | | | | | | |
| Outside USA | | | | | | |
| Within USA | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| 18. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DIRECT | DIRECT | DISTR, DIRECT | DISTR, DIRECT |
| 19. NUMBER OF REGIONAL LOCATIONS | 3 | 3 | 3 | 3 | 14 | 14 |
| 20. LICENSED APPLICATOR AGREEMENT (yes/no) | YES | YES | YES | YES | YES | YES |
| 21. SALES INFORMATION, CONTACT: | ED NELSON | ED NELSON | ED NELSON | ED NELSON | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 |
| 22. TECHNICAL INFORMATION, CONTACT: | BILL PFIEFER | BILL PFIEFER | BILL PFIEFER | BILL PFIEFER | J. LEONARD 800/403-7747 | R. BAKER 800/403-7747 |
| 23. SEE APPENDIX IF CHECKED | | | | | X | |

Other Prefabricated Sheet-applied Membranes, Part 1 - General Information

| FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | FLEX MEMBRANE INTERNATIONAL | GENFLEX ROOFING SYSTEMS | SEAMAN CORP. | SEAMAN CORP. |
|-----------------------------------|--|--|------------------------------------|--|--|--|
| FLEX CTR 150 BLACK | FLEX FB 100 | FLEX FB ELVALOY | FLEX MF/R ELVALOY | PEEL & STICK .045 | FIBERTITE FB | FIBERTITE/SM |
| POLYESTER | REINFORCED POLYESTER W/ FLEECE BACKING | REINFORCED POLYESTER W/ FLEECE BACKING | REINFORCED POLYESTER | POLYESTER | REINFORCED POLYESTER W/ FLEECE BACKING | REINFORCED POLYESTER |
| BLACK | WHITE / OFF-WHITE | WHITE / OFF-WHITE | WHITE / OFF-WHITE | WHITE | BEIGE / GRAY / WHITE / TAN | BEIGE / GRAY / WHITE / TAN |
| 0.40 | 0.44 | 0.35 | 0.30 | 0.25 | < 0.28 | < 0.25 |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| X | X | X | X | X | X | X |
| X | X | X | X | X | X | X |
| HOT AIR WELD OR MOP | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HOT AIR WELD | HEAT WELD | HEAT WELD |
| | 10 MIN | 10 MIN | 10 MIN | | | 10 MIN |
| | MECH. FAST. | MECH. FAST. | MECH. FAST. | | | BONDING ADHS. |
| HOT ASP/CLD ADH | HOT ASP/CLD ADH | HOT ASP/CLD ADH | CONT. ADHES. | X | ADHESIVE | BONDING ADHS. |
| X | X | X | X | | | X |
| DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | DEAD LEVEL | NONE | NONE | NONE |
| O | X | X | X | O | X | X |
| O | X | O | X | O | | X |
| O | X O | X | S O | O | O | X S O |
| O | X | X | X O | O | O | X S O |
| O | | | | | | X |
| O | X | X | X | X | | X |
| O | X | X | X O | X | O | X |
| O | X | X O | X O | X | X | X |
| O | X | O | X O | O | X O | X |
| O | X | X O | X O | O | X O | X O |
| O | X | X | S | X | X O | S |
| O | X | X O | O | X | X O | S |
| O | X | X O | X O | X | X O | X S O |
| O | X | X O | X O | O | X O | X S O |
| NONE | NONE | NONE | NONE | | NONE | NONE |
| 40 - 120 | 0 - 120 | 0 - 120 | 0 - 120 | 40 - 120 | 0 - 120 | -30 - NO LIMIT |
| SAME MATERIAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL | ROOF MEMBRANE / COATED METAL | REINFORCED & UNREINFORCED MEMBRANE | ROOF MEMBRANE COATED METAL | ROOF MEMBRANE COATED METAL |
| ADHERED HOT AIR WELD | HOT AIR WELD OR ADHESIVE | HOT AIR WELD OR ADHESIVE | HOT AIR WELD OR ADHESIVE | HOT AIR WELD | HEAT WELD, WALL MASTIC OR ADHESIVE | HEAT WELD, WALL MASTIC OR ADHESIVE |
| NONE | YES | YES | YES | YES | YES | YES |
| USA | USA | USA | USA | USA | USA | USA |
| USA | USA | USA | USA | USA | USA | USA |
| | | | | 2003 | 1995 | 1998 |
| 969 | 1988 | 1988 | 1988 | 2003 | 1994 | 1998 |
| | | | | THOUSANDS | THOUSANDS | THOUSANDS |
| MILLIONS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS | THOUSANDS |
| DISTRIBUTORS | DIRECT | DIRECT | DIRECT | DISTRIBUTORS | DIRECT | DIRECT |
| | | 4 | 4 | 8 | 20 | 20 |
| YES | YES | YES | YES | YES | YES | YES |
| J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | J. DOYLE 610/286-7788 | 800/443-4272 | 800/927-8578 | 800/927-8578 |
| M GIANGIACOMO 610/286-7788 | M GIANGIACOMO 610/286-7788 | M GIANGIACOMO 610/286-7788 | M GIANGIACOMO 610/286-7788 | 800/443-4272 | 800/927-8578 | 800/927-8578 |
| | | | | | X | X |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| 1. COMPANY NAME | | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS |
|--|---------|--|--|--|
| 2. PRODUCT NAME | | BONDCOTE 350 | BONDCOTE 400 | BONDCOTE 450 |
| 3. PRODUCT DESCRIPTION | | ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP) | POLYMER BLEND (NBP) ACRYLONITRILE BUTADIENE | ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP) |
| 4. THICKNESS | METHOD | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| | RESULTS | 35 MILS | 40 MILS | 45 MILS |
| 5. TENSILE STRENGTH | METHOD | ASTM D 751 GRAB METHOD ASTM D 882 | ASTM D 751 GRAB METHOD ASTM D 882 | ASTM D 751 GRAB METHOD ASTM D 882 |
| | RESULTS | 390 X 300 LBS. 6000 PSI | 390 X 300 LBS. 6000 PSI | 390 X 300 6000 PSI |
| 6. LAP JOINT METHOD | METHOD | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| | RESULTS | EXCEED PRODUCT STRENGTH | EXCEED PRODUCT STRENGTH | EXCEED PRODUCT STRENGTH |
| 7. ELONGATION AT BREAK | METHOD | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| | RESULTS | 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 |
| | RESULTS | -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 |
| | RESULTS | <3% | <3% | <3% |
| 11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION | METHOD | | | |
| | RESULTS | | | |
| 12. HEATING AGING | METHOD | 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 |
| 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 |
| | RESULTS | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION |
| 14. RESISTANCE TO ACCELERATED WEATHERING | METHOD | FS191, METHOD 5804, CARBON ASTM G90 EMMAGUA | FS191, METHOD 5804, CARBON ASTM G90 EMMAGUA | FS191, METHOD 5804, CARBON ASTM G90 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 |
| 15. DYNAMIC IMPACTING (PUNCTURING) | METHOD | FS 1018, METHOD 2031 | FS 1018, METHOD 2031 | FS 1018, METHOD 2031 |
| | RESULTS | 290 LBS. | 290 LBS. | 290 LBS. |
| 16. TEAR RESISTANCE | METHOD | | | |
| | RESULTS | | | |
| 17. TEARING STRENGTH | METHOD | ASTM D 751 8 IN. X 10 IN. SAMPLE | ASTM D 751 8 IN. X 10 IN. SAMPLE | ASTM D 751 8 IN. X 10 IN. SAMPLE |
| | RESULTS | 120 X 110 LBS. | 125 X 115 LBS. | 125 X 115 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 |
| | RESULTS | 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 |
| | RESULTS | <0.5% | <0.5% | <0.5% |
| 21. CONE PENETRATION | METHOD | | | |
| | RESULTS | | | |
| 22. REFLECTIVITY | | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | .79 | .79 | .79 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | .87 | .87 | .87 |
| Energy Star Label (indicate yes/no) | | YES | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | NO | NO | NO |
| 23. SEE APPENDIX IF CHECKED | | X | X | X |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS | BONDCOTE ROOFING SYSTEMS |
|--|---|---|---|---|
| BONDCOTE 500 SERIES | 400 E PLUS | 500 E PLUS | 600 E PLUS | 800 E PLUS |
| ACRYLONITRILE BUTADIENE POLYMER BLEND (NBP) | ACRYLONITRILE BUTADIENE POLYMER BLEND | ACRYLONITRILE BUTADIENE POLYMER BLEND | ACRYLONITRILE BUTADIENE POLYMER BLEND | ACRYLONITRILE BUTADIENE POLYMER BLEND |
| ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| 50 MILS | 40 MILS | 50 MILS | 60 MILS | 80 MILS |
| ASTM D 751 GRAB METHOD ASTM D 882 450 X 330 LBS. 7500 PSI | | | | |
| ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| EXCEED PRODUCT STRENGTH | EXCEEDS PRODUCT STRENGTH | EXCEEDS PRODUCT STRENGTH | EXCEEDS PRODUCT STRENGTH | EXCEEDS PRODUCT STRENGTH |
| ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| 30 X 35% | 60 X 40 | 75 X 60 | 82 X 68 | 130 X 90 |
| | | | | |
| | | | | |
| ASTM D 2136 | ASTM D 2136 | ASTM D 2136 | ASTM D 2136 | ASTM D 2136 |
| -40 F, NO CRACKS | -40 F, NO CRACKS | -40 F, NO CRACKS | -40 F, NO CRACKS | -40 F, NO CRACKS |
| ASTM D 570 | ASTM D 570 | ASTM D 570 | ASTM D 570 | ASTM D 570 |
| <3% | <3% | <3% | <3% | <3% |
| | | | | |
| | | | | |
| ASTM D 3045 | ASTM D 3045 | ASTM D 3045 | ASTM D 3045 | ASTM D 3045 |
| > 95% OF BREAKING STRENGTH >90% OF ELONGATION | 90% OF BREAKING STRENGTH 90% OF ELONGATION | 90% OF BREAKING STRENGTH 90% OF ELONGATION | 90% OF BREAKING STRENGTH 90% OF ELONGATION | 90% OF BREAKING STRENGTH 90% OF ELONGATION |
| ASTM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP | SATM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP | SATM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP | SATM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP | SATM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP |
| NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION |
| FS191, METHOD 5804, CARBON ASTM G90 EMMAGUA | G 53 | G 53 | G 53 | G 53 |
| NO CRACKING, 10,000 HOURS 4,000,000 LANGLEYS | CRACKING (7X MAG) - PASS CRAZING (7X MAG) - PASS | CRACKING (7X MAG) - PASS CRAZING (7X MAG) - PASS | CRACKING (7X MAG) - PASS CRAZING (7X MAG) - PASS | CRACKING (7X MAG) - PASS CRAZING (7X MAG) - PASS |
| FS 1018, METHOD 2031 | D 5635 | D 5635 | D 5635 | D 5635 |
| 325 LBS. | PASS | PASS | PASS | PASS |
| | | | | |
| | | | | |
| ASTM D 751 8 IN. X 10 IN. SAMPLE | ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| 130 X 120 LBS. | 54 X 52 | 58 X 56 | 61 X 59 | 73 X 60 |
| | | | | |
| | | | | |
| ASTM E 96, METHOD A | | | | |
| 0.22 US PERMS | | | | |
| ASTM D 1204 | ASTM D 1204 | ASTM D 1204 | ASTM D 1204 | ASTM D 1204 |
| <0.5% | -0.5 X 0 | -0.5 X 0 | -0.5 X 0 | -0.5 X 0 |
| | | | | |
| | | | | |
| | | | | |
| .79 | .79 | .79 | .79 | .79 |
| .87 | .87 | .87 | .87 | .87 |
| YES | YES | YES | YES | YES |
| NO | NO | NO | NO | NO |
| X | X | X | X | X |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| | | | | |
|--|--|---|--|-------------------------------------|
| 1. COMPANY NAME | | BOND COTE ROOFING SYSTEMS | CARLISLE SYNTEC INC. | COOLEY ENGINEERED MEMBRANE |
| 2. PRODUCT NAME | | FLEECEBOND PLUS | POLYEPICHLORHYDRIN ECO/CO | C3 |
| 3. PRODUCT DESCRIPTION | | ACRYLONITRILE BUTADIENE POLYMER BLEND | NONREINFORCED POLYEPICHLORHYDRIN | TRI-POLYMER ALLOY ELVALOY KEE |
| 4. THICKNESS | METHOD | ASTM D 751 | ASTM D412 | ASTM D 751 |
| | RESULTS | 50 MILS | 60 MIL ±10% | 40 MILS |
| 5. TENSILE STRENGTH | METHOD | | ASTM D412 | ASTM D 751, GRAB |
| | RESULTS | | 1500 PSI (MIN) | 300 X 300 LBS. |
| 6. LAP JOINT METHOD | METHOD | ASTM D 751 | | ASTM D 638 |
| | RESULTS | EXCEEDS PRODUCT STRENGTH | | 90% |
| 7. ELONGATION AT BREAK | METHOD | ASTM D 751 | ASTM D412 | ASTM D 751 |
| | RESULTS | | 200% (MIN) | 17% X 19% |
| 8. TENSILE SET | METHOD | | | |
| | RESULTS | | | |
| 9. LOW TEMPERATURE FLEXIBILITY | METHOD | ASTM D 2136 | ASTM D 746 | ASTM D 2136 |
| | RESULTS | -40 F, NO CRACKS | -20F (MIN) | -40 F, PASS |
| 10. WATER ABSORPTION | METHOD | | | ASTM D 750 |
| | RESULTS | ASTM D 570 <3% | | 7 DAYS @ 158 F 1% MAX. |
| 11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION | METHOD | | | |
| | RESULTS | | | |
| 12. HEATING AGING | METHOD | ASTM D 3045 | ASTM D 573, 168 HRS@240F | ASTM D 3045 |
| | RESULTS | 90% OF BREAKING STRENGTH 90% OF ELONGATION | 1500PSI (MIN) TENSILE 150% (MIN) ELONGATION | 80% X 80% |
| 13. OZONE RESISTANCE | METHOD | SATM D 1149, 100 PPHM, 104 F, 1/8" BENT LOOP | ASTM D 1149 100 PPHM@ 50% STRAIN 168 HOURS @140F | ASTM D 1149 |
| | RESULTS | NO CRACKS, 7X MAGNIFICATION | NO CRACKS | PASS, NO CRACKS 7X MAGNIFICATION |
| 14. RESISTANCE TO ACCELERATED WEATHERING | METHOD | G 53 | | ASTM D 882, ASTM E 838 |
| | RESULTS | CRACKING (7X MAG) - PASS CRAZING (7X MAG) - PASS | | PASS 2 MILLION LANGLEYS |
| 15. DYNAMIC IMPACTING (PUNCTURING) | METHOD | D 5635 | | FS 1018 METHOD 2031 |
| | RESULTS | PASS | | 280 LB. |
| 16. TEAR RESISTANCE | METHOD | | ASTM D 624 (DIE C) | ASTM D 751 |
| | RESULTS | | 150 LBF/IN (MIN) | 100 LB. X 100 LB. |
| 17. TEARING STRENGTH | METHOD | ASTM D 751 | | ASTM D 751 |
| | RESULTS | 58 X 56 | | 100 X 100 LBS. |
| 18. LOW TEMPERATURE IMPACT | METHOD | | | CTM 028 |
| | RESULTS | | | -20 F, NO CRACKS |
| 19. PERMEABILITY | METHOD | | ASTM 3E 96, PROC B OR BW | ASTM E 96 |
| | RESULTS | | 0.40 PERMS | 0.003 PERMS |
| 20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION | METHOD | ASTM D 1204 | | ASTM D 1204 |
| | RESULTS | -0.5 X 0 | | 6 HOURS @ 176 F 0.3% |
| 21. CONE PENETRATION | METHOD | | | |
| | RESULTS | | | |
| 22. REFLECTIVITY | | | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | .79 | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | .87 | | |
| | Energy Star Label (indicate yes/no) | YES | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | | |
| 23. SEE APPENDIX IF CHECKED | | X | | |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| COOLEY ENGINEERED MEMBRANE | COOLEY ENGINEERED MEMBRANE | DURO-LAST INC. | DURO-LAST INC. | ECOLOGY ROOF SYSTEMS |
|-------------------------------------|----------------------------|---|---|--|
| RAM | C3-TPO | DURO-LAST 40 MIL | DURO-LAST 50 MIL | ERS 900 |
| TRI-POLYMER ALLOY ELVALOY KEE | POLYPROPYLENE | PVC BLEND REINFORCED W/POLYESTER FABRIC | PVC BLEND REINFORCED W/POLYESTER FABRIC | POLYESTER REINFORCED KEE |
| ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM D 751 | ASTM 2083 |
| 45 MILS | 45 | 40 MILS NOMINAL | 50 MILS | 60 MIL |
| ASTM D 751, GRAB | ASTM 7 751 | ASTM D 751, GRAB METHOD ASTM D 882 | ASTM D 751, GRAB METHOD ASTM D 882 | ASTM D 412 |
| 350 X 325 LBS. | 300 X 300 | 435 X 350 LBS. 7200 PSI | 473 X 393 LBS. 8780 PSI | 1699 LBS. SQ. IN. |
| ASTM D 638 | HEAT WELD | ASTM D 751 | ASTM D 751 | HEAT WELD |
| 90% | | 350 LBS. (MIN) | 350 LBS. (MIN) | |
| ASTM D 751 | | ASTM D 751 | ASTM D 751 | ASTM D 412 |
| 40% X 30% | | 35% | 35% | 170% |
| | | | | |
| | | | | |
| ASTM D 2136 | ASTM D 2136 | ASTM D 2136 | ASTM D 2136 | CGSB-37-6PS6M |
| -40 F, PASS | -40 F | -40 F, NO CRACKS | -40 F, NO CRACKS | PASS |
| ASTM D 750 7 DAYS @ 158 F | ASTM D 471 | | | |
| 1% MAX. | ± 4% | | | |
| | | ASTM D 2136 <0.5% | ASTM D 2136 <0.1% | |
| | | | | |
| ASTM D 3045 | | ASTM D 3045 7 DAYS @ 194 F | ASTM D-3045 7 DAYS @ 194 F | |
| 80% X 80% | | 90% BREAKING STRENGTH 95% ELONGATION | 85% BREAKING STRENGTH 90% ELONGATION | |
| ASTM D 1149 | | ASTM D 1149, 100 PPHM, 1/8", 104 F -- 7 DAYS | ASTM D 1149, 100 PPHM, 1/8", 104 F -- 7 DAYS | |
| PASS, NO CRACKS 7X MAGNIFICATION | | NO CRACKS, 7X MAGNIFICATION | NO CRACKS, 7X MAGNIFICATION | |
| ASTM D882, ASTM E 838 | | ASTM G 5388 CARBON ARC (6000 HRS.) | ASTN G 5388 CARBON ARC (6000 HRS.) | CGSB-37-GP56M |
| PASS 2 MILLION LANGLEYS | | NO CRACKS, CRAZING OR BLISTERING | NO CRACKS, CRAZING OR BLISTERING | PASS |
| FS 1018 METHOD 2031 | | ASTM D 5635 | ASTM D 5635 | CBSB-37-GP56M |
| 280 LB. | | 474 PDL-FT | 240 PDL-FT | PASS |
| ASTM D 751 | ASTM D 751 | ASTM D 5587 | ASTM D 5587 | ASTM D 624 |
| 100 LB. X 100 LB. | 100 X 100 | 130 X 172 LBF | 106 X 189 LBF | 330 LBS. |
| ASTM D 751 | | ASTM D 5587 | ASTM D 5587 | |
| 100 X 100 LBS. | | 130 X 172 LBF | 106 X 189 LBF | |
| CTM 028 | | ASTM D 2136 3 MM MANDREL | ASTM D 2136 3 MM MANDREL | |
| -20 F, NO CRACKS | | NO CRACKS, -40F | NO CRACKS, -40F | |
| ASTM E96 | | ASTM E 96, PROCEDURE B METHOD A | ASTM E 96, PROCEDURE B METHOD A | ASTM D 96, PROCEDURE A WATER VAPOR EMISSION |
| 0.003 PERMS | | <.25 PERMS | <.25 PERMS | 0.136/GRAINS/IN SQ FT |
| ASTM 1204 6 HOURS @ 176 F | | | | |
| 0.3% | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | .88 | .88 | N/A |
| | | .87 | .87 | N/A |
| | | YES | YES | N/A |
| | | YES | YES | N/A |
| | | | | |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| 1. COMPANY NAME | | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
|--|--|--|--|--|
| 2. PRODUCT NAME | | ERS 8000-100 | ERS 8000 FB | ERS 8000 MA |
| 3. PRODUCT DESCRIPTION | | POLYESTER REINFORCED W/FLEECE, ELVALOY KEE | POLYESTER REINFORCED W/FLEECE, ELVALOY KEE | POLYESTER REINFORCED W/FLEECE, ELVALOY KEE |
| 4. THICKNESS | METHOD | ASTM D751 | ASTM D 751 | ASTM D 751 - GRAB METHOD |
| | RESULTS | 100 MIL NOM | 45 MIL NOM | 40 MIL NOM |
| 5. TENSILE STRENGTH | METHOD | ASTM 638 - PSI | ASTM 751 - GRAB METHOD | ASTM 751 |
| | RESULTS | MD 1844 TD 2111 | >340 LBS. | 235 LBS. |
| 6. LAP JOINT METHOD | METHOD | ASTM D 638 | ASTM D 638 | ASTM D751 |
| | RESULTS | 90% | 90% | >400 LBS. |
| 7. ELONGATION AT BREAK | METHOD | ASTM D 638 | ASTM D 751 | ASTM D 751 |
| | RESULTS | MD 183 TD 108 | >28% | >28% |
| 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 0573 | ASTM D 0573 |
| | RESULTS | 1.5% MAX. | 1.5% MAX. | 1.5% MAX. |
| 11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION | METHOD | | | |
| | RESULTS | | | |
| 12. HEATING AGING | METHOD | ASTM D 0573 | ASTM D 0573 | ASTM D 3045 |
| | RESULTS | 90% STRENGTH RETENTION OF ORIGINAL | 90% STRENGTH RETENTION OF ORIGINAL | 90% STRENGTH RETENTION OF ORIGINAL |
| 13. OZONE RESISTANCE | METHOD | ASTM D 1149 | ASTM D 1149 | ASTM D 1149 |
| | RESULTS | PASS - NO CRACKS 7X MAGNIFICATION | PASS - NO CRACKS 7X MAGNIFICATION | 3 DAYS @ 100 PPHM - 100F NO CRACKING |
| 14. RESISTANCE TO ACCELERATED WEATHERING | METHOD | ASTM D 2565 | ASTM D 2565 | ASTM D 2565 |
| | RESULTS | 10 HOURS - NO CHANGE | 10 HOURS - NO CHANGE | 10 HOURS - NO CHANGE |
| 15. DYNAMIC IMPACTING (PUNCTURING) | METHOD | FS 1018 METHOD 2031 | FS 1018 METHOD 2031 | FS 1018 METHOD 2031 |
| | RESULTS | 295 LBS. | 280 LBS. | 280 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 |
| | RESULTS | 120 X 110 LBS. | 100 X 100 LBS. | 120 X 120 LBS. |
| 18. LOW TEMPERATURE IMPACT | METHOD | ASTM D 2136 | ASTM D 2136 | ASTM D 2136 |
| | RESULTS | -40F - NO CRACKS | -40F - NO CRACKS | -40F - NO CRACKS |
| 19. PERMEABILITY | METHOD | ASTM E 95 | ASTM E 95 | ASTM E 95 |
| | RESULTS | 3.5M ² /DAY | 3.5M ² /DAY | 3.5M ² /DAY |
| 20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION | METHOD | ASTM D 1204 | ASTM D 1204 | ASTM D 1204 |
| | RESULTS | <0.5% | <0.5% | <0.5% |
| 21. CONE PENETRATION | METHOD | | | 37-GP-54 |
| | RESULTS | | | PASS |
| 22. REFLECTIVITY | | | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | | |
| | Energy Star Label (indicate yes/no) | | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | | |
| 23. SEE APPENDIX IF CHECKED | | | | |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| ECOLOGY ROOF SYSTEMS | ERSYSTEMS | ERSYSTEMS | FLEX MEMBRANE INT'L INC. | FLEX MEMBRANE INT'L INC. |
|--------------------------|---|---|--|---|
| ERS 920 | PERMAWELD FLEECE-BACKED | PERMAWELD | FLEX CTR 150 BLACK | FLEX FB 100 |
| POLYESTER REINFORCED KEE | CPA MEMBRANE REINFORCED W/POLYESTER FLEECE FABRIC | POLYESTER-REINFORCED CPA | COAL TAR, ELVALOY KEE POLYESTER MEMBRANE | POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE |
| ASTM D 2083 | ASTM D 751 | ASTM D 751 | ASTM D 2083 | ASTM D 751 |
| 60 MIL | 40 MILS NOM. | 40 MIL NOM. AND 48 MIL NOM. | 60 MIL | 100 MIL NOM. |
| ASTM D 412 | ASTM D 882 ASTM D 751 | ASTM D 882 ASTM D 751 | ASTM D 412 | ASTM D 638, PSI |
| | 300 X 325 LBS. 8000 PSI | 315 X 325 LBS. 7450 PSI | 1600 LBS/55 IN | MD 1844 TD 2111 |
| | ASTM D 751 | ASTM D 751 | HOT AIR WELD | ASTM D 638 |
| | > 350 LBS. | > 350 LBS. | | > 90% |
| ASTM D 412 | ASTM D 751 | ASTM D 751 | ASTM D 412 | ASTM D 638, % |
| 170% | 35% | 35% X 35% | 170% | MD 183 TD 108 |
| | | | | |
| | | | | |
| CBSB -37-GP 56M | ASTM D 2136 | ASTM D 2136 -30 F | CGSB 37 - GP 56M | ASTM D 2136 |
| PASS | -40 F, PASS | NO CRACKS | PASS | -40 F, PASS |
| | ASTM D 570 @ 70 F @ 122 F 48 HOURS | ASTM D 750 @ 70 F @ 122 F 48 HOURS | | ASTM D 0573 |
| | 1.4% | > 1% | | 1.5 % MAX. |
| | ASTM D 570 | ASTM D 570 | | |
| | NO CHANGE | NO CHANGE | | |
| | 14 DAYS @ 175 F | 14 DAYS @ 175 F | | ASTM D 0573 |
| | 4,500,000 LANGLEYS OF TENSILE STRENGTH | 100% STRENGTH RETENTION, NO CRACKING, CRAZING, BLISTERING | | 90% STRENGTH RETENTION OF ORIGINAL |
| | | | | ASTM D 1149 |
| | | | | PASS, NO CRACKS 7 X MAGNIFICATION |
| CGSB-37-GP 56M | ASTM D 2565 ASTM E 838 | ASTM D 2565 ASTM E 838 | CGSB 37 - GP 56M | ASTM D 2565 (XENON ARC) |
| PASS | 20,000 HOURS 4.5 MILLION LANGLEYS | 20,000 HOURS 4.5 MILLION LANGLEYS | PASS | 10 M HRS., NO CHANGE |
| CGSB-37-GP 56M | FS 101B, METHOD 2031 | FS 101B, METHOD 2031 | ASTM D 624 | FS 1018, METHOD 2031 |
| PASS | 225 LBS. | 250 LBS. | 300 LBS. | 295 LBS. |
| ASTM D 624 | ASTM D 751 8 IN X 8 IN SAMPLE | ASTM D 751 8 IN. X 8 IN. SAMPLE | | ASTM D 751 |
| 330 LBS. | 90 X 120 LBS. | 90 X 120 LBS. | | 110 X 100 LBS. |
| | ASTM D 751 | ASTM D 751 | | ASTM D 751 |
| | 120 LBS. | 90 X 120 | | 120 X 110 LBS. |
| | ASTM D 2136, -30 F | ASTM D 2136, -30 F | | ASTM D 2136 |
| | NO CRACK | NO CRACK | | -40 F, NO CRACKS |
| ASTM E 96 | ASTM E 96, PROCEDURE A | ASTM E 96, PROCEDURE A | ASTM E96 PROCEDURE A | ASTM E 96 |
| 0.136 GRAINS/IN SQ FT | 0.2 US PERMS 1.39 G/MX/M/24 | 0.2 US PERMS | 0.136/GRAINS/IN SQ FT | WATER VAPOR TRANSMISSION 3.5/M ² /DAY |
| | ASTM D 1204 | ASTM D 1204 | | ASTM D 1204 |
| | 0.2% | 0.2% | | < 0.5% |
| | | | | |
| | | | | |
| | | | | |
| | .82 | .82 | | |
| | .88 | .88 | | |
| | | | | |
| | | | | |
| | X | X | | |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| | | | | |
|--|--|---|---|---------------------------------------|
| 1. COMPANY NAME | | FLEX MEMBRANE INT'L INC. | FLEX MEMBRANE INT'L INC. | GENFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | | FLEX FB ELVALOY | FLEX MF/R ELVALOY | PEEL & STICK .045 |
| 3. PRODUCT DESCRIPTION | | POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE | POLYESTER REINFORCED WITH FLEECE, ELVALOY KEE | SELF ADHERING WHITE .045 TPO MEMBRANE |
| 4. THICKNESS | METHOD | ASTM D 751 | ASTM D 751, GRAB | ASTM D 751 |
| | RESULTS | 45 MIL NOM. | 40 MIL NOM. | 48 MILS |
| 5. TENSILE STRENGTH | METHOD | ASTM D 751, GRAB | ASTM D 751 | |
| | RESULTS | > 340 LBS. | 235 LBS. | |
| 6. LAP JOINT METHOD | METHOD | ASTM D 638 | ASTM D 751 | HEAT WELD |
| | RESULTS | 90 % | > 400 LBS. | MEMBRANE PUPTURE |
| 7. ELONGATION AT BREAK | METHOD | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| | RESULTS | > 28% | > 28% | 30% |
| 8. TENSILE SET | METHOD | | | |
| | RESULTS | | | |
| 9. LOW TEMPERATURE FLEXIBILITY | METHOD | ASTM D 2136 | ASTM D 2136 | ASTM D 2137 |
| | RESULTS | -40 F, PASS | -40 F, PASS | -49F |
| 10. WATER ABSORPTION | METHOD | ASTM D 570 | ASTM D 570 | ASTM D 471 |
| | RESULTS | 1.5% MAX. | 1.5% MAX. | +1.2% |
| 11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION | METHOD | | | |
| | RESULTS | | | |
| 12. HEATING AGING | METHOD | ASTM D 0573 | ASTM D 3045 | ASTM D 573 |
| | RESULTS | 90% STRENGTH RETENTION OF ORIGINAL | 90% STRENGTH RETENTION OF ORIGINAL | RETAIN 90% OF ORIGINAL |
| 13. OZONE RESISTANCE | METHOD | ASTM D 1149 | 3 DAYS @ 100 PPHM -- 100 F AND 3 DAYS @ 300 PPHM -- 100 F | ASTM D 1149 |
| | RESULTS | PASS, NO CRACKS 7X MAGNIFICATION | NO CRACKING | PASS |
| 14. RESISTANCE TO ACCELERATED WEATHERING | METHOD | ASTM D 2565 (XENON ARC) | ASTM D 2565 (XENON ARC) | ASTM G 151 & G 153 |
| | RESULTS | 10 M HRS., NO CHANGE | 10 M HRS., NO CHANGE | PASS |
| 15. DYNAMIC IMPACTING (PUNCTURING) | METHOD | FS 1018, METHOD 2031 | FS 1018, METHOD 2031 | ASTM D 5635 |
| | RESULTS | 260 LBS. | 260 LBS. | PASS |
| 16. TEAR RESISTANCE | METHOD | ASTM D 751 | ASTM D 751 | |
| | RESULTS | 100 X 100 LBS. | 120 X 120 LBS. | |
| 17. TEARING STRENGTH | METHOD | ASTM D 751 | ASTM D 751 | ASTM D 751 |
| | RESULTS | 100 X 100 LBS. | 120 X 120 LBS. | 156 LBF |
| 18. LOW TEMPERATURE IMPACT | METHOD | ASTM D 2136 | ASTM D 2136 | |
| | RESULTS | -40 F, NO CRACKS | -40 F, NO CRACKS | |
| 19. PERMEABILITY | METHOD | ASTM E 96 WATER VAPOR TRANSMISSION | ASTM E 96 WATER VAPOR TRANSMISSION | ASTM E 96 |
| | RESULTS | 3.5/M ² /DAY | 3.5/M ² /DAY | .0122 PERMS |
| 20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION | METHOD | ASTM D 1204 | ASTM D 1204 | |
| | RESULTS | < 0.5% | < 0.5% | |
| 21. CONE PENETRATION | METHOD | | 37-GP-54 | |
| | RESULTS | | PASS | |
| 22. REFLECTIVITY | | | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | | 78.3 |
| | Emissivity ASTM C 1371 or E 408 (indicate value) | | | 0.9 |
| | Energy Star Label (indicate yes/no) | | | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | | YES |
| 23. SEE APPENDIX IF CHECKED | | | | |

Other Prefabricated Sheet-applied Membranes, Part 2 - Test Results

| | | | |
|--|---------|--|--|
| 1. COMPANY NAME | | SEAMAN CORP. | SEAMAN CORP. |
| 2. PRODUCT NAME | | FIBERTITE FB | FIBERTITE - SM |
| 3. PRODUCT DESCRIPTION | | POLYESTER REINFORCED EIP/KEE W/FLEECE BACKING | POLYESTER REINFORCED EIP/KEE |
| 4. THICKNESS | METHOD | ASTM D 751 | ASTM D 751 |
| | RESULTS | 40 MIL | 33 MILS NOM |
| 5. TENSILE STRENGTH | METHOD | ASTM D 751 ASTM D 882 | ASTM D 751, GRAB METHOD ASTM D 882 |
| | RESULTS | 375 X 300 LBS. 8500 PSI | 450 LBS. X 450 LBS. 8500 PSI |
| 6. LAP JOINT METHOD | METHOD | ASTM D 751 | ASTM D 751 |
| | RESULTS | > 400 LBS. | >400 LBS. |
| 7. ELONGATION AT BREAK | METHOD | ASTM D 751 | ASTM D 751 |
| | RESULTS | 15% WARP X 15% FILL | 20% WARP, 30% FILL |
| 8. TENSILE SET | METHOD | | |
| | RESULTS | | |
| 9. LOW TEMPERATURE FLEXIBILITY | METHOD | ASTM D 2146 | ASTM D 2136 |
| | RESULTS | -30 F, NO CRACKS | -30 F, NO CRACKS |
| 10. WATER ABSORPTION | METHOD | ASTM D 471 14 DAYS @ 70 C | ASTM D 471 14 DAYS @ 70 C |
| | RESULTS | 1% | 1% |
| 11. DIMENSIONAL STABILITY AFTER WATER ABSORPTION | METHOD | | |
| | RESULTS | | |
| 12. HEATING AGING | METHOD | ASTM D 3045 (160 F/7 DAYS) | ASTM D 3045 7 DAYS @ 160 F |
| | RESULTS | >90% STRENGTH RETENTION | >90% STRENGTH RETENTION |
| 13. OZONE RESISTANCE | METHOD | 3 DAYS @ 100PPHM -- 100F AND 3 DAYS @ 300 PPHM -- 100 F | 3 DAYS @ 100PPHM -- 100F AND 3 DAYS @ 300 PPHM -- 100 F |
| | RESULTS | NO CRACKING | NO CRACKING |
| 14. RESISTANCE TO ACCELERATED WEATHERING | METHOD | ASTM D 2565 | ASTM D 2565 ASTM E 838 |
| | RESULTS | 5,000 HOURS, NO CRACKING | 5,000 HOURS, NO CRACKING 3 MILLION LANGLEYS |
| 15. DYNAMIC IMPACTING (PUNCTURING) | METHOD | ASTM D 5635 | ASTM D 5635 |
| | RESULTS | 20 JOULES | 15 JOULES |
| 16. TEAR RESISTANCE | METHOD | ASTM D 751 8 IN. X 10 IN. SAMPLE | ASTM D 751 8 IN. X 10 IN. SAMPLE |
| | RESULTS | 50 X 50 LBS. | 120 X 120 |
| 17. TEARING STRENGTH | METHOD | ASTM D 751 8 IN. X 10 IN. SAMPLE | ASTM D 751 8 IN. X 10 IN. SAMPLE |
| | RESULTS | 50 X 50 LBS. | 120 X 120 |
| 18. LOW TEMPERATURE IMPACT | METHOD | ASTM D 2136, -30 F | ASTM D 2136, -30 F |
| | RESULTS | NO CRACKING | NO CRACKING |
| 19. PERMEABILITY | METHOD | ASTM E 96 PROCEDURE A WATER VAPOR TRANSMISSION | ASTM E 96, PROCEDURE A WATER VAPOR TRANSMISSION |
| | RESULTS | 1.3 G/MXM/24H | 1.3 G/MXM/24H |
| 20. DIMENSIONAL CHANGE AFTER STRESS RELAXATION | METHOD | ASTM D 1204 | 37-GP-54M |
| | RESULTS | <0.5% | <0.5% |
| 21. CONE PENETRATION | METHOD | 37-GP-54M | 37-GP-54M |
| | RESULTS | PASS | PASS |
| 22. REFLECTIVITY | | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 0.81 | 0.81 |
| Emissivity ASTM C 1371 or E 408 (indicate value) | | 0.90 | 0.90 |
| Energy Star Label (indicate yes/no) | | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate yes/no) | | YES | YES |
| 22. SEE APPENDIX IF CHECKED | | X | X |

Spray Polyurethane Foam-based Systems, Part 1 - Insulation

| | | | | | |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. COMPANY NAME | ERSYSTEMS | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. |
| 2. PRODUCT NAME | ER FOAM | FE 303-2.0 | FE 303 SERIES 2.7 | FE 303 SEREIS 3.0 | FE 314-3.0 SERIES 3.0 |
| 3. COMPLIES WITH: ASTM C 1029-96, <i>Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation</i> (Type I, II, III or IV) | TYPE III | TYPE I | TYPE III | TYPE III | TYPE III |
| 4. PHYSICAL PROPERTIES | | | | | |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | 2.5 - 3.0 | 2.0 | 2.7 - 2.9 | 2.8-3.05 | 3.0 - 3.4 |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 40 - 60 | 26 | 45 - 60 | 45 - 60 | 40 - 55 |
| Open-Cell Content Per ASTM D 2856 or Other (% min) | 88 - 95 | 88 - 95 | 88 - 95 | 88 - 95 | 87 -96 |
| Thermal Resistance R-Value at: 1 inch | 6.7 | 7.0 | 6.7 | 6.7 | 6.25 |
| Thermal Resistance R-Value at: 2 inches | 13.4 | 14.0 | 13.4 | 13.4 | 13.4 |
| Thermal Resistance R-Value at: 3 inches | 20.1 | 21.0 | 20.1 | 20.1 | 20.1 |
| 5. APPLICATION CONDITIONS | | | | | |
| Ambient Air Temperature Ranges (degrees F) | 45 - 110 | 45 - 110 | 45 - 110 | 45 - 110 | 45 - 110 |
| Maximum Ambient Relative Humidity (%) | W/N 5% DEW POINT | W/N 5% DEWPOINT | W/N 5% DEWPOINT | W/N 5% DEWPOINT | W/N 5% DEWPOINT |
| Maximum Allowable Wind Velocity Without Wind Screen (mph) | 15 | 15 | 15 | 15 | 15 |
| Maximum Allowable Wind Velocity With Wind Screen (mph) | 28 | 25 | 28 | 25 | 25 |
| 6. RECOMMENDED TYPE OF PROTECTIVE COATINGS (see SPF-Based Roof Systems, Part 2 -- Protective Coatings) | | | | | |
| Acrylic | | N/A | X | X | X |
| Butyl | X | N/A | X | X | X |
| Hypalon | X | N/A | X | X | X |
| Neoprene | X | N/A | X | X | X |
| Silicones | X | N/A | X | X | X |
| Urethanes | X | N/A | X | X | X |
| Vinyls | X | N/A | X | X | X |
| Modified Asphalts | X | N/A | X | X | X |
| Aggregate | X | N/A | X | X | X |
| 7. PROTECTIVE COATING AVAILABLE FROM MANUFACTURER (yes/no) | YES | YES | YES | YES | YES |
| 8. FIRE RESISTANCE CLASSIFICATION: | | | | | |
| UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | NONE | A | A | A |
| FM Class 1 as part of any roof system (yes/no) | YES | NO | YES | YES | YES |
| 9. YEAR OF FIRST COMMERCIAL USE | 1995 | 1984 | 1984 | 1986 | 1986 |
| 10. NUMBER OF SQUARES INSTALLED (100 ft ²) | THOUSANDS | | >1,000,000 | >50,000 | >500 |
| 11. MANUFACTURER-QUALIFIED APPLICATORS REQUIRED (yes/no) | YES | NO | YES | YES | YES |
| 12. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECCT | DIST / DIRECT |
| 13. NUMBER OF REGIONAL SERVICE LOCATIONS | 14 | 6 | 6 | 6 | 6 |
| 14. SALES INFORMATION, CONTACT: | T. LEONARD 800/403-7747 | CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 |
| TECHNICAL INFORMATION, CONTACT: | T. LEONARD 800/403-7747 | J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 |
| 15. SEE MEMBRANE APPENDIX IF CHECKED | | X | X | X | X |

Spray Polyurethane Foam-based Systems, Part 1 - Insulation

| FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | FOAM ENTERPRISES INC. | GACO WESTERN INC. | GACO WESTERN INC. | GACO WESTERN INC. | NORTH CAROLINA FOAM IND. | NORTH CAROLINA FOAM IND. |
|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| FE 700 SERIES ADHESIVE | PF 241-2.7 | PF 241-3.0 | FE 346 | FE 347 | POLYFOAM 251 | POLYFOAM 303 | POLYFOAM 275 | NCI SYSTEM 591 - 2.5 | NCI SYSTEM 591 - 2.8 |
| | TYPE III | TYPE III | TYPE III | TYPE III | TYPE I | TYPE II | TYPE I | | |
| 2.0 | 2.6 - 2.8 | 3.2 | 3.2 | 2.7 - 2.8 | 2.4 - 2.8 | 2.8 - 3.2 | 2.5 - 2.9 | 2.7 | 3.0 |
| 12 | >40 | 52 | >45 | 35 - 39 | 44 | 52 | 41 | 35 | 45 |
| 55 | 95+ | 90+ | 90+ | 90+ | 95 | 95 | 90 | 90 | 90 |
| 3.4 | 6.25 | 6.25 | 5.3 | 5.3 | 7.7 | 7.7 | 7.3 | 6.7 | 6.7 |
| 6.8 | 12.5 | 12.5 | 10.6 | 10.6 | 15.4 | 15.4 | 14.6 | 13.0 | 13.0 |
| 10.0 | 18.75 | 18.75 | 15.9 | 15.9 | 23.1 | 23.1 | 21.9 | 20.0 | 20.0 |
| 45 - 110 | 45 - 110 | 45 - 110 | 45 - 110 | 45 - 110 | 55 - 100 | 55 - 100 | 55 - 100 | 50 min. | 50 min. |
| W/N 5% DEWPOINT | W/N 5% DEWPOINT | | W/N 5% DEWPOINT | | 80 | 80 | 80 | 78 | 78 |
| 15 | 15 | 15 | 15 | | 15 | 15 | 15 | 15 | 15 |
| 25 | 25 | 25 | 25 | | 20 | 20 | 20 | 25 | 25 |
| N/A | X | X | X | X | X | X | X | X | x |
| N/A | X | X | X | X | X | X | X | X | x |
| N/A | X | X | X | X | X | X | X | X | x |
| N/A | X | X | X | X | X | X | X | X | x |
| N/A | X | X | X | X | X | X | X | X | x |
| N/A | X | X | X | X | | | | X | x |
| N/A | X | X | X | X | | | | X | x |
| N/A | X | X | X | X | | | | X | x |
| YES | YES | YES | YES | YES | YES | YES | YES | NO | NO |
| NONE | A | A | | | A | A | A | A | A |
| NO | YES | YES | | NO | NO | NO | NO | NO | YES |
| 1998 | 1986 | 1986 | 2001 | 2003 | 1984 | 1984 | 1984 | 1991 | 1991 |
| >500 | >1,000,000 | >1,000,000 | >500 | | >500,000 | >600,000 | >350,000 | 1,000,000 | 300,000 |
| NO | YES | YES | YES | YES | NO | NO | NO | NO | NO |
| DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 6 | 6 | 6 | 6 | | 3 | 3 | 3 | 1 | 1 |
| CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 | CUST. SERV. 800/888-3342 | | B. LEWIS 800/456-4226 | B. LEWIS 800/456-4226 | B. LEWIS 800/456-4226 | S. RIDDLE 336/789-9161 | S. RIDDLE 336/789-9161 |
| J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 | J. ANDERSEN 888/900-3626 | | A. JENKINS 800/456-4426 | A. JENKINS 800/456-4226 | A. JENKINS 800/456-4226 | C. TOLBERT 336/789-9161 | C. TOLBERT 336/789-9161 |
| X | | | | | X | X | X | X | X |

Spray Polyurethane Foam-based Systems, Part 1 - Insulation

| | | | | | |
|---|--------------------------------|--------------------------------|----------------------------|----------------------------|----------------------------|
| 1. COMPANY NAME | NORTH CAROLINA FOAM IND. | NORTH CAROLINA FOAM IND. | SWD URETHANE CO. | SWD URETHANE CO. | SWD URETHANE CO. |
| 2. PRODUCT NAME | NCI SYSTEM 692 - 2.5 | NCI SYSTEM 692 - 2.8 | SWD 525b-2.5 | 525b-2.5 | 525b-3.0 |
| 3. COMPLIES WITH: ASTM C 1029-96, <i>Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation</i> (Type I, II, III or IV) | | | | | |
| 4. PHYSICAL PROPERTIES | | | | | |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | 2.7 | 3.0 | 2.0 | 2.5 | 3.0 |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 35 | 45 | 25 | 40 | 50 |
| Open-Cell Content Per ASTM D 2856 or Other (% min) | 90 | 90 | 95 | 95 | 95 |
| Thermal Resistance R-Value at: 1 inch | 6.7 | 6.7 | 7 | 7 | 7 |
| Thermal Resistance R-Value at: 2 inches | 13.0 | 13.0 | 14 | 14 | 14 |
| Thermal Resistance R-Value at: 3 inches | 20.0 | 20.0 | 21 | 21 | 21 |
| 5. APPLICATION CONDITIONS | | | | | |
| Ambient Air Temperature Ranges (degrees F) | 50 min. | 50 min. | 50+ | 50+ | 50+ |
| Maximum Ambient Relative Humidity (%) | 78 | 78 | 80 | 80 | 80 |
| Maximum Allowable Wind Velocity Without Wind Screen (mph) | 15 | 15 | 15 | 15 | 15 |
| Maximum Allowable Wind Velocity With Wind Screen (mph) | 25 | 25 | 20 | 20 | 20 |
| 6. RECOMMENDED TYPE OF PROTECTIVE COATINGS (see SPF-Based Roof Systems, Part 2 -- Protective Coatings) | | | | | |
| Acrylic | | | X | X | X |
| Butyl | | | | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicones | | | X | X | X |
| Urethanes | | | | | |
| Vinyls | | | | | |
| Modified Asphalts | | | | | |
| Aggregate | X | X | | | |
| 7. PROTECTIVE COATING AVAILABLE FROM MANUFACTURER (yes/no) | NO | NO | YES | YES | YES |
| 8. FIRE RESISTANCE CLASSIFICATION: | | | | | |
| UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A | A | A | A |
| FM Class 1 as part of any roof system (yes/no) | NO | NO | NO | YES | YES |
| 9. YEAR OF FIRST COMMERCIAL USE | 1992 | 1992 | 1972 | 1972 | 1972 |
| 10. NUMBER OF SQUARES INSTALLED (100 ft ²) | 3,500 | 1,000 | THOUSANDS | 100,000 | 100,000 |
| 11. MANUFACTURER-QUALIFIED APPLICATORS REQUIRED (yes/no) | YES | YES | NO | YES | YES |
| 12. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DSTRB/DIRECT | DSTRB/DIRECT | DSTRB/DIRECT |
| 13. NUMBER OF REGIONAL SERVICE LOCATIONS | 1 | 1 | 2 | 2 | 2 |
| 14. SALES INFORMATION, CONTACT: | S. RIDDLE 336/789-9161 | S. RIDDLE 336/789-9161 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 |
| TECHNICAL INFORMATION, CONTACT: | C. TOLBERT 336/789-9161 | C. TOLBERT 336/789-9161 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 |
| 15. SEE MEMBRANE APPENDIX IF CHECKED | X | X | | | |

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Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| | | | | | |
|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1. COMPANY NAME | ANDEK CORP. | ANDEK CORP. | ANDEK CORP. | ANDEK CORP. | ANDEK CORP. |
| 2. PRODUCT NAME | POLAROOF R.A.C. | POLAROOF R.A.C. 02 | POLAROOF NW | POLAROOF AC | POLAROOF FIREGARD |
| 3A. COATING DESCRIPTION | | | | | |
| Acrylic | | | | X | |
| Butyl | | | | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicone | | | | | |
| Urethane | X | X | | | |
| Vinyl | | | | | |
| Modified Asphalt | | | | | |
| Other (type) | | | ETHYLENE ELASTOMER | | PVC |
| 3B. VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0) | NO | NO | YES | NO | NO |
| 3C. COLORS AVAILABLE | SILVER | SILVER | ANY COLOR | ANY COLOR | ANY COLOR |
| 4. BASE COATING (Name of Product) | POLAROOF R.A.C. | POLAROOF R.A.C. 02 | POLAROOF NW | POLAROOF AC | POLAROOF FIREGARD |
| TOP COATING (Name of Product) | POLAROOF R.A.C. | POLAROOF R.A.C. 02 | POLAROOF NW | POLAROOF AC | POLAROOF FIREGARD |
| 5. NUMBER OF COATING APPLICATIONS REQUIRED | | | | | |
| Base Coatings | 1 | 1 | 1 | 1 | 1 |
| Top Coatings | 1 | 1 | 1 | 1 | 1 |
| Granules Required (yes, no or optional) | NO | NO | NO | NO | NO |
| 6. REQUIRED DRY FILM THICKNESS: (mils) | | | | | |
| Base Coating | 15 | 15 | 12 | 15 | 10 |
| Tom Coating | 15 | 15 | 12 | 15 | 10 |
| 7. FILM CURE TIME | | | | | |
| Base Coating | 8 HOURS | 8 HOURS | 14 | 2 | 1 HOUR |
| Top Coating | 8 HOURS | 8 HOURS | 16 | 1 | 1 HOUR |
| 8. MINIMUM SLOPE REQUIRED (inches per foot) | NONE | NONE | NONE | 2 | 1/4" |
| 9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) | | | | | |
| Concrete Decks | X | X | P | P | P |
| Plywood Decks | P | P | P | P | P |
| Metal Decks | X | X | X | X | X |
| Existing Spudded Built-up Roofing | X | X | X | X | X |
| Other Coatings | 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) | 30 – 100 | 20 – 100 | 0 – 90 | 45 – 90 | 45 |
| Maximum Permitted Wind Velocity Without Screen (mph) | 10 | 10 | 10 | 10 | 10 |
| Maximum Permitted Wind Velocity With Wind Screen (mph) | 15 | 15 | 15 | 15 | 15 |
| 12. APPLICATION EQUIPMENT REQUIREMENTS | | | | | |
| Single-Component Airless Spray | X | X | X | X | X |
| Multi-Component Airless Spray | | | | | |
| Other (roller, brush, etc.) | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH |
| 13. RESTRICTED REGIONS (yes/none) | NONE | NONE | NONE | NONE | NONE |
| 14. RESTRICTED BUILDING USES (yes/none) | NONE | NONE | YES | YES | NONE |
| 15. RECOMMENDED RECOATING SCHEDULE (years or none) | 10 | 10 | 10 | 10 | 10 |
| 16. PHYSICAL PROPERTIES OF THE COATING | | | | | |
| Tensile Strength Per ASTM D 412 or Other (psi) | 620 | 1400 | 864 | 250 | 520 |
| Elongation Per ASTM D 412 or Other (%) | 570 | 570 | 550 | 500 | 1000 |
| Impact Resistance Per ASTM D 2794 or Other (inch lbs) | 210 | 630 | 280 | 120 | 140 |
| Accelerated Weathering Per ASTM D 882 or Other (color change) | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE |
| Heat Aging Per ASTM D 573 or Other (%) | NONE | NONE | NONE | NONE | NONE |
| Water Absorption Per ASTM D 570 or Other (%) | NONE | NONE | NONE | 1.3% | 2.5% |
| 17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no) | YES | YES | NO | YES | YES |
| 18. FOAM INSULATION REQUIREMENTS | | | | | |
| Minimum Thickness (inches) | 1 | 1 | 2 | 1 | 1 |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | 2.5 – 3.5 | 2.5 – 3.5 | 2.5 – 3.5 | 2.5 – 3.5 | 2.5 – 3.5 |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 40 MIN. | 40 MIN. | 40 MIN. | 40 MIN. | 40 MIN. |
| Open Cell Content Per ASTM D 2856 or Other (%) | 90 MIN. | 90 MIN. | 90 MIN. | 90 MIN. | 40 MIN. |
| 19. FOAM AVAILABLE FROM MANUFACTURER (yes/no) | NO | NO | NO | NO | NO |
| 20. YEAR OF FIRST COMMERCIAL USE | 1978 | 1988 | 1985 | 1996 | 1975 |
| 21. NUMBER OF SQUARES INSTALLED (100 ft ²) | 420,000 | 80,000 | 85000 | 150,000 | 15,000 |
| 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 | DISTRIBUTORS |
| 24. NUMBER OF REGIONAL SERVICE LOCATIONS | 5 | 5 | 5 | 5 | 5 |
| 25. SALES INFORMATION, CONTACT: | HARVEY LISS 800/800-2844 | HARVEY LISS 800/800-2844 | HARVEY LISS 800/800-2844 | HARVEY LISS 800/800-2844 | HARVEY LISS 800/800-2844 |
| TECHNICAL INFORMATION, CONTACT: | NEIL SHEARER 888/882-6335 | NEIL SHEARER 888/882-6235 | NEIL SHEARER 888/882-6235 | NEIL SHEARER 888/882-6235 | NEIL SHEARER 888/882-6235 |
| 26. REFLECTIVITY | | | | | |
| Reflectivity (complies with ASTM E 1918 or E 903 or C 1549) | YES | YES | YES | YES | YES |
| Emissivity (complies with ASTM C 1371 or E 408) | YES | YES | YES | YES | YES |
| Energy Star (indicate y/n) | NO | NO | NO | NO | NO |
| Cool Roof Rating Council (CRRC) (indicate y/n) | NO | NO | NO | NO | NO |
| 27. SEE APPENDIX IF CHECKED | | | | | |

NA=not applicable

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| CONKLIN CO., INC. | CONKLIN CO., INC. | CONKLIN CO., INC. | CONKLIN CO., INC. | CONKLIN CO., INC. | CONKLIN CO., INC. | ERSYSTEMS | ERSYSTEMS | ERSYSTEMS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------|-------------------------|-------------------------|
| RAPID ROOF II BASE COAT | RAPID ROOF III TOP COAT | POLYTUFF II BASE COAT | POLYTUFF II TOP COAT | BENCHMARK BASE COAT | BENCHMARK TOP COAT | ERATHANE 300 BASE | ERATHANE 300 | ERAGUARD 1000 |
| X | X | | | X | X | | | X |
| | | | X | | | | | |
| | | X | | | | X | X | |
| | | | | | | | | |
| NO TAN | NO WHITE, TAN, GRAY | YES SILVER, GRAY | YES WHITE | YES BLUE | YES WHITE, GRAY | NO GRAY | NO GRAY | NO GRAY / WHITE |
| RAPID ROOF III BASE COAT | | POLYTUFF II BASE COAT | | BENCHMARK BASE COAT | | ERATHANE 300 BASE | | ERAGUARD 1000 GRAY |
| | RAPID ROOF III TOP COAT | | POLYTUFF II TOP COAT | | BENCHMARK TOP COAT | | ERATHANE 300 BASE | ERAGUARD 1000 WHITE |
| 1 | | 1 | | 1 | | 1 | | 1 |
| | 1 OPTIONAL | NO | NO | | 1 OPTIONAL | | 1 OPTIONAL | 1 OPTIONAL |
| 13 | | 16.0 | | 13.5 | | 25 | | 13 |
| | 12 | | 4.0 | | 13.5 | | 10 | 12 |
| 2 – 8 HOURS | | 2 – 4 HOURS | | 2 – 8 HOURS | | 24 HRS @ 75F | | 2 - 8 HOURS |
| | 2 – 8 HOURS | | 30 MINS | | 2 – 8 HOURS | | 12 HRS. | 2 - 8 HOURS |
| 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/8" | 1/8" | 1/4" |
| | | | | | | | | |
| P | P | P | P | P | P | X | X | P |
| P | P | P | P | P | P | X | X | P |
| 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 |
| | | | | | | | | |
| 50 – 100 | 50 – 100 | 40 – 100 | 40 – 100 | 50 – 100 | 50 – 100 | 32+ | 32+ | 45 - 95 |
| 15 | 15 | 15 | 15 | 15 | 15 | 7 | 7 | 15 |
| 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| ROLLER | ROLLER | ROLLER | ROLLER | ROLLER | ROLLER | | | ROLLER |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| YES | YES | NONE | NONE | NONE | NONE | YES | YES | NONE |
| 10+ | 10+ | 10+ | 10+ | 10+ | 10+ | NONE | NONE | 10+ |
| | | | | | | | | |
| 67 | 201 | 1400 | 1400 | 325 | 476 | 975 | 660 | 250 |
| 377 | 262 | 630 | 630 | 375 | 118 | 825 | 200 | 300 |
| 160 | 160 | 160 | 160 | 160 | 160 | | | 125 |
| NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE |
| | | | | | | | | NONE |
| | | | | <12% | <12% | | | 1.35% |
| YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | |
| 1 | 1 | 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 | 2.5 | 2.5 - 3.0 |
| 40 MIN. | 40 MIN. | 40 MIN. | 40 MIN. | 40 MIN. | 40 MIN. | 40 | 40 | 40 MIN |
| 90 MIN. | 90 MIN. | 90 MIN. | 90 MIN. | 90 MIN. | 90 MIN. | 90 | 90 | 88 MIN |
| NO | NO | NO | NO | NO | NO | YES | YES | YES |
| 1994 | 1994 | 1982 | 1982 | 1991 | 1991 | 1993 | 1979 | 1993 |
| >1,000,000 | >1,000,000 | > 150,000 | > 150,000 | >1,000,000 | >1,000,000 | THOUSANDS | THOUSANDS | THOUSANDS |
| NO | NO | NO | NO | NO | NO | YES | YES | NO |
| DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS | DISTR, DIRECT | DISTR, DIRECT | DIRECT |
| 5 | 5 | 5 | 5 | 5 | 5 | 14 | 14 | 14 |
| 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 | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 |
| 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 | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 |
| | | | | | | | .65 | .84 |
| | | | | | | | | .92 |
| | | | | | | | | YES |
| | | | | | | | | YES |
| | X | X | X | X | X | | | |

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| | | | | | |
|---|----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. COMPANY NAME | ERSYSTEMS | ERSYSTEMS | FOAM ENTERPRISES, INC. | FOAM ENTERPRISES, INC. | FOAM ENTERPRISES, INC. |
| 2. PRODUCT NAME | ERAGUARD 4000 | ERAKOTE | FE COAT 1000 SERIES | FE COAT 2000 SERIES | FE COAT 3000 SERIES |
| 3A. COATING DESCRIPTION | | | | | |
| Acrylic | | | X | | |
| Butyl | | | | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicone | X | | | | X |
| Urethane | | X | | X | |
| Vinyl | | | | | |
| Modified Asphalt | | | | | |
| Other (type) | | | | | |
| 3B. VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0) | NO | | NO | YES | NO |
| 3C. COLORS AVAILABLE | GRAY, WHITE | WHITE | GRAY, WHITE, DARK GRAY | | |
| 4. BASE COATING (Name of Product) | ERAGUARD 4000 | ERAKOTE 300 BASE | FE COAT 1000 | FE COAT 2001 | FE COAT 3000 |
| TOP COATING (Name of Product) | ERAGUARD 4000 | ERAKOTE | FE COAT 1000 | FE COAT 2002 | FE COAT 3000 |
| 5. NUMBER OF COATING APPLICATIONS REQUIRED | | | | | |
| Base Coatings | 1 | 1 | 1 | 1 | 1 |
| Top Coatings | 1 | 1 | 1 | 1 | 1 |
| Granules Required (yes, no or optional) | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL |
| 6. REQUIRED DRY FILM THICKNESS: (mils) | | | | | |
| Base Coating | 11 | 25 | 20 | 20 | |
| Top Coating | 11 | 10 | 10 | 10 | |
| 7. FILM CURE TIME | | | | | |
| Base Coating | 4 HRS @ 70F | | 4.5 HRS @ 70F | 4 - 6 HRS @ 70F | 2-3 HRS @ 70 F |
| Top Coating | 4 HRS @ 70F | 10 HRS. @ 70F | 4.5 HRS @ 70F | 4 - 6 HRS @ 70F | 2-3 HRS @ 70 F |
| 8. MINIMUM SLOPE REQUIRED (inches per foot) | 1/8" | 1/8" | 1/4" | 1/4" | 1/4" |
| 9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) | | | | | |
| Concrete Decks | X | X | P | P | P |
| Plywood Decks | X | X | P | P | P |
| Metal Decks | X | X | X | X | X |
| Existing Spudded Built-up Roofing | P | X | X | X | X |
| Other Coatings | | X | 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) | 32+ | 32+ | >50 | >35 | >35 |
| Maximum Permitted Wind Velocity Without Screen (mph) | 7 | 7 | 15 | 15 | 15 |
| Maximum Permitted Wind Velocity With Wind Screen (mph) | 25 | 25 | 25 | 25 | 25 |
| 12. APPLICATION EQUIPMENT REQUIREMENTS | | | | | |
| Single-Component Airless Spray | X | X | X | X | X |
| Multi-Component Airless Spray | | | | | |
| Other (roller, brush, etc.) | | | X | X | X |
| 13. RESTRICTED REGIONS (yes/none) | NONE | NONE | NONE | NONE | NONE |
| 14. RESTRICTED BUILDING USES (yes/none) | YES | YES | COLD STORATE | NONE | COLD STORAGE |
| 15. RECOMMENDED RECOATING SCHEDULE (years or none) | NONE | NONE | 15 | 15 | 15 - 20 |
| 16. PHYSICAL PROPERTIES OF THE COATING | | | | | |
| Tensile Strength Per ASTM D 412 or Other (psi) | 450 | 1500 | 250 - 400 | 1000 - 2500 | 300 |
| Elongation Per ASTM D 412 or Other (%) | 200 | 350 | 280 - 320 | 400 - 500 | 125 |
| Impact Resistance Per ASTM D 2794 or Other (inch lbs) | | | SH | SH | MH |
| Accelerated Weathering Per ASTM D 882 or Other (color change) | NO CHANGE | NO CHANGE | MIN. CHANGE | MIN. CHANGE | MIN CHANGE |
| Heat Aging Per ASTM D 573 or Other (%) | | | | | |
| Water Absorption Per ASTM D 570 or Other (%) | | | | | |
| 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 - 1.5 | 1 - 1.5 | 1 - 1.5 |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 40 | 40 | 35 | 35 | 35 |
| Open Cell Content Per ASTM D 2856 or Other (%) | 90 | 90 | >88 | >88 | >88 |
| 19. FOAM AVAILABLE FROM MANUFACTURER (yes/no) | YES | YES | YES | YES | YES |
| 20. YEAR OF FIRST COMMERCIAL USE | 1981 | 1979 | 1995 | 1995 | 1995 |
| 21. NUMBER OF SQUARES INSTALLED (100 ft ²) | THOUSANDS | THOUSANDS | >500,000 | >100,000 | >100,000 |
| 22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no) | YES | YES | 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 | 14 | 14 | 6 | 6 | 6 |
| 25. SALES INFORMATION, CONTACT: | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 | J. ANDERSEN 888/900-FOAM | J. ANDERSEN 888/900-FOAM | J. ANDERSEN 888/900-FOAM |
| TECHNICAL INFORMATION, CONTACT: | T. LEONARD 800/403-7747 | T. LEONARD 800/403-7747 | J. ANDERSEN 888/900-FOAM | J. ANDERSEN 888/900-FOAM | J. ANDERSEN 888/900-FOAM |
| 26. REFLECTIVITY | | | | | |
| Reflectivity (complies with ASTM E 1918 or E 903 or C 1549) | | | YES | YES | |
| Emissivity (complies with ASTM C 1371 or E 408) | | | YES | YES | |
| Energy Star (indicate y/n) | | | YES | YES | YES |
| Cool Roof Rating Council (CRRC) (indicate y/n) | | | YES | YES | |
| 27. SEE APPENDIX IF CHECKED | | | | | |

NA=not applicable

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| FOAM ENTERPRISES, 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. |
|-----------------------------|----------------------------|--|----------------------------|----------------------------|---------------------------------|----------------------------|---------------------------------|---------------------------------------|
| FE COAT 4000 SERIES | GACOFLEX A-44 | GACOFLEX A-58 | GACOFLEX A-62 | GACOFLEX H-25 | GACOSIL S-1000 | GACOFLEX U-6006 | GACOFLEX U-6006 | GACOFLEX U-68 |
| | X | X | X | | | | | |
| X | | | | X | | | | |
| | | | | | X | | | |
| | | | | | | X | X | X |
| | | | | | | | | |
| NO | WHITE | WHITE, OYSTER, PEWTER, SHALE, ADOBE, COCOA | WHITE | YES WHITE OYSTER | GRAY WHITE | ALUMINUM | ALUMINUM | OYSTER, PEWTER ADOBE, SHALE, BLACK |
| FE COAT 4000 NA | A-4411 | | A-6211 | n/a | GACOSIL S-1011 | GACOFLEX U-68 | GACOFLEX U-68 | GACOFLEX U-68 |
| | A-4400 | | A-6200 | GACOFLEX H-25 | GACOSIL S-1000 | URE-SHIELD U-6006 | URE-SHIELD U-6006 | GACOFLEX U-68 |
| 1 | 2 | | 2 | 0 | 1 | 2 | 2 | 2 |
| OTHER COAT | 1 | | 1 | 2 | 1 | 1 | 1 | 1 |
| NA | OPTIONAL | OPTIONAL | OPTIONAL | NO | OPTIONAL | NO | NO | OPTIONAL |
| | 24 | | 24 | n/a | 11 | 24 | 24 | 24 |
| | 12 | | 12 | 6 | 11 | 12 | 12 | 12 |
| 3-4 HRS @70F | 24 HOURS | | 24 HOURS | 24 HOURS | 24 HOURS | 24 HOURS | 24 HOURS | 24 HOURS |
| 3-4 HRS @70F | 72 HOURS | | 72 HOURS | 72 HOURS | 72 HOURS | 72 HOURS | 72 HOURS | 72 HOURS |
| 1/4" | 1/4" | | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" | 1/4" |
| | | | | | | | | |
| X | P | | P | p | P | p | p | P |
| X | X | | X | X | X | X | X | X |
| X | P | | P | P | P | P | P | P |
| X | X | | X | X | X | X | X | X |
| P | P | | P | P | P | P | P | P |
| SELF | SELF-FLASHING | | SELF-FLASHING | SELF-FLASHING | SELF-FLASHING | SELF-FLASHING | SELF-FLASHING | SELF-FLASHING |
| | | | | | | | | |
| >35 | 51-159 | 51-159°F | 51-159 | 51-159 | 51-159 | 51-159 | 51-159 | 51-159 |
| 15 | >15 | >15 MPH | >15 | >15 | >15 | >15 | >15 | >15 |
| 25 | >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 | | | X |
| NONE | YES | | NONE | NONE | NONE | NONE | NONE | NONE |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| 15 | 10 | | 10 | 10 | 10 | 10 | 10 | 10 |
| | | | | | | | | |
| 300 | 175 ± 20 | | 275 ± 10 | 700 | 480 | 1600 | 1600 | 2200 |
| 75 | 250% | | 200% ± 10 | 350% | 210 | 400% | 400% | 350% |
| - | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| | YES | YES | YES | YES | YES | YES | YES | YES |
| 1 - 1.5 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| 2.5 | <40 | | <40 | <40 | <40 | <40 | <40 | <40 |
| 35 | 2.5-2.9 | | 2.5-2.9 | 2.5-2.9 | 2.5-2.9 | 2.5-2.9 | 2.5-2.9 | 2.5-2.9 |
| 88 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| YES | YES | YES | YES | YES | YES | YES | YES | YES |
| 1995 | 1984 | | 1982 | 1972 | 1972 | 1995 | 1995 | 1984 |
| >10,000 | 20000 | | 35000 | 3000 | 12000 | 20000 | 20000 | 18,000 |
| NO | YES | YES | YES | YES | YES | YES | YES | YES |
| DISTR. DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT |
| 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| J. ANDERSEN 888/900-FOAM | B. LEWIS 800/456-4226 | J. FREEMESSER 1-800-869-0959 | B. LEWIS 800/456-4226 | B. LEWIS 800/456-4226 | J. FREEMESSER 1-800-869-0962 | B. LEWIS 800/456-4226 | J. FREEMESSER 1-800-869-0963 | J. FREEMESSER 1-800-869-0963 |
| J. ANDERSEN 888/900-FOAM | A. JENKINS 800/456-4226 | A. JENKINS 1-800-456-4227 | A. JENKINS 800/456-4228 | A. JENKINS 800/456-4228 | A. JENKINS 1-800-456-4230 | A. JENKINS 800/456-4228 | A. JENKINS 1-800-456-4231 | A. JENKINS 1-800-456-4231 |
| NO | | | | | | | | |
| NO | | | | | | | | |
| NO | | | | | | | | |
| NO | | | | | | | | |

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| | | | | | |
|---|---------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. COMPANY NAME | GACO WESTERN INC. | GACO WESTERN INC. | GARDNER ASPHALT CORP/ APOC DIVISION | GARDNER ASPHALT CORP/ APOC DIVISION | GARDNER ASPHALT CORP/ APOC DIVISION |
| 2. PRODUCT NAME | GACOFLEX U-66 | GACOFLEX UB-7050 | APOC #252 SUN-WHITE ELASTOMERIC | GARDNER ELASTOMERIC ROOF COATING | APOC #337 |
| 3A. COATING DESCRIPTION | | | | | |
| Acrylic | | | X | X | |
| Butyl | | | | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicone | | | X | | |
| Urethane | X | X | | | |
| Vinyl | | | | | |
| Modified Asphalt | | | | | X |
| Other (type) | | | | | |
| 3B. VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0) | | | YES | YES | YES |
| 3C. COLORS AVAILABLE | OYSTER, PEWTER, SHALE | BASE COAT ONLY | WHITE, TAN, RED, GRAY | WHITE | BLACK |
| 4. BASE COATING (Name of Product) | GACOFLEX U-66 | GACOFLEX UB-7050 | APOC #252 ROOF COATING | GARDNER WHITE ROOF PATCH | APOC #337 |
| TOP COATING (Name of Product) | GACOFLEX U-66 | VARIES | APOC #252 ROOF COATING | SAME | APOC #252 |
| 5. NUMBER OF COATING APPLICATIONS REQUIRED | | | | | |
| Base Coatings | 2 | 1 | 1 | 1 | 1 |
| Top Coatings | 1 | 1 | 1 | 2 | 1 |
| Granules Required (yes, no or optional) | OPTIONAL | OPTIONAL | NO | NO | |
| 6. REQUIRED DRY FILM THICKNESS: (mils) | | | | | |
| Base Coating | 24 | 24 | 8 – 10 | 10 – 12 | 10 – 12 |
| Top Coating | 12 | 12 | 8 – 10 | 10 – 12 | 8 – 10 |
| 7. FILM CURE TIME | | | | | |
| Base Coating | 24 HOURS | 24 HOURS | 4 – 6 HOURS | 4 – 6 HOURS | 4 – 6 HOURS |
| Top Coating | 72 HOURS | | 4 – 6 HOURS | 4 – 6 HOURS | 4 – 6 HOURS |
| 8. MINIMUM SLOPE REQUIRED (inches per foot) | ¼" | ¼" | 1/4" | 1/4" | 1/4" |
| 9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) | | | | | |
| Concrete Decks | P | P | P | P | X |
| Plywood Decks | X | X | T | T | X |
| Metal Decks | | P | X | X | X |
| Existing Spudded Built-up Roofing | X | X | P | P | P |
| Other Coatings | P | P | X | X | X |
| 10. FLASHING MATERIAL (type or self-flashing) | SELF-FLASHING | SELF-FLASHING | SELF | SELF | |
| 11. APPLICATION CONDITIONS | | | | | |
| Recommended Ambient Air Temperature Range (degrees F) | 51-159 | 51-159 | 50 – 100 | 50 – 90 | 60 – 100 |
| Maximum Permitted Wind Velocity Without Screen (mph) | >15 | >15 | 10 | 10 | 15 |
| Maximum Permitted Wind Velocity With Wind Screen (mph) | >20 | >20 | 15 | 15 | 15 |
| 12. APPLICATION EQUIPMENT REQUIREMENTS | | | | | |
| Single-Component Airless Spray | X | | X | X | X |
| Multi-Component Airless Spray | | X | X | X | X |
| Other (roller, brush, etc.) | X | | | | |
| 13. RESTRICTED REGIONS (yes/none) | NONE | NONE | NONE | NONE | NONE |
| 14. RESTRICTED BUILDING USES (yes/none) | NONE | NONE | NONE | NONE | NONE |
| 15. RECOMMENDED RECOATING SCHEDULE (years or none) | 10 | 10 | 5 | 5 | 5 |
| 16. PHYSICAL PROPERTIES OF THE COATING | | | | | |
| Tensile Strength Per ASTM D 412 or Other (psi) | 2600 | 2900 | 250 – 300 | 250 – 300 | 150 |
| Elongation Per ASTM D 412 or Other (%) | 300% | 190% | 250 – 300 | 250 – 300 | 150 – 200 |
| Impact Resistance Per ASTM D 2794 or Other (inch lbs) | | | | | |
| Accelerated Weathering Per ASTM D 882 or Other (color change) | | | NO CHANGE | NO CHANGE | NO CHANGE |
| Heat Aging Per ASTM D 573 or Other (%) | | | | | |
| Water Absorption Per ASTM D 570 or Other (%) | | | <20 | <20 | <20 |
| 17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no) | YES | YES | YES | YES | YES |
| 18. FOAM INSULATION REQUIREMENTS | | | | | |
| Minimum Thickness (inches) | 1 | 1 | | | |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | <40 | <40 | | | |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 2.5-2.9 | 2.5-2.9 | | | |
| Open Cell Content Per ASTM D 2856 or Other (%) | 90 | 90 | | | |
| 19. FOAM AVAILABLE FROM MANUFACTURER (yes/no) | YES | YES | NO | NO | NO |
| 20. YEAR OF FIRST COMMERCIAL USE | 1984 | 1984 | 1984 | 1985 | 1984 |
| 21. NUMBER OF SQUARES INSTALLED (100 ft ²) | 20000 | 8000 | | | |
| 22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no) | YES | YES | YES | YES | YES |
| 23. METHODS OF DISTRIBUTION (distributors and/or direct) | DIRECT | DIRECT | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| 24. NUMBER OF REGIONAL SERVICE LOCATIONS | 3 | 3 | 13 | 13 | 13 |
| 25. SALES INFORMATION, CONTACT: | J. FREEMESSER 1-800-869-0963 | J. FREEMESSER 1-800-869-0963 | T. HYER 800/237-1155 | T. HYER 800/237-1155 | T. HYER 800/237-1155 |
| TECHNICAL INFORMATION, CONTACT: | A. JENKINS 1-800-456-4231 | A. JENKINS 1-800-456-4231 | J. HUNTER 800/237-1155 | J. HUNTER 800/237-1155 | J. HUNTER 800/237-1155 |
| 26. REFLECTIVITY | | | | | |
| Reflectivity (complies with ASTM E 1918 or E 903 or C 1549) | | | .90 | .88 | N/A |
| Emissivity (complies with ASTM C 1371 or E 408) | | | .87 | .87 | N/A |
| Energy Star (indicate y/n) | | | YES | YES | N/A |
| Cool Roof Rating Council (CRRC) (indicate y/n) | | | YES | YES | N/A |
| 27. SEE APPENDIX IF CHECKED | | | | | |

NA=not applicable

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| GARDNER ASPHALT CORP/ APOC DIVISION | 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. | PLASTIC COATINGS CORP. | PLASTIC COATINGS CORP. |
|---|--|--|--|--|--|--|--------------------------------------|------------------------------|
| STA KOOL 730 BASE COAT | PERMATHANE II FR BASE COAT | PERMATHANE II FR TOP COAT | PERMATHANE FR BASE COAT | PERMATHANE FR TOP COAT | ELASTACRYL FR | SILICONE FR | JAXSAN 600 | JAXSAN 601 |
| X | | | | | X | | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | X | X | X | X | | X | | |
| | | | | | | | | |
| | | | | | | | | |
| | GRAY | GRAY, WHITE, TAN | NO BLACK | NO GRAY, WHITE, TAN | NO GRAY, WHITE, TAN | NO GRAY, WHITE, TAN | NO WHITE, GRAY, SPECIAL COLORS | NO BRITE WHITE |
| #730 | PERMATHANE II FR 70620 | | PERMAGARD FR 7419 | | ELASTACRYL FR | SILICONE FR 7850 | JAXSAN 600 | JAXSAN 601 |
| | | PERMATHANE II FR 70611 | | URETHANE R 7441 | ELASTACRYL FR | SILICONE FR 7850 | JAXSAN 600 | JAXSAN 601 |
| | | | | | | | | |
| 1 | 1-2 | | 2 | | | | 1 OR 2 | 1 OR 2 |
| 1 | | 1 | | 2 | 2-3 | 2-3 | | |
| NO | | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL |
| | | | | | | | | |
| 8 - 10 | 26 | | 26 | | | | 15 | 15 |
| 8 - 10 | | 13 | | 12 | 27 | 30 | 15 | 15 |
| | | | | | | | | |
| 4 - 6 HOURS | 8-12 HOURS | | 8-12 HOURS | | | | 1 - 8 HOURS | 2 - 8 HOURS |
| 4 - 6 HOURS | | 8-12 HOURS | | 8-12 HOURS | 8-12 HOURS | 2-4 HOURS | 1 - 8 HOURS | 2 - 8 HOURS |
| 1/4" | NONE | NONE | NONE | NONE | 1/2" | 1/4" | NONPONDING | NONPONDING |
| | | | | | | | | |
| P | P | P | P | P | P | | P | P |
| P | P | P | P | P | P | | P | P |
| X | P | P | P | P | P | | P | P |
| X | P | P | P | P | P | | P | P |
| X | X | X | X | X | X | | X | X |
| | SELF | SELF | SELF | SELF | SELF | SELF | SELF | SELF |
| | | | | | | | | |
| 50 - 100 | 40 - 110 | 40 - 110 | 40 - 110 | 40 - 110 | 60 - 110 | 40 - 110 | 50+ | 50+ |
| 10 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| 15 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| | X | X | X | X | X | X | | |
| NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE | NONE |
| NONE | YES | YES | YES | YES | YES | YES | YES | YES |
| 5 | 10+ | 10+ | NONE | 10+ | 10+ | 10+ | 10 + | 10 + |
| | | | | | | | | |
| 250 - 300 | 1000 | 1500 | 400 | 2500 | 125 | 350 | 375 | 375 |
| 250 - 300 | 375 | 360 | 500 | 450 | 300 | 200 | 200 + | 200 + |
| | 160 | 160 | 160 | 160 | 160 | 160 | 98 | 98 |
| NO CHANGE | | | N/A | SLIGHT | SLIGHT | SLIGHT | NO CHANGE | NO CHANGE |
| | N/A | SLIGHT | | | | | | |
| <20 | <3 | <3 | 4 | 4 | 20 MAX | <1 | 9 MAX | 9 MAX |
| YES | YES | YES | YES | YES | YES | YES | YES | YES |
| | | | | | | | | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2.7 - 3.2 | 2.7 - 3.2 | 2.7 - 3.2 | 2.7 - 3.2 | 2.7 - 3.2 | 2.7 - 3.2 | 2.5 - 3.0 | 2.5 - 3.0 |
| | 40 | 40 | 40 | 40 | 40 | 40 | | |
| | 90 | 90 | 90 | 90 | 90 | 90 | | |
| NO | NO | NO | NO | NO | NO | NO | NO | NO |
| 1984 | 1984 | 1984 | 1979 | 1979 | 1976 | 1984 | 1967 | 1968 |
| | > 100,000 | > 100,000 | > 100,000 | > 100,000 | > 100,000 | > 50,000 | > 6 MILLION | > 6 MILLION |
| YES | YES | YES | YES | YES | YES | YES | NO | NO |
| DISTRIBUTORS | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DIRECT | DISTRs, DIRECT | DISTRs, DIRECT |
| 13 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 5 |
| T. HYER 800/237-1155 | 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 | L. WIDDECOMBE III | L. WIDDECOMBE III |
| J. HUNTER 800/237-1155 | 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 | G. WIDDECOMBE | G. WIDDECOMBE |
| | | | | | | | | |
| .65 | N/A | YES | N/A | YES | YES | YES | | |
| .87 | N/A | YES | N/A | YES | YES | YES | | |
| NO | N/A | YES | N/A | YES | YES | YES | | |
| NO | N/A | NO | N/A | NO | NO | NO | | |
| | | | | | | | | |

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| | | | | | |
|---|-----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|
| 1. COMPANY NAME | PLASTIC COATINGS CORP. | SWD URETHANE COMPANY | SWD URETHANE COMPANY | SWD URETHANE COMPANY | UNIFLEX ROOFING SYSTEMS |
| 2. PRODUCT NAME | JAXSAN 607 | SWD 1929 KOOL KOTE | SWD 1929F KOOL KOTE | SWD 1929 H KOOL KOTE | 41-300 |
| 3A. COATING DESCRIPTION | | | | | |
| Acrylic | X | X | X | X | X |
| Butyl | | | | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicone | | | | | |
| Urethane | | | | | |
| Vinyl | | | | | |
| Modified Asphalt | | | | | |
| Other (type) | | | | | |
| 3B. VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0) | NO | 3.5 | 3.5 | 3.5 | YES |
| 3C. COLORS AVAILABLE | WHITE, GRAY, SPECIAL COLORS | WHITE, GRAY, BUFF | WHITE, GRAY, BUFF | WHITE, GRAY, BUFF | VARIOUS |
| 4. BASE COATING (Name of Product) | JAXSAN 607 | SWD 1929 KOOK KOTE | SWD 1929 KOOK KOTE | SWD 1929 KOOK KOTE | 41-300 |
| TOP COATING (Name of Product) | JAXSAN 607 | SAME | SAME | SAME | 41-300 |
| 5. NUMBER OF COATING APPLICATIONS REQUIRED | | | | | |
| Base Coatings | 1 | 1 | 1 | 1 | 1 |
| Top Coatings | 1 | 1 | 1 | 1 | 1 |
| Granules Required (yes, no or optional) | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | NO |
| 6. REQUIRED DRY FILM THICKNESS: (mils) | | | | | |
| Base Coating | 15 | 8 - 15 | 8 - 15 | 8 - 15 | 12 |
| Top Coating | 15 | 8 - 15 | 8 - 15 | 8 - 15 | 12 |
| 7. FILM CURE TIME | | | | | |
| Base Coating | 1 - 8 HOURS | 24 HOURS | 24 HOURS | 24 HOURS | 24 |
| Top Coating | 1 - 8 HOURS | 24 HOURS | 24 HOURS | 24 HOURS | 24 |
| 8. MINIMUM SLOPE REQUIRED (inches per foot) | NONPONDING | 1/4" | 1/4" | 1/4" | NONE |
| 9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) | | | | | |
| Concrete Decks | P | P | P | P | P |
| Plywood Decks | P | X | X | X | X |
| Metal Decks | P | P | P | P | X |
| Existing Spudded Built-up Roofing | P | X | X | X | P |
| Other Coatings | X | P | P | P | X |
| 10. FLASHING MATERIAL (type or self-flashing) | SELF | SELF | SELF | SELF | SELF |
| 11. APPLICATION CONDITIONS | | | | | |
| Recommended Ambient Air Temperature Range (degrees F) | 50+ | <50 | <50 | <50 | 40 - 110 |
| Maximum Permitted Wind Velocity Without Screen (mph) | 15 | 15 | 15 | 15 | 10 |
| Maximum Permitted Wind Velocity With Wind Screen (mph) | 25 | 20 | 20 | 20 | 20 |
| 12. APPLICATION EQUIPMENT REQUIREMENTS | | | | | |
| Single-Component Airless Spray | X | X | X | X | X |
| Multi-Component Airless Spray | | | | | |
| Other (roller, brush, etc.) | X | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH |
| 13. RESTRICTED REGIONS (yes/none) | NONE | NONE | NONE | NONE | NONE |
| 14. RESTRICTED BUILDING USES (yes/none) | YES | NONE | NONE | NONE | NONE |
| 15. RECOMMENDED RECOATING SCHEDULE (years or none) | 10 - 15 | 5 - 10 | 5 - 10 | 5 - 10 | 10 |
| 16. PHYSICAL PROPERTIES OF THE COATING | | | | | |
| Tensile Strength Per ASTM D 412 or Other (psi) | 320 | 250 | 280 | | 170 |
| Elongation Per ASTM D 412 or Other (%) | 240 | 489 | 355 | | 300 |
| Impact Resistance Per ASTM D 2794 or Other (inch lbs) | | | | | X |
| Accelerated Weathering Per ASTM D 882 or Other (color change) | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NONE |
| Heat Aging Per ASTM D 573 or Other (%) | | | | | NONE |
| Water Absorption Per ASTM D 570 or Other (%) | 10 | | | | NONE |
| 17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no) | YES | 5 | 5 | 5 | YES |
| 18. FOAM INSULATION REQUIREMENTS | | | | | |
| Minimum Thickness (inches) | 1 | 1 | 1 | 1 | |
| Nominal Density Per ASTM D 1622 or Other (lbs/ft ³) | 2.5 - 3.0 | 2.0 | 2.5 | 3.0 | |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 2.5 | 40 | 40 | 40 | |
| Open Cell Content Per ASTM D 2856 or Other (%) | | 95 | 95 | 95 | |
| 19. FOAM AVAILABLE FROM MANUFACTURER (yes/no) | NO | YES | YES | YES | NO |
| 20. YEAR OF FIRST COMMERCIAL USE | 1995 | 1982 | 1982 | 1982 | 1980 |
| 21. NUMBER OF SQUARES INSTALLED (100 ft ²) | >2 MILLION | THOUSANDS | 100,000 | 100,000 | |
| 22. MANUFACTURER-QUALIFIED APPLICATOR REQUIRED (yes/no) | NO | NO | NO | NO | YES |
| 23. METHODS OF DISTRIBUTION (distributors and/or direct) | DISTRS, DIRECT | DISTRS, DIRECT | DISTRS, DIRECT | DISTRS, DIRECT | DIST / DIRECT |
| 24. NUMBER OF REGIONAL SERVICE LOCATIONS | 5 | 2 | 2 | 2 | 4 |
| 25. SALES INFORMATION, CONTACT: | L. WIDDECOMBE III | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | STEVE KILLAN 888/321-3539 |
| TECHNICAL INFORMATION, CONTACT: | G. WIDDECOMBE | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | R. WHIPPLE 800/828-1394 | NICK HECI 888/321-3539 |
| 26. REFLECTIVITY | | | | | |
| Reflectivity (complies with ASTM E 1918 or E 903 or C 1549) | | | | | 86 |
| Emissivity (complies with ASTM C 1371 or E 408) | | | | | 91 |
| Energy Star (indicate y/n) | | | YES | | YES |
| Cool Roof Rating Council (CRRC) (indicate y/n) | | | YES | | YES |
| 27. SEE APPENDIX IF CHECKED | | | | | |

NA=not applicable

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| UNIFLEX ROOFING SYSTEMS | UNIFLEX ROOFING SYSTEMS | UNIFLEX ROOFING SYSTEMS | UNIFLEX ROOFING SYSTEMS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|--|--|------------------------------|--|
| 41-500 | 41-315 | 20-475 | 20-480 | DIATHON | DIATHON QUICK SET | DIATHON HIGH TENSILE | DIATHON SOLAR CURE | DIATHON 4500 |
| X | X | | | X | X | X | X | X |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| YES VARIOUS | YES VARIOUS | X NO SILVER | X NO SILVER | NO PEARL WHITE, MED GRAY, CUSTOM DIATHON | NO PEARL WHITE, MED GRAY, CUSTOM DIATHON QS | NO PEARL WHITE, MED GRAY, CUSTOM DIATHON HT | NO WHITE DIATHON SC | NO PEARL WHITE, MED GRAY, CUSTOM DIATHON 4500 |
| 41-500 | 41-315 | | | | | | | |
| 41-500 | 41-315 | 20-475 | 20-480 | DIATHON | DIATHON QS | DIATHON HT | DIATHON SC | DIATHON 4500 |
| | | | | | | | | |
| 1 | 1 | | | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| NO | NO | NO | NO | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL | OPTIONAL |
| | | | | | | | | |
| 12 | 12 | | | 11 MIN. | 11 MIN. | 11 MIN. | 11 MIN. | 11 MIN. |
| 12 | 12 | 18 | 18 | 11 | 11 MIN. | 11 MIN. | 11 MIN. | 11 MIN. |
| | | | | | | | | |
| 24 | 24 | | | 3 HRS (MED GRAY) | 3 HRS (MED GRAY) | 3 HRS (MED GRAY) | | 3 HRS (MED GRAY) |
| 24 | 24 | 24 | 24 | 4 1/2 HRS (WHITE) | 4 1/2 HRS (WHITE) | 4 1/2 HRS (WHITE) | 4 1/2 HRS (WHITE) | 4 1/2 HRS (WHITE) |
| NONE | NONE | NONE | NONE | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| | | | | | | | | |
| P | P | P | P | P | P | | | |
| X | X | X | X | X | X | | | |
| X | X | X | X | X | X | X | X | X |
| P | P | P | P | X | X | | | |
| X | X | X | X | X | X | | | |
| SELF | SELF | SELF | SELF | SELF | SELF | SELF | SELF | SELF |
| | | | | | | | | |
| 40 - 110 | 40 - 110 | 40 - 110 | 40 - 110 | 50 - 110 | 50 - 110 | | | |
| 10 | 15 | 15 | 15 | 12 | 12 | 12 | 12 | 12 |
| 20 | 25 | 25 | 25 | 20 | 20 | 20 | 20 | 20 |
| | | | | | | | | |
| X | X | X | X | X | X | X | X | X |
| | | | | | | | | |
| ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH | ROLLER, BRUSH | X | X | X | X | X |
| NONE | NONE | NONE | NONE | NONE | NONE | | | |
| NONE | NONE | NONE | NONE | YES | YES | YES | YES | YES |
| 5 | 10 | 10 | 5 | 5 | 5 | | | |
| | | | | | | | | |
| 170 | 370 | | | 250 - 440 | 250 - 440 | 550 | 250 | 240 |
| 225 | 290 | NONE | NONE | 280 - 320 | 280 - 320 | 500 | 300 | 145 |
| X | X | X | X | | | | | |
| NONE | NONE | NONE | NONE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE | NO CHANGE |
| NONE | NONE | NONE | NONE | | | | | |
| NONE | NONE | NONE | NONE | | 8% | | | |
| YES | NO | YES | NO | YES | YES | YES | YES | YES |
| | | | | | | | | |
| | | | | 1 | 1 | | | |
| | | | | 2.5 - 3.0 | 2.5 - 3.0 | 2.5 - 3.0 | 2.5 - 3.0 | 2.5 - 3.0 |
| | | | | 40 MIN. | 40 MIN. | | | |
| | | | | 90 MIN. | 90 MIN. | | | |
| NO | NO | NO | NO | YES | YES | YES | YES | YES |
| 1980 | 1989 | 1946 | 1948 | 1971 | 1995 | 1993 | 1995 | 1986 |
| | | | | 8 MILLION | | | | 20 MILLION |
| YES | YES | NO | NO | YES | YES | YES | YES | YES |
| DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DIST / DIRECT | DISTRS, DIRECT | DISTRS, DIRECT | DISTRS, DIRECT | DISTRS, DIRECT | DISTRS, DIRECT |
| 4 | 4 | 4 | 4 | 8 | 8 | | | |
| STEVE KILLAN 888/321-3539 | STEVE KILLAN 888/321-3539 | STEVE KILLAN 888/321-3539 | STEVE KILLAN 888/321-3539 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 |
| NICK HECEI 888/321-3539 | NICK HECEI 888/321-3539 | NICK HECEI 888/321-3539 | NICK HECEI 888/321-3539 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 |
| | | | | | | | | |
| 81 | 86 | 80 | 80 | 84.9 | | 81.6 | | |
| 89 | 91 | 40 | 40 | 0.89 | | 0.89 | | |
| YES | YES | YES | YES | YES | NO | YES | NO | NO |
| YES | YES | NO | NO | YES | NO | YES | NO | NO |
| | | | | | | | | |

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| | | | | | |
|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1. COMPANY NAME | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS |
| 2. PRODUCT NAME | ACRON 60 | UNISIL | ELASTRON 858 | ELASTUFF 101 | ELASTUFF 102 |
| 3A. COATING DESCRIPTION | | | | | |
| Acrylic | X | | | | |
| Butyl | | | X | | |
| Hypalon | | | | | |
| Neoprene | | | | | |
| Silicone | | X | | | |
| Urethane | | | | X | X |
| Vinyl | | | | | |
| Modified Asphalt | | | | | |
| Other (type) | | | | | |
| 3B. VAPOR RETARDER (yes, perm rating <1.0) (no, perm rating >1.0) | NO | NO | YES | NO | NO |
| 3C. COLORS AVAILABLE | | LIGHT GRAY, WHITE, CUSTOM | GRAY, TAN | MEDIUM GRAY | IVORY WHITE, LIMITED CUSTOM |
| 4. BASE COATING (Name of Product) | ACRON 60 | UNISIL | SAME | SAME | ELASTUFF 101 |
| TOP COATING (Name of Product) | ACRON 60 | UNISIL | DIATHON, ELASTUFF 102 | ELASTUFF 102 | SAME |
| 5. NUMBER OF COATING APPLICATIONS REQUIRED | | | | | |
| Base Coatings | 1 | 1 | 1 | 1 | |
| Top Coatings | 1 | 1 | 1 | | 1 |
| Granules Required (yes, no or optional) | OPTIONAL | OPTIONAL | OPTIONAL | NO | OPTIONAL |
| 6. REQUIRED DRY FILM THICKNESS: (mils) | | | | | |
| Base Coating | 11 MIN. | 6 – 11 MIN. | 15 – 18 | 17 | |
| Top Coating | 11 MIN. | 11 MIN. | 7 – 9 | | 7 |
| 7. FILM CURE TIME | | | | | |
| Base Coating | 3 HRS (MED GRAY) | 2 – 3 HOURS | 4 – 6 HOURS | 6 – 8 HOURS | |
| Top Coating | 4 1/2 HRS (WHITE) | 2 – 3 HOURS | | | 8 – 12 HOURS |
| 8. MINIMUM SLOPE REQUIRED (inches per foot) | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| 9. REQUIREMENTS FOR USE OVER: (X=direct application permitted) (P=primer required) (T=thermal barrier required) | | | | | |
| Concrete Decks | P | P | P | P | P |
| Plywood Decks | X | P | X | P | P |
| Metal Decks | X | P | X | P | P |
| Existing Spudded Built-up Roofing | X | | X | | |
| Other Coatings | 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) | 50 – 110 | 40 – 110 | 50 – 110 | 40 – 110 | 40 – 110 |
| Maximum Permitted Wind Velocity Without Screen (mph) | 12 | 12 | 12 | 12 | 12 |
| Maximum Permitted Wind Velocity With Wind Screen (mph) | 20 | 20 | 20 | 20 | 20 |
| 12. APPLICATION EQUIPMENT REQUIREMENTS | | | | | |
| Single-Component Airless Spray | X | X | X | X | X |
| Multi-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 | 5 | 5 | 5 | 5 |
| 16. PHYSICAL PROPERTIES OF THE COATING | | | | | |
| Tensile Strength Per ASTM D 412 or Other (psi) | 200 | 650 | 300 | 1000 | 2500 |
| Elongation Per ASTM D 412 or Other (%) | 180 | 150 | 75 | 500 | 400 |
| Impact Resistance Per ASTM D 2794 or Other (inch lbs) | | | | | |
| Accelerated Weathering Per ASTM D 882 or Other (color change) | NO CHANGE | NO CHANGE | | | NO CHANGE |
| Heat Aging Per ASTM D 573 or Other (%) | | | | | |
| Water Absorption Per ASTM D 570 or Other (%) | | 0.1 MAX | | 1.0 MAX | 2.5 MAX |
| 17. UL 790 FLAMMABILITY CLASS A RATING IN ANY SYSTEM (yes/no) | YES | 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) | 2.5 – 3.0 | 2.5 – 3.0 | 2.5 – 3.0 | 2.5 – 3.0 | 2.5 – 3.0 |
| Compressive Strength Per ASTM D 1621 or Other (psi) | 40 MIN. | 40 MIN. | 40 | 40 | 40 |
| Open Cell Content Per ASTM D 2856 or Other (%) | 90 MIN. | 90 MIN. | 90 | 90 | 90 |
| 19. FOAM AVAILABLE FROM MANUFACTURER (yes/no) | YES | YES | YES | YES | YES |
| 20. YEAR OF FIRST COMMERCIAL USE | 1989 | 1987 | 1965 | 1989 | 1989 |
| 21. NUMBER OF SQUARES INSTALLED (100 ft ²) | 50 MILLION | 20000 | 500000 | 3000 | 5000 |
| 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 | 8 | 4 | 4 | 4 | 4 |
| 25. SALES INFORMATION, CONTACT: | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 |
| TECHNICAL INFORMATION, CONTACT: | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 |
| 26. REFLECTIVITY | | | | | |
| Reflectivity (complies with ASTM E 1918 or E 903 or C 1549) | 81.0 | 86.6 | NA | NA | 81.4 |
| Emissivity (complies with ASTM C 1371 or E 408) | 0.89 | 0.87 | NA | NA | 0.89 |
| Energy Star (indicate y/n) | YES | NO | NO | NO | YES |
| Cool Roof Rating Council (CRRC) (indicate y/n) | YES | YES | NO | NO | YES |
| 27. SEE APPENDIX IF CHECKED | | | | | |

NA=not applicable

Spray Polyurethane Foam-based Systems, Part 2 - Protective Coatings

| UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | UNITED COATINGS |
|---------------------------|---------------------------|----------------------------|------------------------------|---------------------------|
| UNISEAL EPOXY SEALER | UNI-TILE EPOXY SEALER | ACRILEX 300 ACRYLIC PRIMER | UNIBASE ACRYLIC ADHES/PRIMER | ADHERE-IT EPDM PRIMER |
| | | X | X | |
| | | | | |
| | | | | |
| | | | | X |
| | | | | |
| EPOXY NO CLEAR, BLACK | EPOXY NO CLEAR, BLACK | NO LIGHT GRAY | NO TRANSPARENT GREEN | NO CLEAR |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 1/2 – 2 MIN. | 1/2 – 2 MIN. | 1/2 – 2 MIN. | | |
| | | | | |
| 12 HOURS | 3 HOURS | 1 – 24 | 1 – 2 | 1/2 – 1 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | X |
| SELF | | | | |
| | | | | |
| 50 – 110 | 50 – 110 | 50 – 110 | 50 – 110 | 50 – 110 |
| 12 | 12 | 12 | 12 | 12 |
| 20 | 20 | 20 | 20 | 20 |
| X | X | X | X | X |
| | | | | |
| X | X | X | X | X |
| NONE | NONE | NONE | NONE | NONE |
| YES | YES | YES | YES | YES |
| | | | | |
| | | | 1000 | |
| | | | 650 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| YES | YES | YES | YES | YES |
| 1995 | 1970 | 1993 | 1996 | 1995 |
| | | | | |
| YES | YES | YES | YES | YES |
| DISTRS, DIRECT 8 | DISTRS, DIRECT 8 | DISTRS, DIRECT 8 | DISTRS, DIRECT 8 | DISTRS, DIRECT 8 |
| C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 | C. VANGELDER 800/541-4383 |
| J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 | J. CRACE 800/541-4383 |
| | | | | |
| 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 |

Metal Roof Panels

| | | | |
|-----|--|---|---|
| 1. | COMPANY NAME | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. |
| 2. | PRODUCT NAME | TEE-PANEL | HIGH SEAM TEE-PANEL |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | SNAP-ON STANDING SEAM | SNAP-ON CAP STANDING SEAM |
| 4B. | 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 (ga.) | | |
| | Copper (ga.) | 16 | 16 |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | | |
| 4D. | PANEL WIDTHS (in.) | 12-3/4 | 18-1/4 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 1:12 | 1:12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | REQUIRED |
| | Underlayment (type or NA) | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | X | X |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | 1 / F | 1, 1-1/2 / F |
| | Snap Together | | |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | |
| | Slip Clip | X | X |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | X | X |
| | Tapered | X | X |
| | Other | FREE-FORM COMPOUND CURVED | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1969 | 1970 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | NO | NO |
| | Method of Distribution (distributors, direct) | | |
| | Number of Regional Service Locations | | |
| | For Sales Information, Contact: | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 |
| | For Technical Information, Contact: | R MARKS 800/231-8127 | R MARKS 800/231-8127 |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NO LEAKAGE @ 6.24 PSF DIFFERENTIAL PRESSURE | NO LEAKAGE @ 6.24 PSF DIFFERENTIAL PRESSURE |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NO MEASURABLE INFILTRATION @ STATIC PRESSURE DIFFERENTIAL OF 1.57 PSF | NO MEASURABLE INFILTRATION @ STATIC PRESSURE DIFFERENTIAL OF 1.57 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | X | X |

NA=not applicable

Metal Roof Panels

| BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. |
|--|--|--|--|
| BATTEN SEAM PANEL | ZEE-LOCK | DOUBLE-LOCK, DL-1, DL-1.5 | DEEP-DECK |
| YES | YES | YES | YES |
| YES | YES | YES | YES |
| | | | |
| BATTEN STANDING SEAM | LOCK-FORMED STANDING SEAM | LOCK-FORMED STANDING SEAM | CORRUGATED ROOF PANEL |
| THICKNESSES / FINISHES | 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 | 24 / KYNAR 500, HYLAR 5000 | 24 / KYNAR 500, HYLAR 5000 |
| | | | |
| | | | |
| 16 | 16 | 16 | |
| | | | |
| | | | |
| 16 | 16 | 17, 18 | 40 36 |
| | | | |
| 1:12 | 1/2:12 | 1/2:12 | 1:12 |
| OPTIONAL | OPTIONAL | OPTIONAL | NA |
| 30-LB. FELT OR EQUIVALENT | | | NA |
| | | | |
| | X | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | | | 3-1/2 / E |
| | 2 / F | | |
| | | 1, 1-1/2 / N | |
| 1-3/4 / F | | | |
| | | | |
| | | | X |
| | | | |
| | | | |
| X | X | X | |
| | | | |
| | | | |
| | | | |
| | | | |
| 1970 | 1989 | 1987 | 2003 |
| NO | NO | NO | |
| | | | |
| G GILLUM 800/669-0009 | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 |
| R MARKS 800/231-8127 | R MARKS 800/231-8127 | R MARKS 800/231-8127 | R MARKS 800/231-8127 |
| NONE | NO LEAKAGE @ 20 PSF DIFFERENTIAL PRESSURE | NONE | NONE |
| NONE | NO MEASUREABLE INFILTRATION @ STATIC PRESSURE DIFFERENTIAL OF 6.24 PSF | NONE | NONE |
| UL-90 | FM I-60, FM I-20 UL-90 | NONE | NONE |
| X | X | X | |

Metal Roof Panels

| | | | |
|-----|--|---|---|
| 1. | COMPANY NAME | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. |
| 2. | PRODUCT NAME | DOUBLE-RIB | CURVED ZEE-LOCK |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | YES | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | CORRUGATED ROOF PANEL | LOCK FORMED STANDING SEAM |
| 4B. | 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 (ga.) | | |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 40 | |
| 4D. | PANEL WIDTHS (in.) | 36 | 60 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 2:12 | 1/2:12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | OPTIONAL |
| | Underlayment (type or NA) | NO. 30 FELT OR EQUIVALENT | |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | X |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | 5V | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | 1-5/8 / E | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | 2 / F |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | | |
| | Snap Together | | 1-1/2 / F |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | X | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | X |
| | Slip Clip | | |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | X |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 2003 | 2003 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | | NO |
| | Method of Distribution (distributors, direct) | | |
| | Number of Regional Service Locations | | |
| | For Sales Information, Contact: | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 |
| | For Technical Information, Contact: | R MARKS 800/231-8127 | R MARKS 800/231-8127 |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | NO LEAKAGE @ 20 PSF |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | NO MEASURABLE INFILTRATION @ PRESSURE DIFFERENTIAL OF 6.24 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | NONE | FM I-60, UL 90 |
| 14. | SEE APPENDIX IF CHECKED | X | X |

NA=not applicable

Metal Roof Panels

| BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. |
|--|--|--|--|
| CEE-LOCK PANEL | R-PANEL | M-PANEL | BERMUDA ROOF |
| YES | YES | YES | YES |
| YES | YES | YES | NO |
| | | | |
| THICKNESSES / FINISHES | CORRUGATED ROOF PANEL THICKNESSES / FINISHES | CORRUGATED ROOF PANEL THICKNESSES / FINISHES | HORIZONTAL PLANK ROOF SYSTEM 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 | 24 / KYNAR 500, HYLAR 5000 | 24 / KYNAR 500, HYLAR 5000 |
| | | | |
| 16 | | | 16 |
| | | | |
| 40 | 40 | 40 | 40 |
| 16-1/2 | 36 | 36 | |
| | | | |
| 1:12 | 1:12 | 1:12 | 3:12 |
| OPTIONAL | NOT USED | NOT USED | OPTIONAL |
| 30-LB. FELT OR EQUIVALENT | NA | NA | 30-LB. FELT OR EQUIVALENT |
| | | | |
| X | | | |
| | X | | |
| | | | |
| | | | HORIZONTAL PLANK HEIGHT(S) (inches) / |
| 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | 1-1/4 / E | 3/4 / E | |
| | | | |
| | | | |
| | | | |
| 1-1/2 / F | | | 1 / F |
| | | | |
| | X | X | |
| | | | |
| | | | X |
| X | X | X | |
| | | | |
| | | | |
| | | | |
| | | | |
| 1989 | 1989 | 1988 | 1991 |
| NO | NO | NO | NO |
| | | | |
| G GILLUM 800/669-0009 | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 |
| R MARKS 800/231-8127 | R MARKS 800/231-8127 | R MARKS 800/231-8127 | R MARKS 800/231-8127 |
| NO LEAKAGE @ 20 PSF DIFFERENTIAL PRESSURE | NONE | NONE | NONE |
| NO MEASUREABLE INFILTRATION @ STATIC PRESSURE DIFFERENTIAL OF 6.24 PSF | NONE | NONE | NONE |
| UL-90 | UL-90 | NONE | UL-90 |
| X | | | X |

Metal Roof Panels

| | | | |
|-----|--|---|---|
| 1. | COMPANY NAME | BERRIDGE MANUFACTURING CO. | BERRIDGE MANUFACTURING CO. |
| 2. | PRODUCT NAME | CURVED FLAT SEAM | S-TILE |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | NO |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | CURVED FLAT SEAM | S-TILE |
| 4B. | 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 (ga.) | | |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 40 | 40 |
| 4D. | PANEL WIDTHS (in.) | 8 | 32-11/16 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 3:12 | 3:12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | OPTIONAL |
| | Underlayment (type or NA) | ICE/WATER GUARD | 30-LB. FELT/ICE, WATER GUARD |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | | S-TILE |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | 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 | | |
| | Through-Fastened, Exposed | | X |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | |
| | Slip Clip | X | |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1980 | 1993 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | YES | YES |
| | Method of Distribution (distributors, direct) | DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT |
| | Number of Regional Service Locations | | |
| | For Sales Information, Contact: | G GILLUM 800/669-0009 | G GILLUM 800/669-0009 |
| | For Technical Information, Contact: | R MARKS 800/231-8127 | R MARKS 800/231-8127 |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | NONE |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | NONE |
| 13. | FM/UL WIND UPLIFT RATINGS | NONE | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| CURVELINE, INC. | FOLLANSBEE STEEL | FOLLANSBEE STEEL | FOLLANSBEE STEEL |
|--|--|--|-------------------|
| CURVELINE | TCS II | TERNE II | KLASSIC KOLORS |
| YES | YES | YES | YES |
| YES | NO | NO | NO |
| | | | |
| CURVED TRAPEZOIDAL PANELS | DOUBLE LOCK STANDING SEAM | DOUBLE LOCK STANDING SEAM | |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | |
| 18, 26 / SILICON POLYESTER, CORRESTAN, DEXSTAR 850, KYNAR 500, UNFINISHED | | | |
| 22, 26 | | | |
| 18, 26 / UNFINISHED | | | |
| 18, 26 / UNFINISHED | | | |
| 0.032, 0.040, 0.050 / UNFINISHED, ANODIZED | | | |
| | | | |
| | | 28, 30 / ACRYLIC SHOP COAT | 28 / KYNAR 500 |
| | 26, 28 / PREWEATHER WASH COAT ONLY | | |
| 30 | 50 | 50 | 50 |
| 18, 24, 36, 40 | 17, 21 | 17, 21 | 17, 21 |
| | | | |
| 1:12 | 3:12 | 3:12 | 3:12 |
| NOT USED | REQUIRED | REQUIRED | REQUIRED |
| NA | ROSIN SIZED PAPER | ROSIN SIZED PAPER | ROSIN SIZED PAPER |
| | | | |
| | X | X | X |
| X | | | |
| | | | |
| SNAP LOCK | | | |
| 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 | |
| | | | |
| 3/4, 1-1/2, 3, 4 / E | | | |
| 3/4, 1-1/2, 3, 4 / E | 1 / N | 1 / N | X |
| | | | |
| 1-1/2, 3 / E | | | |
| | | | |
| | | | |
| X | | | |
| X | | | X |
| | | | |
| X | X | X | X |
| X | | | |
| X | X | X | X |
| | | | |
| X | X | X | |
| | | | |
| MITERED | | | |
| | | | |
| 1985 | 1997 | 1998 | 2003 |
| | | | |
| NO | NO | NO | |
| | DISTRIBUTORS | DISTRIBUTORS | DISTRIBUTORS |
| | | | |
| T. HOLMAN, D. KLOCEK | J. BONAR | J. BONAR | J. BONAR |
| D. KLOCEK | E. THOMAS | E. THOMAS | E. TH OMAS |
| 13.24 PSF/15 MIN = 0 | NONE | NONE | NONE |
| 20 PSF = MAX 0.003 CFM/SQ FT | NONE | NONE | NONE |
| NONE | NONE | NONE | NONE |
| | | | |

Metal Roof Panels

| | | | |
|-----|---|---|---|
| 1. | COMPANY NAME | INNOVATIVE METALS COMPANY, INC. (IMETCO) | INNOVATIVE METALS COMPANY, INC. (IMETCO) |
| 2. | PRODUCT NAME | SERIES 300 PANELS | SNAP-LOK STANDING SEAM |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | YES | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | STRUCTURAL STANDING SEAM | ARCHITECTURAL STANDING SEAM |
| 4B. | PANEL MATERIALS, THICKNESSES, AND FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | Galvanized Steel (ga.) | 22, 24 / KYNAR | 22, 24 / KYNAR. |
| | Stainless Steel (ga.) | 24 / UNFINISHED | 22, 24 / UNFINISHED |
| | Galvalume (ga.) | 22, 24 / KYNAR, UNFINISHED | 22, 24 / KYNAR, UNFINISHED |
| | Aluminized Steel (ga.) | | |
| | Aluminum (ga.) | 0.032, 0.040, 0.050 / KYNAR | 0.032, 0.040 / KYNAR |
| | Copper (ga.) | 16, 20 / UNFINISHED | 16, 20 / UNFINISHED |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 60 | 60 |
| 4D. | PANEL WIDTHS (in.) | 12, 16, 18 | 10, 12, 16, 18 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 1/2:12 | 1-1/2:12 |
| | Solid Decking (required, optional, or not used) | OPTIONAL | OPTIONAL |
| | Underlayment (type or NA) | NA | 30-LB. FELT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | X | X |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | BATTEN OPTIONAL | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | 2-3/8 / F | |
| | Snap Together | | 1-3/4 / F |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | |
| | Slip Clip | X | X |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | X | |
| | Tapered | X | X |
| | Other | FIELD ROLL | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1985 | 1991 |
| | Number of Squares Installed | 100,000+ | 50,000+ |
| | Licensed Applicator Agreement (yes/no) | YES | YES |
| | Method of Distribution (distributors, direct) | DIRECT | DIRECT |
| | Number of Regional Service Locations | 30 | 30 |
| | For Sales Information, Contact: | H.C. HOLLISTER 800/646-3826 | H.C. HOLLISTER 800/646-3826 |
| | For Technical Information, Contact: | G.R. JONES 800/646-3826 | G.R. JONES 800/646-3826 |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | 0/20 PSF | 0/20 PSF |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | .0036 SCFM/20 PSF | .0022 SCFM/20 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90, FM I-60, FM I-75, FM I-90 FM I-75, FM I-120, FM I-135 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| INNOVATIVE METALS COMPANY, INC. (IMETCO) | INNOVATIVE METALS COMPANY, INC. (IMETCO) | INTEGRIS METALS | INTEGRIS METALS |
|--|--|--|--|
| PERM-LOC STANDING SEAM | SS PANEL SYSTEM | COLORKLAD SYSTEM 1 | COLORKLAD - SYSTEM 2 |
| YES | YES | YES | YES |
| NO | NO | NO | NO |
| ARCHITECTURAL STANDING SEAM | ARCHITECTURAL STANDING SEAM | SNAP SEAM - STANDING SEAM | SNAP SEAM - STANDING SEAM |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| 24 / KYNAR | 24 / KYNAR | 24 / KYNAR 500, UNFINISHED | 24 / KYNAR 500, UNFINISHED |
| 24 / UNFINISHED | 24 / UNFINISHED | 24 / UNFINISHED | 24 / UNFINISHED |
| 24 / KYNAR, UNFINISHED | 24 / KYNAR, UNFINISHED | | 24 / UNFINISHED |
| | | | |
| 0.032 / KYNAR | 0.032 / KYNAR | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 |
| 16, 20 / UNFINISHED | | 16 | 16 |
| | | | |
| 45 | 45 | 40 | 40 |
| 13, 21 | 14-1/2, 22-1/2 | 12, 16, 18, 22 | 12, 16, 20 |
| | | | |
| 3:12 | 3:12 | 3:12 | 3:12 |
| REQUIRED | REQUIRED | REQUIRED | REQUIRED |
| 30-LB. FELT | 30-LB. FELT | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| | | | |
| X | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | | | |
| | | | |
| | | | |
| | 1 / F | 1, 1-1/2 / E | |
| 7/8 / N | | | 1-1/2 / N |
| | | | |
| | | | |
| | | | |
| X | X | X | X |
| | | | |
| X | X | | |
| X | X | X | |
| | | | |
| 1986 | 1981 | 1970 | 1970 |
| 50,000+ | 50,000+ | | |
| YES | YES | NO | NO |
| DIRECT | DIRECT | DISTRIBUTORS / DIRECT | DISTRIBUTORS / DIRECT |
| 30 | 30 | 45 | 45 |
| H.C. HOLLISTER 800/646-3826 | H.C. HOLLISTER 800/646-3826 | R. OEHME 763/717-9000 | R. OEHME 763/717-9000 |
| G.R. JONES 800/646-3826 | G.R. JONES 800/646-3826 | R. OEHME 763/717-9000 | R. OEHME 763/717-9000 |
| | 0/20 PSF | NONE | NONE |
| | 0/577/20 PSF | NONE | NONE |
| UL-90 | UL-90 | UL 1-90 | UL 1-90 |
| | | | |

Metal Roof Panels

| | | | |
|-----|--|--|--|
| 1. | COMPANY NAME | INTEGRIS METALS | INTEGRIS METALS |
| 2. | PRODUCT NAME | COLORKLAD - SYSTEM 3 | COLORKLAD - SYSTEM 4 |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | SINGLE/DOUBLE LOCK STANDING SEAM | SNAP SEAM - STANDING SEAM |
| 4B. | PANEL MATERIALS, THICKNESSES, AND FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | Galvanized Steel (ga.) | 24 / KYNAR 500, UNFINISHED | 24 / KYNAR 500, UNFINISHED |
| | Stainless Steel (ga.) | 24 / UNFINISHED | 24 / UNFINISHED |
| | Galvalume (ga.) | 24 / UNFINISHED | 24 / UNFINISHED |
| | Aluminized Steel (ga.) | | |
| | Aluminum (ga.) | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 |
| | Copper (ga.) | 16 | 16 |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 40 | 40 |
| 4D. | PANEL WIDTHS (in.) | 12, 16, 20 | 16, 18 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 3;12 | 3;12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | REQUIRED |
| | Underlayment (type or NA) | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | X | X |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | 1, 1-1/2 / E | |
| | Double Roll Formed (two 180 degrees) | 1, 1-1/2 / E | |
| | Roll and Lock | | |
| | Snap-on Cap | | |
| | Snap Together | | 1-3/4 / F |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | X | X |
| | Slip Clip | X | |
| | Moveable Clip (designed allowable movement, inches) | X | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1970 | 1970 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | NONE | NO |
| | Method of Distribution (distributors, direct) | DISTRIBUTORS / DIRECT | DISTRIBUTORS / DIRECT |
| | Number of Regional Service Locations | 45 | |
| | For Sales Information, Contact: | R. OE HME 763/717-9000 | R. OE HME 763/717-9000 |
| | For Technical Information, Contact: | R. OE HME 763/717-9000 | R. OE HME 763/717-9000 |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | ASTM E 331 |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | ASTM E 283 |
| 13. | FM/UL WIND UPLIFT RATINGS | | UL 1-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

| INTEGRIS METALS | MBCI | MBCI | MBCI |
|--|--|--|--|
| COLORKLAD - SYSTEM 5 | ULTRA-DEK 124 | DOULBE-LOK 124 | CRAFTSMAN SERIES HIGH BATTEN |
| YES | YES | YES | YES |
| YES | YES | YES | NO |
| SINGLE/DOUBLE LOCK STANDING SEAM | STANDING SEAM | STANDING SEAM | LOCK FORM SEPARATE BATTEN |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| 24 / KYNAR 500, UNFINISHED | | | |
| 24 / UNFINISHED | | | |
| 24 / UNFINISHED | 22, 24, 26 / BARE, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC | 22, 24, 26 / BARE, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC | 22, 24, 26 / BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC |
| | | | |
| 0.032 / KYNAR 500 | | | |
| 16 | | | |
| | | | |
| 40 | 50 (STANDARD) | 50 (STANDARD) | 50 (STANDARD) |
| 16, 18 | 12, 18, 24 | 12, 18, 24 | 12, 16-1/2 |
| 3;12 | 1/4;12 | 1/4;12 | 3;12 |
| REQUIRED | OPTIONAL | OPTIONAL | REQUIRED |
| 30-LB. FELT OR EQUIVALENT | OPEN / SOLID | OPEN / SOLID | SOLID |
| X | | | |
| | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| 2 / E, F | | | |
| 2 / E, F | | | |
| | | 3 / F | |
| | | | |
| | 3 / F | | 2 / F |
| | | | |
| | | | |
| | X | | |
| | X | X | X |
| X | 2-1/2 (1-1/4 EACH DIRECTION) | 2-1/2 (1-1/4 EACH DIRECTION) | |
| | | | |
| | | | X |
| | | | TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT |
| 1970 | 1983 | 1983 | 1983 |
| NO | YES | YES | NO |
| DISTRIBUTORS / DIRECT | DIRECT | DIRECT | DIRECT |
| | 21 | 21 | 21 |
| R. OEHRME 763/717-9000 | W. DICKINSON | W. DICKINSON | W. DICKINSON |
| R. OEHRME 763/717-9000 | B. JAKS | B. JAKS | B. JAKSA |
| ASTM E 331 | NO LEAKAGE @ 12 PSF | NO LEAKAGE @ 12 PSF | ASTM E 331-83 NO LEAKAGE @ 4 PSF |
| ASTM E 283 | 0.251 CFM/SQ FT @ 6.24 PSF | 0.007 CFM/SQ FT @ 6.24 PSF | ASTM E 283-84 0.048 CFM/SQ FT @ 4 PSF; |
| UL 1-90 | UL-90 | FM I-60, I-75, I-90, I-105 | UL-90 |
| | | | |

Metal Roof Panels

| | | | |
|-----|---|---|---|
| 1. | COMPANY NAME | MBCI | MBCI |
| 2. | PRODUCT NAME | CRAFTSMAN SERIES LARGE BATTEN | CRAFTSMAN SERIES SMALL BATTEN |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | NO |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | LOCK FORM SEPARATE BATTEN | LOCK FORM SEPARATE BATTEN |
| 4B. | 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 | 22, 24, 26 / BARE, COLOR BOND, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC |
| | Aluminized Steel (ga.) | | |
| | Aluminum (ga.) | | |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 50 (STANDARD) | 50 (STANDARD) |
| 4D. | PANEL WIDTHS (in.) | 12, 16-1/2 | 12, 16-1/2 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 3:12 | 3:12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | REQUIRED |
| | Underlayment (type or NA) | SOLID | SOLID |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | |
| | Trapezoidal | | |
| | Batten | X | X |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | 2 / F | 1 / F |
| | Snap Together | | |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | |
| | Slip Clip | X | X |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | X |
| | Tapered | X | X |
| | Other | TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT | TRANSITION, ROOF TO FASCIA, MANSARD TO SOFFIT |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1983 | 1983 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | NO | NO |
| | Method of Distribution (distributors, direct) | DIRECT | DIRECT |
| | Number of Regional Service Locations | 21 | 21 |
| | For Sales Information, Contact: | B. JAKS | B. JAKS |
| | For Technical Information, Contact: | T. WOLFE | T. WOLFE |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | ASTM E 331-93 NO LEAKAGE @ 4 PSF |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | ASTM E 283-84 .048 CFM/SQ.FT. @ 4 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

| MBCI | MBCI | MBCI | MBCI |
|--|--|--|--|
| LOKSEAM | BATTENLOK | SLIMLINE | S-36 |
| YES | YES | YES | YES |
| YES | YES | NO | YES |
| STANDING SEAM | STANDING SEAM | 1 X 16 INTERLOCKING ARCHITECTURAL | 1-1/2 X 12 X 36 EXPOSED |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | | | |
| | | | |
| 22, 24, 26 / BARE, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC | 22, 24, 26 / BARE, SIGNATURE 200, 300 (PVDF), OR 300 METALLIC | 24, 26, 29 / SMP, PVDF, SIGNATURE 200, 300, 300 METALLIC | 22, 24, 26, 29 / SMP, PVDF, BARE SIGNATURE 200, 300, 300 METALLIC |
| | | | |
| | | | |
| | | | |
| 50 (STANDARD) | 50 (STANDARD) | 50 | 55 |
| 12, 16, 18 | 12, 16 | 12, 16 | 36 |
| 3:12 | 1/2: 12 | 3:12 | 1/2:12 |
| OPTIONAL | OPTIONAL | REQUIRED | OPTIONAL |
| OPEN / SOLID | OPEN / SOLID | SOLID | SOLID |
| 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | | | 1-1/2 / E |
| | 2 / F | | |
| | | | |
| | | | |
| 1-3/4 / F | | 1 / N | |
| | | | |
| | | X | X |
| | | | |
| X | X | | |
| | X | | |
| | 2" (1" EACH DIRECTION) | | |
| | | | |
| | | | X |
| TRANSITION, ROOF TO FASCIA | TRANSITION, ROOF TO FASCIA | | |
| 1991 | 1991 | 1989 | 1991 |
| NO | YES | NO | NO |
| DIRECT | DIRECT | DIRECT | DIRECT |
| 21 | 21 | 21 | 21 |
| B. JAKS | B. JAKS | B. JAKS | B. JAKS |
| T. WOLFE | T. WOLFE | T. WOLFE | T. WOLFE |
| NO LEAKAGE @ 1.57 PSF | NO LEAKAGE @ 12 PSF | NONE | NONE |
| 0.0160 CFM/SQ FT @ 1.57 PSF | 0.019 CFM/SQ. FT. @ 6.24 PSF | NONE | NONE |
| UL-90 | UL-90 | NONE | UL-90 |
| | | | |

Metal Roof Panels

| | | | |
|-----|---|---|---|
| 1. | COMPANY NAME | MBCI | MBCI |
| 2. | PRODUCT NAME | SUPERLOK | PBR-36 |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | YES | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | STANDING SEAM | 1-1/4 X 12 X 36 EXPOSED |
| 4B. | PANEL MATERIALS, THICKNESSES, AND FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | Galvanized Steel (ga.) | | 24, 26, 29 / SMP, UNFINISHED |
| | Stainless Steel (ga.) | | |
| | Galvalume (ga.) | 22, 24, 26 / BARE, SIGNATURE 200 300, METALLIC | 22, 24, 26, 29 / BARE, SMP, PVDF SIGNATURE 200, 300 |
| | Aluminized Steel (ga.) | | |
| | Aluminum (ga.) | | |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 50 | 55 |
| 4D. | PANEL WIDTHS (in.) | 16, 12 | 36 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 1/2:12 | 1/2:12 |
| | Solid Decking (required, optional, or not used) | OPTIONAL | OPTIONAL |
| | Underlayment (type or NA) | OPEN / SOLID | OPEN |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | X | |
| | Trapezoidal | | |
| | Batten | | |
| | Other (specify) | | X |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | 1-1/4 / E |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | 2 / F | |
| | Roll and Lock | | |
| | Snap-on Cap | | |
| | Snap Together | | |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | X |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | X | |
| | Slip Clip | X | |
| | Moveable Clip (designed allowable movement, inches) | 2" (1" EACH DIRECTION) | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1993 | 1977 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | YES | NO |
| | Method of Distribution (distributors, direct) | DIRECT | DIRECT |
| | Number of Regional Service Locations | 2 | 21 |
| | For Sales Information, Contact: | B. JAKS | B. JAKS |
| | For Technical Information, Contact: | T. WOLFE | T. WOLFE |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | NONE |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | ASTM E 1680 0.007 @ 6.24 PSF ASTM E 1646 NO LEAKAGE @ 12 PSF | NONE |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90 FM I-90, I-106, I-135 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| MBCI | MERCHANT & EVANS, INC. | MERCHANT & EVANS, INC. | MERCHANT & EVANS, INC. |
|--|--|--|--|
| 7.2 | ZIP RIB | B 1515 R | #114 R |
| YES | YES | YES | YES |
| YES | YES | NO | NO |
| 1-1/2 X 7.2 X 36 | INTERLOCKING, MECHANICALLY SEAMED | BATTEN SEAM | INTEGRAL BATTEN SEAM |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | 18, 20, 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | 20, 22, 24 / MILL | | |
| 22, 24, 26, 29 / SIGNATURE 200, 300, 300 METALLIC | 18, 20, 22, 24 / KYNAR 500, MILL | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | 18, 20, 22, 24 / KYNAR 500, MILL | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | 0.032, 0.040, 0.050 / 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 |
| | 22, 24 / MIL | | |
| | 0.027 / MILL | 0.027 / MILL | 0.027 / MILL |
| 55 | 105 | 60 | 60 |
| 36 | 12, 16 | 11, 15, 18, 22 | 9-3/4, 13, 17 |
| 1/2:12 | 1/4:12 | 2:12 | |
| OPTIONAL | OPTIONAL | REQUIRED | REQUIRED |
| OPEN | NA | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| X | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| 1-1/2 / E | | | |
| | | | |
| | | | |
| | 2-1/2 / F | | |
| | | 1-1/2 / N | |
| | | | 1-1/4 / N |
| X | | | |
| | | | |
| | X | | |
| | X | X | X |
| | 39483 | | |
| | X | X | |
| | X | X | |
| | | | |
| 1991 | 1964 | 1971 | 1968 |
| NO | YES | NO | NO |
| DIRECT | | | |
| 21 | | | |
| B. JAKS | D. BROWN | D. BROWN | D. BROWN |
| T. WOLFE | D. McAULIFFE | D. McAULIFFE | D. McAULIFFE |
| NO PENETRATION AT 12 PSF W/ 5 GAL/HR (8"/HR) | NO PENETRATION @ 15 PSF FOR 15 MINUTES | NONE | NONE |
| .048 CFM/SQ @ 12 PSF | 0.005 CFM/SQ FT @ 6.24 PSF DIFFERENTIAL | NONE | NONE |
| UL-90 | UL-90 FM 1-150 | NONE | NONE |
| | X | | |

Metal Roof Panels

| | | | |
|-----|--|--|--|
| 1. | COMPANY NAME | MERCHANT & EVANS, INC. | MERCHANT & EVANS, INC. |
| 2. | PRODUCT NAME | # 305 | # 306 |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | NO |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | INTEGRAL STANDING SEAM | BATTEN SEAM |
| 4B. | PANEL MATERIALS, THICKNESSES, AND FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | Galvanized Steel (ga.) | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | Stainless Steel (ga.) | | |
| | Galvalume (ga.) | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500, MILL |
| | Aluminized Steel (ga.) | 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | Aluminum (ga.) | 0.032, 0.040 / KYNAR 500, MILL, ANODIZED | 0.032, 0.040 / KYNAR 500, MILL, ANODIZED |
| | Copper (ga.) | 16, 20 / MILL | 16, 20 / MILL |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | 0.027 / MILL | 0.027 / MILL |
| 4C. | MAXIMUM LENGTH (lf.) | 60 | 45 |
| 4D. | PANEL WIDTHS (in.) | 12, 15-1/4, 19-1/4 | 10-1/8, 14, 17-1/2, 21-1/2, 22 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | | |
| | Solid Decking (required, optional, or not used) | REQUIRED | REQUIRED |
| | Underlayment (type or NA) | 30-LB. FELT OR EQUIVALENT | 30-LB. FLET OR EQUIVALENT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | X | |
| | Trapezoidal | | |
| | Batten | | X |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | | 1, 1-1/4, 1-1/2, 2 / F |
| | Snap Together | 1-3/8 / F | |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | X |
| | Slip Clip | X | |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | X |
| | Tapered | | X |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1984 | 1989 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | NO | NO |
| | Method of Distribution (distributors, direct) | | |
| | Number of Regional Service Locations | | |
| | For Sales Information, Contact: | D. BROWN | D. BROWN |
| | For Technical Information, Contact: | D. McAULIFFE | D. McAULIFFE |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NO PENETRATION @ 15 PSF FOR 15 MINUTES | NO PENETRATION @ 15 PSF FOR 15 MINUTES |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | 0 CFM @ 6.24 PSF | 0 CFM @ 6.24 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM COPR. | PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM CORP. |
|--|--|--|--|
| TITE-LOC | TITE-LOC PLUS | INTEGRAL STANDING SEAM | SNAP-ON BATTEN |
| YES | YES | YES | YES |
| YES | YES | NO | NO |
| | | | |
| STANDING SEAM | STANDING SEAM | STANDING SEAM | BATTEN STANDING SEAM |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 | 24 / KYNAR 500 | 24 / KYNAR 500 |
| | | | |
| 22, 24 / KYNAR 500 | 22, 24 / KYNAR 500 | | |
| | | | |
| .032, .040 / KYNAR 500 | .032, .040 / KYNAR 500 | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 |
| | | | |
| | | | |
| 60 | 60 | 45 | 45 |
| 12, 16, 18 | 12, 16, 18 | 11, 18, 19 | 11, 12, 18 |
| | | | |
| 1/2: 12 | 1/2: 12 | 3:12 | 3:12 |
| OPTIONAL | OPTIONAL | REQUIRED | REQUIRED |
| NA | NA | 30-LB. FELT | 30-LB. FELT |
| | | | |
| X | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | | | |
| 2 / F | 2 / F | | |
| | | | |
| | | 1-1/2 / N | |
| | | | 1-1/2 / N |
| | | | |
| | | | |
| | | | |
| X | X | X | X |
| | | | |
| X | X | | |
| | | | |
| | | | X |
| | | | |
| | | | |
| 2001 | 2001 | 1979 | 1979 |
| >100,000 | >100,000 | > 100,000 | > 100,000 |
| NO | NO | NO | NO |
| DISTRIBUTORS / DIRECT | DISTRIBUTORS / DIRECT | DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT |
| 4 | 4 | 4 | 4 |
| 800/323-1960 | 800/323-1960 | 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 | NO LEAKAGE @ 12 PSF |
| | | | |
| .009 CFM / SQ FT @ 1.57 PSF | .009 CFM / SQ FT @ 1.57 PSF | 0.02 CFM/SQ FT @ 1.57 PSF | 0.02 CFM/SQ FT @ 1.57 PSF |
| | | | |
| UL-90 | UL-90 | UL-90 | UL-90 |
| | | | |

Metal Roof Panels

| | | | |
|-----|---|---|---|
| 1. | COMPANY NAME | PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM CORP. |
| 2. | PRODUCT NAME | INTEGRAL BATTEN | REDI-R00F STANDING SEAM |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | NO | NO |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | BATTEN STANDING SEAM | STANDING SEAM |
| 4B. | 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 (ga.) | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 45 | 45 |
| 4D. | PANEL WIDTHS (in.) | 11, 18, 19 | 12, 18, 20 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 3:12 | 3:12 |
| | Solid Decking (required, optional, or not used) | REQUIRED | REQUIRED |
| | Underlayment (type or NA) | 30-LB. FELT | 30-LB. FELT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | X |
| | Trapezoidal | | |
| | Batten | X | |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | |
| | Roll Formed (180 degrees) | | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | 1-1/2 / N | |
| | Snap-on Cap | | |
| | Snap Together | | 1-1/2 / N |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | X | X |
| | Slip Clip | | |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | X |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1979 | 1990 |
| | Number of Squares Installed | > 100,000 | > 100,000 |
| | Licensed Applicator Agreement (yes/no) | NO | NO |
| | Method of Distribution (distributors, direct) | DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT |
| | 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 E 1646 WATER PENETRATION TEST RESULTS (results or none) | NO LEAKAGE @ 12 PSF | NO LEAKAGE @ 12 PSF |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | 0.008 CFM/SQ FT @ 1.57 PSF | 0.004 CFM/SQ FT @ 1.57 PSF |
| 13. | FM/UL WIND UPLIFT RATINGS | UL-90 | UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM CORP. | PETERSEN ALUMINUM CORP. |
|--|--|--|--|
| SNAP-ON STANDING SEAM | HIGH SNAP-ON \ STANDING SEAM | REDI-ROOF BATTEN | SNAP-CLAD |
| YES | YES | YES | YES |
| NO | NO | NO | YES |
| | | | |
| STANDING SEAM | STANDING SEAM | BATTEN STANDING SEAM | STANDING SEAM |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| 24 / KYNAR 500 | 24 / KYNAR 500 | 24 / KYNAR 500 | 22, 24 / KYNAR 500 |
| | | | |
| | | | |
| | | | |
| 0.032 / KYNAR 500 | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 | 0.032 / KYNAR 500 |
| | | | |
| | | | |
| 45 | 45 | 45 | 45 |
| 12, 16, 18, 20 | 11, 18, 19 | 12 | 10, 12, 16, 18 |
| | | | |
| 3:12 | 3:12 | 3:12 | 2:12 |
| REQUIRED | REQUIRED | REQUIRED | OPTIONAL |
| 30-LB. FELT | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| | | | |
| | | | |
| | | | |
| 1 / N | 1-1/2 / N | 1-1/2 / N | |
| | | | 1-3/4 / F |
| | | | |
| | | | |
| X | X | X | X |
| | | | |
| | | | |
| X | X | X | |
| X | X | | |
| | | | |
| | | | |
| 1979 | 1979 | 1989 | 1993 |
| > 100,000 | > 100,000 | > 100,000 | > 100,000 |
| NO | NO | NO | NO |
| DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT | DISTRIBUTORS, DIRECT |
| 4 | 4 | | |
| 800/323-1960 | 800/323-1960 | 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 | NO LEAKAGE @ 12 PSF |
| | | | |
| 0.006 CFM/SQ FT @ 1.57 PSF | 0.005 CFM/SQ FT @ 1.57 PSF | 0.03 CFM/SQ FT @ 1.57 PSF | 0.04 CFM/SQ FT @ 1.57 PSF |
| | | | |
| UL-90 | UL-90 | UL-90 | UL-90 |
| | | | |

Metal Roof Panels

| | | | |
|-----|--|---|---|
| 1. | COMPANY NAME | TREMCO INC. | TREMCO INC. |
| 2. | PRODUCT NAME | TREMLOCK LSP | TREMLOCK VP |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | YES | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | DOUBLE LOCK STANDING SEAM | CRIMPED STANDING SEAM |
| 4B. | 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 (ga.) | | |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 60 | 45 |
| 4D. | PANEL WIDTHS (in.) | 24 | 16 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 1/4:12 | 1/2:12 |
| | Solid Decking (required, optional, or not used) | NOT USED | OPTIONAL |
| | Underlayment (type or NA) | NA | |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | X |
| | Trapezoidal | X | |
| | Batten | | |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | | |
| | Crimped (45 degrees) | | 2 / F |
| | Roll Formed (180 degrees) | 2-3/4 / F | |
| | Double Roll Formed (two 180 degrees) | | |
| | Roll and Lock | | |
| | Snap-on Cap | | |
| | Snap Together | | |
| 8. | FASTENING METHOD | | |
| | Through-Fastened, Exposed | | |
| | Through-Fastened, Concealed | | |
| | 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 | | |
| | Year of First Commercial Use | 1969 | 1968 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | YES | YES |
| | Method of Distribution (distributors, direct) | DIRECT | DIRECT |
| | Number of Regional Service Locations | 14 | 14 |
| | For Sales Information, Contact: | LOCAL REP | LOCAL REP |
| | For Technical Information, Contact: | PRODUCT MANAGEMENT | PRODUCT MANAGEMENT |
| 11. | ASTM E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | NONE |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | NONE |
| 13. | FM/UL WIND UPLIFT RATINGS | FM I-60, I-90, I-120 UL-90 | FM I-60, I-105 UL-90 |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

| | | | |
|--|--|--|--|
| TREMCO INC. | UMICORE BUILDING PRODUCTS, USA | UNITED STEEL DECK, INC. | UNITED STEEL DECK, INC. |
| TREMLOK LSP-C | VM ZINC | UNIRIB C36 | SS18 STANDING SEAM |
| YES | YES | YES | YES |
| YES | NO | YES | YES |
| DOUBLE LOCK STANDING SEAM | STANDING SEAM | EXTERIOR EXPOSED FASTENER | EXTERIOR EXPOSED FASTENER |
| THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| 22, 24 / KYNAR 500, HYLAR 5000 | | 18, 20, 22, 24 / SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL | 18, 20, 22, 24 / SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL |
| 22, 24 / UNFINISHED | | 22, 24, / UNFINISHED | 22, 24, / UNFINISHED |
| | | | |
| | | 0.032, 0.04, 0.05 / UNFINISHED | 0.032, 0.04, 0.05 / UNFINISHED |
| | | | |
| | 16, 20, 22, 24 / NATURAL, PRE-WEATHERED | | |
| 60 | 40 | 40 | 40 |
| 24 | 16.75 | 36 | 18 |
| 1/4:12 | 1:12 | 1:12 | 1/2:12 |
| REQUIRED | REQUIRED | OPTIONAL | OPTIONAL |
| | ROOFSHIELD | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| X | X | 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 | HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| 2-3/4 / F | 1-1/4 / E | 1-1/2 / E | 2-5/16 / E |
| | 1 OR 1.5 / N | | |
| | | | |
| | | | |
| | | X | X |
| | | | |
| 2-1/2 | X | | |
| | X | | |
| | X | | |
| 1974 | 1837 | 1978 | 1987 |
| YES | MILLIONS | | |
| DIRECT | NO | NO | NO |
| 14 | DIRECT | | |
| | 6 | | |
| LOCAL REP | J. LOWY | 908/277-1617 | 908/277-1617 |
| PRODUCT MANAGEMENT | L. HEINDRYCEX | J. MATTINGLY | J. MATTINGLY |
| NONE | | NO LEAKAGE @ 6.24 PSF | NONE |
| NONE | | 0.012 CFM/SQ FT @ 1.57 PSF | NONE |
| FM I-60, I-90, I-120 | UL 1897 | NONE | NONE |
| UL-90 | | | |

Metal Roof Panels

| | | | |
|-----|---|---|---|
| 1. | COMPANY NAME | UNITED STEEL DECK, INC. | UNITED STEEL DECK, INC. |
| 2. | PRODUCT NAME | UTILITY RIB | U230 |
| 3. | ARCHITECTURAL APPLICATIONS (yes/no) | YES | YES |
| | STRUCTURAL APPLICATIONS (yes/no) | YES | YES |
| 4A. | PANEL CONFIGURATION | | |
| | PANEL DESCRIPTION | EXTERIOR EXPOSED FASTENER | EXTERIOR EXPOSED FASTENER |
| 4B. | PANEL MATERIALS, THICKNESSES, AND FINISHES | THICKNESSES / FINISHES | THICKNESSES / FINISHES |
| | Galvanized Steel (ga.) | 24, 26 / SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL | 18, 20, 22, 24 / SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL |
| | Stainless Steel (ga.) | | |
| | Galvalume (ga.) | | 22, 24 / UNFINISHED |
| | Aluminized Steel (ga.) | | |
| | Aluminum (ga.) | | 0.032, 0.04, 0.05 / UNFINISHED |
| | Copper (ga.) | | |
| | Terne Metal (ga.) | | |
| | Zinc (ga.) | | |
| 4C. | MAXIMUM LENGTH (lf.) | 40 | 40 |
| 4D. | PANEL WIDTHS (in.) | 30 | 30 |
| 5. | SYSTEMS REQUIREMENTS | | |
| | Minimum Slope (in. per ft.) | 3:12 | 1:12 |
| | Solid Decking (required, optional, or not used) | OPTIONAL | OPTIONAL |
| | Underlayment (type or NA) | 30-LB. FELT OR EQUIVALENT | 30-LB. FELT OR EQUIVALENT |
| 6. | PANEL PROFILE | | |
| | Vertical Leg | | |
| | Trapezoidal | X | X |
| | Batten | | |
| | Other (specify) | | |
| 7. | SEAM PROCESSING: HEIGHT (inches) & 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 |
| | Overlapped | 9/16 / E | 2 / 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 | | |
| | Through-Fastened, Exposed | X | X |
| | Through-Fastened, Concealed | | |
| | CLIP, CONCEALED | | |
| | Fixed Clip | | |
| | Slip Clip | | |
| | Moveable Clip (designed allowable movement, inches) | | |
| 9. | SPECIALTY APPLICATIONS | | |
| | Curved | | |
| | Tapered | | |
| | Other | | |
| 10. | MANUFACTURER/PRODUCT DATA | | |
| | Year of First Commercial Use | 1978 | 1989 |
| | Number of Squares Installed | | |
| | Licensed Applicator Agreement (yes/no) | NO | NO |
| | Method of Distribution (distributors, direct) | | |
| | 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 E 1646 WATER PENETRATION TEST RESULTS (results or none) | NONE | NONE |
| 12. | ASTM E 1680 (AIR INFILTRATION TEST RESULTS (results or none) | NONE | NONE |
| 13. | FM/UL WIND UPLIFT RATINGS | NONE | NONE |
| 14. | SEE APPENDIX IF CHECKED | | |

NA=not applicable

Metal Roof Panels

| |
|--|
| UNITED STEEL DECK, INC. |
| UNILINE RP |
| YES |
| YES |
| EXTERIOR EXPOSED FASTENER |
| THICKNESSES / FINISHES |
| 22, 24, 26 / SILICONIZED POLYESTER, FLUOROCARBON, PLASTISOL |
| 22, 24, 26, / UNFINISHED |
| 22, 24, 26 / UNFINISHED |
| 0.032, 0.04, 0.05 / UNFINISHED |
| |
| |
| |
| 40 |
| 36 |
| |
| 1:12 |
| OPTIONAL |
| 30-LB. FELT OR EQUIVALENT |
| |
| |
| X |
| |
| |
| HEIGHT(S) (inches) / SEAM SEALANT: F= FACTORY APPLIED; E = FIELD APPLIED; N = NONE |
| 1-1/4 / E |
| |
| |
| |
| |
| |
| X |
| |
| |
| |
| |
| |
| |
| |
| |
| 1978 |
| NO |
| |
| |
| 908/277-1617 |
| J. MATTINGLY |
| NONE |
| NONE |
| UL-90 |
| |

Manufacturers' Appendix, Roof Coverings

BARRETT COMPANY

The Barrett Ram-Tough Elastomeric Built-up Roofing System 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.

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 exceeds ASTM 6152-97.

BERRIDGE MANUFACTURING CO.

Berridge Tee-Panel, High Seam Tee-Panel, 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 BondCote Series of membrane is manufactured using a liquid spread coating process over a dense fabric base. All BondCote and E Plus membranes can be used in either mechanically attached or adhered constructions.

BondCote FleeceBond Plus membrane combines the E Plus Series membrane with a high-strength polyester fleece fabric in the factory. FleeceBond Plus 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 adhesive 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.

CERTAINTED ROOFING PRODUCTS GROUP – COMMERCIAL ROOFING

CertainTeed's low slope roofing systems have a wide range of UL, FM, ICBO, Miami Dade and other approvals/listings. CertainTeed also provides a line of roof insulation products, roofing adhesives, primers and coatings. CertainTeed is an Energy Star Partner with several Energy Star labeled surfacing options for low slope roofing applications.

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. Additionally, Hy-Crown (CSPE) single-

ply is ICBO recognized, FM approved and classified by Underwriters Laboratories. All products comply with EnergyStar Roof Products Program guidelines. For specific details contact Conklin Building Products Division.

COOLEY ENGINEERED MEMBRANES, INC.

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

DIBITEN

Dibiten modified bitumen roofing membranes are available in both smooth-surfaced (Dibiten Poly/4 and Dibiten Poly/5) and slate flake-finished (Dibiten Poly/4.5 Granular). Dibiten Poly/4 and Dibiten are available in a wide range of surface colors. All the Dibiten APP products are torch applied. 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 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 Permaweld CPA Fleece Back Membrane has 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.

The Metal Roof Restoration System is designed to 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.

Spray-Applied Polyurethane Foam: The ER Foam System consists of sprayed-in-place polyurethane foam used in conjunction with ERSystems elastomeric coatings. 2.5# 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).

FIELDS COMPANY, LLC

Refer to Fields Product Guide and appropriate roof system template for other sheets, temporary roofs, vapor retarders and foundations. Also refer to Fields Product Guide and appropriate roof system template for reflective coating options, reflective mineral options and reflective cap sheet options.

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.

FE 314.3.0, FE 346, FE 347: This system uses new "blowing agents" and long-term insulation figures are not available at this time. Initial R-values show 6.25.

Please consult our instructions for further application details.

GACO WESTERN, INC.

GacoFlex specialty coatings include: A-32, a water-based acrylic/latex for foam, concrete and plywood roofs; H-25 hypalon for concrete and plywood roofing; S-10 silicone; UA-60 aliphatic urethane; E-5320 rust inhibiting epoxy primer for metal roofs; UB fast-set urethane; UA-7090 aliphatic urethane. Gaco Western also offers specialty SPF: PolyFoam 251/303 which cures to heavy density rigid polyurethane insulation; PolyFoam 275 which cures to a medium density rigid insulation; PolyFoam 190 for use where ambient temperature is below 55F; PolyFoam 240 – two part SPF adheres insulation board and felt-backed single-ply to a variety of substrates.

HENRY COMPANY

Henry Company has many cold process and maintenance specifications. Please refer to the Henry Company specification manual or the Henry Company internet site www.henry.com.

Built-Up Roofing: #605 80 lb. Mineral Surface Underlayment meets ASTM D3909 and is used as a buffer sheet and is reverse rolled. #606 80 lb. Mineral Surface SBS-Modified Underlayment meets ASTM D 3909 and ASTM 5147 and is used as a buffer sheet and is reverse rolled. Henry #196 Polyester Reinforcing Fabric meets the following: weight – 2.9 oz/sq. yd; elongation – ASTM D1682, 25.8%*; Trapezoidal Tear Strength – ASTM D1117, 14.2 lbs.; Tensile – ASTM D1682 – 41 lbs.*; Mullen Burst – ASTM D3786 – 127 lbs.*NOTE: Average machine and cross machine directions, applies to width.

Modified Bitumen: modifiedPLUS™ bitumen roof systems are multi-ply consisting of combinations of SBS base, ply and cap sheets depending on specification and warranty requirements. Membranes can be applied from 1/8 inch to vertical. PMR systems may be used on dead level. Good roofing practice calls for a minimum of 1/4 inch slope on conventional modified bitumen roof systems. Substrates include most common decks as well as approved insulations. ModifiedPLUS™ applications include hot applied, cold applied, torch-welding and self-adhered roof systems. The BUR systems within the modifiedPLUS™ family of specifications includes Monolithic cold process roof coatings for extended warranty situations.

Consult Henry for the latest UL and FM listings.

HONEYWELL INTERNATIONAL, INC.

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

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 #910 and #920 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 is available for sloped, convex and concave curves and tapered designs 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. Design and engineering assistance is offered for all our products. In addition to standard offerings listed, we customize profiles and cornices to meet specific aesthetic requirements. All 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

NATIONAL COATINGS CORP.

Acryshield complies with ASTM D 6083-97A, *Standard Specification For Liquid Applied Acrylic Coating Used in Roofing*. Acryflex complies with both ASTM C920-98, *Standard Specification for Elastomeric Joint Sealants* and Federal Specification TT-S-00230C, Class A.

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 Graveled foam Roofing System (aggregate-covered poly-

urethane 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.

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. Plastic Coatings Corp. offers five and ten year warranties. Foam primers and metal primers are also available for use in conjunction with SPF. Call 1-800-279-9151 for details.

SARNAFIL INC.

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.

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 approved insulations and substrates provide the code 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.

SEAMAN CORPORATION

FiberTite is manufactured in conventional rolls, along with a variety of prefabricated, standard and custom rolls up to 20 feet by 102 feet. FiberTite FB is manufactured in standard 54 inch roll goods with a 3 inch selvage edge. FiberTite membranes are either ballasted, mechanically fastened or adhered, with proprietary methods, to approved substrates.

Proprietary mechanical attachment is through an unexposed tab in the standard prefabricate

system or conventional roll good system. Adhered systems incorporate either prefabricated panels or roll goods in conjunction with proprietary adhesives specifically designed for use with the FiberTite membranes. Prefabricated and standard accessories, such as boots, corners, adhesives and edge details are available to aid in the installation of the FiberTite Roofing Systems. All field seams are hot welded. FiberTite Roofing Systems by Seaman Corporation are installed by authorized applicators. FiberTite Technical Customer Service provide specification and design assistance to contractors, architects, consultants and owners. For additional information contact Seaman Corporation at 800/927-8578 or via e-mail at fibertite.com.

SIPLAST/ICOPAL

Siplast's Veral Aluminium Face, Veral Copper and Veral Stainless Steel SBS Modified Bitumens meet or exceed ASTM D 6298.

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. Domestically, all Siplast roofing products are manufactured at its plant in Arkadelphia, Arkansas and are stocked at nine warehouse locations across the country.

STEVENS ROOFING SYSTEMS

For UL, FM or model building code compliance information, or comprehensive technical materials, contact Stevens Technical Department at 800/621-ROOF, ext. 1007, or go to www.stevensroofing.com.

TREMCO INC.

BURmastic 100 (Glass) and BURmastic 200 (Composite) are cold process BUR systems. These ply sheets exceed ASTM D 4601, Type II in both tensile strength and weight requirements. BURmastic 300 Ply Sheet is polyester reinforced and coated with SBS/SEBS modified asphalt; no ASTM designation currently exists for this type of material.

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RIGID BOARD INSULATION

National Roofing Contractors Association

LOW-SLOPE Roofing Materials Guide 2004-05



Information about Section 2: Rigid Board Insulation

General Information

Section 2: Rigid Board Insulation in the 2004-05 edition of NRCA's *Low-Slope Roofing Materials Guide* is divided into seven primary sections based on rigid board insulation product type. These primary sections are as follows:

- Expanded polystyrene
- Extruded polystyrene
- Cellular glass
- Wood fiberboard
- Perlite
- Polyisocyanurate
- Composite

A specific description of each particular rigid board insulation type and a general description of the specific information contained within each primary section are included at the conclusion of this General Information section.

An index of the manufacturers included in Section 2: Rigid Board Insulation and locations of their specific products within this section immediately follows this Rigid Board Insulation section.

Cellular Glass

Cellular glass insulation board is manufactured as a rigid insulating material composed of heat-fused, closed glass cells.

Cellular glass insulation board is available in several different board sizes and a number of board thicknesses. It is also available in tapered thickness boards.

The material standard that applies to cellular glass insulation board is American Society for Testing and Materials (ASTM) C552, titled "Standard Specification for Cellular Glass Thermal Insulation."

Information about cellular glass insulation board is presented in the guide in the Cellular Glass Roof Insulation Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)

4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding cellular glass insulation are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Composite

Composite insulation boards consist of multiple layers of insulation and/or a variety of other board materials, such as perlite, polyisocyanurate, fiberboard, plywood, or gypsum board that form a unified, bonded multi-layer component. Top and/or bottom surfaces may or may not be coated or impregnated with facer materials, such as foils, organic felts, glass fibers, and kraft paper.

Composite insulation board is available in several different board sizes and a number of board thicknesses.

Information about composite insulation board is presented in the guide in the Composite Roof Insulation Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding composite insulation board are encouraged to refer to *The*

Expanded Polystyrene

Expanded polystyrene (EPS) insulation board is formed with a polystyrene polymer. The polymer is impregnated with a foaming agent which, when exposed to heat, creates an expanded, relatively uniform, closed-cell material that is resistant to heat flow and moisture penetration.

EPS is available in several different densities, several board sizes and a number of board thicknesses. EPS is also available in tapered thickness boards.

The material standard that applies to EPS is American Society for Testing and Materials (ASTM) C578, titled "Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation."

Information about EPS is presented in the guide in the Expanded Polystyrene Roof Insulation Board section. Specific information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding EPS are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fourth Edition*.

Extruded Polystyrene

Extruded polystyrene (XPS) insulation board is formed with a polystyrene polymer. The blended polystyrene polymer is heated, put through an extrusion process and then exposed to normal atmospheric conditions so the material will expand. Closed cells are formed within the material during this expansion process. The

extrusion process provides smooth, skin-like surfaces on the material.

XPS is available in several different densities, several different board sizes and a number of board thicknesses.

The material standard that applies to XPS is American Society for Testing and Materials (ASTM) C578, titled "Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation."

Information about XPS is presented in the guide in the Extruded Polystyrene Roof Insulation Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding XPS are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Glass Fiber

Glass fiber board roof insulation is a rigid board insulating material manufactured from bonded glass fiber wool with an adhered kraft paper face on the top surface.

Glass fiber board roof insulation is available in several board sizes and a number of board thicknesses.

The material standard that applies to glass fiber board insulation is American Society for Testing and Materials (ASTM) C726, titled "Standard Specification for Mineral Fiber Roof Insulation Board."

Information about glass fiber board roof insulation is presented in the guide in the Glass Fiber Roof Insulation Board section. Specific

listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding glass fiber board roof insulation are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Glass Mat-faced Gypsum Board

Glass mat-faced gypsum board roof insulation is a rigid insulating material manufactured with a gypsum core and glass mat facers on the board's top and bottom sides.

Glass mat-faced gypsum board roof insulation is available in several different board sizes and thicknesses.

The material standard that applies to glass mat-faced gypsum board roof insulation is American Society for testing and Materials (ASTM) C1177, titled "Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing."

Information about glass mat-faced gypsum board roof insulation is presented in the guide in the Glass Mat-faced Gypsum Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding glass mat-faced gypsum board roof insulation are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Perlite

Perlite board roof insulation is a rigid insulating material manufactured from expanded volcanic materials combined with organic fibers and binders. The top surface of perlite roof insulation generally is treated with an asphalt emulsion to minimize bitumen absorption.

Perlite insulation board is available in several different board sizes and a number of board thicknesses. It is also available in tapered thickness boards.

The material standard that applies to the perlite insulation board is American Society for Testing and Materials (ASTM) C728, titled "Standard Specification for Perlite Thermal Insulation Board."

Information about perlite insulation board is presented in the guide in the Perlite Roof Insulation Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding perlite insulation board are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Polyisocyanurate

Polyisocyanurate foam roof insulation board is manufactured as a closed cell rigid foam insulation. For rigid roof insulation, the polyisocyanurate foam material is typically sandwiched between asphalt-saturated organic

or inorganic felt facers or inorganic glass fiber mat facers.

Polyisocyanurate roof insulation is available in several different board sizes and a number of board thicknesses. It is also available in tapered thickness boards.

The material standard that applies to polyisocyanurate insulation board is American Society for Testing and Materials (ASTM) C1289, titled "Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation Board."

Information about polyisocyanurate insulation board is presented in the guide in the Polyisocyanurate Roof Insulation Board section in two parts: Part 1: General Information and Part 2: Test Results.

Specific listing information included in Part 1: General Information is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding polyisocyanurate insulation board are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*

Wood Fiberboard

Wood fiberboard roof insulation is a rigid insulating material manufactured from wood or cane fibers and various binders.

Wood fiberboard insulation board is available in several densities, several different board sizes and a number of board thicknesses.

The material standard that applies to the wood fiberboard roof insulation is American Society for Testing and Materials (ASTM) C208, titled

"Standard Specification for Cellulosic Fiber Insulating Board."

Information about wood fiberboard insulation board is presented in the guide in the Wood Fiberboard Roof Insulation Board section. Specific listing information included is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Physical properties
5. Surface treatment
6. Available as tapered material
7. Common available sizes
8. Common available thicknesses/R-values
9. Manufacturing plant location(s)
10. UL "P" design numbers
11. Code acceptance
12. Limitations and/or restrictions
13. See appendix

Users of the guide who are interested in additional information regarding wood fiberboard insulation are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Index to Listed Rigid Board Insulation

| CELLULAR GLASS INSULATION | COMPOSITE INSULATION | EXTRUDED INSULATION | GLASS FIBER INSULATION | GLASS MAT-FACED GYPSUM BOARD | PERLITE INSULATION | POLYSOCYANURATE INSULATION | WOOD FIBERBOARD INSULATION |
|---|----------------------|---------------------|------------------------|------------------------------|--------------------|----------------------------|----------------------------|
| A F M R-CONTROL BUILDING SYSTEMS 211 River Ridge Circle #102 Burnsville, MN 55337 800/255-0176 FAX: 952/474-2074 E-mail: afm@r-control.com Web Site: www.r-control.com | 366 | 372 | | | | | |
| ARVRON INC. 4720 Clay S.W. Grand Rapids, MI 49548 616/530-1888 FAX: 616/530-9232 E-mail: Web: | | 372 | | | | | |
| ATLAS ROOFING CORPORATION 2000 River Edge Parkway #800 Atlanta, GA 30328 770/933-4478 FAX 770/952-3170 E-mail: rroe@atlasroofing.com Web: www.atlasroofing.com | | | | | | | 400 |
| BENCHMARK FOAM INC. 3200 9th Ave., S.E. Watertown, SD 57201-9102 800/658-3444 FAX 605/886-8099 E-mail: getfoam@benchmarkfoam.com Web: www.benchmarkfoam.com | 367 | 372 | | | | | |
| CARLISLE SYNTEC INCORPORATED P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX: E-mail: Web: www.carlisle-syntec.com | | 375 | | | | | 403 412 |
| CERTAINTED CORPORATION 750 E. Swedesford Road P.O. Box 860 Valley Forge, PA 19482 800/233-8990 FAX: 610/341-7859 Web: | 367 | 375 | 380 | | | | 405 |
| CONKLIN CO., INC. 551 Valley Park Drive Shakopee, MN 55379 952/496-4243 FAX: 952/49 6-4285 E-mail: marketing@conklin.com Web: www.conklin.com | | | | | | | 405 |
| DIVERSI-FOAM PRODUCTS 9091 County Road 50 P. O. Box 44 Rockford, MN 55373 763/477-5854 FAX: 763/477-5863 E-mail: info@diversifoam.com | 376 | 383 | | | | | |
| DOW CHEMICAL COMPANY, THE Fabricated Products Business Center 1605 Joseph Drive, Larkin 200 Building Midland, MI 48674 517/638-5225 FAX: Web: | 367 | | 384 | | | | 405 |
| FALCON FOAM Division Atlas Roofing Corp. 8240 Byron Center Road Byron Center, MI 49315 616/878-1568 FAX: 616/878-9942 Web: www.atlasroofing.com | | 377 | | | | | |
| FIRESTONE BUILDING PRODUCTS, INC. 525 Congressional Blvd. Carmel, IN 46032-5607 800/428-4442 FAX: 317/575-7100 E-mail: Web: www.firestonebpco.com | 368 | | | | | | 394 406 412 |
| GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 FAX 973/628-3356 E-mail: Web: www.gaf.com | 369 | | | | | | 396 407 413 |
| HUNTER PANELS 15 Franklin Street Portland, ME 04101 888/746-1114 FAX: 877/775-1769 E-mail: info@hpanels.com Web: | | | | | | | 407 |
| HUEBERT BROTHERS PRODUCTS, LLC 1545 E Morgan Street, Box 416 Boonville, MO 65233 660/882-2704 FAX 660/882-2704 E-mail: Web: www.huebertfiberboard.com | | | | | | | 413 |
| JOHNS MANVILLE Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904 E-mail: | 369 | | | 393 | 397 | 408 | |
| KOPPERS INC. Commercial Roofing Dept. 436 Seventh Avenue Pittsburgh, PA 15219-1800 800/468-9629 FAX: 412/227-2002 Web: www.koppers.com | 370 | | | | 397 | 409 | 413 |
| OWENS CORNING One Owens Parkway Toledo, OH 43659 800/438-7465 FAX: E-mail: Web: www.owenscorning.com | | | 386 | | | | |
| PACTIV BUILDING PRODUCTS 2100 RiverEdge Parkway, Suite 175 Atlanta, GA 30328 678/589-7330 FAX: 678/589-7300 E-mail: Web: www.pactivbuildingproducts.com | | | 391 | | | | |
| PITTSBURGH CORNING CORP. 800 Presque Isle Drive Pittsburg, PA 15239 800/359-8433 FAX: 724/327-5890 E-mail: Web: www.foamglasinsulation.com | 365 | | | | | | |
| R-MAX INC. 13524 Welch Road Dallas, TX 75244 972/387-4500 FAX: 972/387-4673 E-mail: Web: www.rminc.com | 391 | | | | | 409 | |

Index to Listed Rigid Board Insulation

| CELLULAR GLASS INSULATION | COMPOSITE INSULATION | EXTRUDED INSULATION | GLASS FIBER INSULATION | GLASS MAT-FACED GYPSUM BOARD | PERLITE INSULATION | POLYISOCYANURATE INSULATION | WOOD FIBERBOARD INSULATION |
|--|----------------------|---------------------|------------------------|------------------------------|--------------------|-----------------------------|----------------------------|
| T-CLEAR CORPORATION P. O. Box 416 Hamilton, OH 45012 800/ 544-7398 or 513/870-9243 FAX 513/870-9606 E-mail: Web: www.telesouth1.com | | | | | | | 392 |
| TEMPLE P.O. Drawer N Diboll, TX 75941 936/829-1254 800/231-6060 FAX: 800/426-7382 E-mail: gkeeling@temple.com Web: www.temple.com | | | | | | | 414 |

| WOOD FIBERBOARD INSULATION | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|-----|-----|-----|-----|
| POLYISOCYANURATE INSULATION | | | | | | | | | | | |
| GLASS MAT-FACED GYPSUM BOARD | | | | | | | | | | | |
| GLASS FIBER INSULATION | | | | | | | | | | | |
| EXTRUDED INSULATION | | | | | | | | | | | |
| EPS INSULATION | | | | | | | | | | | |
| COMPOSITE INSULATION | | | | | | | | | | | |
| CELLULAR GLASS INSULATION | | | | | | | | | | | |
| TREMCO INC. 3735 Green Road Beachwood, OH 44122 216/292-5000 FAX: 216/292-5077 E-mail: Web: www.tremcoroofing.com | | | | | | | | 410 | 415 | | |
| U.S. INTEC, INC. 1361 Alps Road Wayne,NJ 07470 800/624-6832 FAX: 973/628-4167 E-mail: Web: www.usintec.com | | | | | | | | 371 | 398 | 411 | 415 |

Cellular Glass Roof Insulation Board

| | |
|---|--------------------------------------|
| 1. COMPANY NAME | PITTSBURGH CORNING CORPORATION |
| 2. PRODUCT NAME | FOAMGLAS INSULATION |
| 3. COMPLIES WITH: ASTM C 552-00 <i>Standard Specification for Cellular Glass Thermal Insulation</i> (indicate Type IV or other types, if appropriate) | |
| 4. PHYSICAL PROPERTIES (per ASTM C552-00): | |
| Density, min., lbs/ft ³ | 6.8 |
| Density, max., lbs/ft ³ | 9.7 |
| Compressive strength, min., psi | 60 |
| Flexural strength, min., psi | 60 |
| Water absorption, max., volume % | 0.5 |
| 5. SURFACE TREATMENT: Top Surface | UNFACED |
| Bottom Surface | UNFACED |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | |
| 4' X 8' | |
| Other (describe) | 18" X 24" |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1.5 4.98 4.69 |
| | 2 6.65 6.25 |
| | 2.5 8.31 7.81 |
| | 3 9.97 9.37 |
| | 3.5 11.63 10.94 |
| | 4 13.29 12.50 |
| | 4.5 14.95 14.06 |
| | 5 16.61 15.62 |
| 9. MANUFACTURING PLANT LOCATION(S) | SEDALIA, MO |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | 227, 259, 508, 701, 801, 819 |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| Other (indicate report number) | NYCMCA 138 81M BSA 131-44 SM |
| 12. LIMITATIONS AND/OR RESTRICTIONS | |
| 13. SEE APPENDIX IF CHECKED | |

Composite Roof Insulation Board

| | | |
|---|---|--|
| 1. COMPANY NAME | AFM R-CONTROL | AFM R-CONTROL |
| 2. PRODUCT NAME | R-CONTROL SIP | R-CONTROL SPEC LAM |
| 4. COMPLIES WITH (indicate applicable standard[s]): | ASTM C-578, TYPE I DOC PS2-92 | ASTM C-578 TYPE I DOC PS2-92 |
| 5. PHYSICAL PROPERTIES: | | |
| Compressive strength, min., psi | | |
| Dimensional stability, % linear change, max. | | |
| Flexural strength, min., psi | | |
| Tensile strength (perpendicular to board surface) min., psi | | |
| Water absorption, max., volume % | | |
| 6. SURFACE TREATMENT: | | |
| Top Surface | OSB | OSB |
| Bottom Surface | OSB | NONE |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | X |
| 4' X 8' | X | X |
| Other (describe) | UP TO 8' X 24' | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 4.5 IN - 16.0 / 14.9 6.5 IN - 24.2 / 22.6 8.25 IN - 31.6 / 29.3 10.25 IN - 39.9 / 37.0 12.25 IN - 48.3 / 44.7 | 2 IN - 6.8 / 6.4 4 IN - 15.2 / 14.1 6 IN - 23.5 / 21.8 7.75 IN - 30.8 / 28.5 9.75 IN - 39.1 / 36.2 11.75 IN - 47.5 / 43.9 |
| 10. MANUFACTURING PLANT LOCATION(S) | SEE APPENDIX | SEE APPENDIX |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | 517, 822 | |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | ESR - 1006 | ESR - 1006 |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | X | X |

Composite Roof Insulation Board

| | | | | |
|---|---|---|----------------------------------|---|
| BENCHMARK FOAM INC. | CERTAINTED CORPORATON | DOW CHEMICAL CO. | DOW CHEMICAL CO. | DOW CHEMICAL CO. |
| PERMA FOAM EPS FIBERBOARD COMPOSITE | FLINT BOARD ISO-PL | HY-THERM COMPOSITE | HY-THERM NAIL-LINE | CELO-VENT INSULATED SHINGLE DECK |
| ASTM C 208 ASTM C 578 | ASTM C 1289 TPE III | ASTM C 1289-01 TYPE IV | ASTM C 1289-01 TYPE V | ASTM C 1289-01 TYPE V |
| 10 | 20 | 20 | 20 | 20 |
| 2 | <2 | 4.0 | 4.0 | 4.0 |
| | 40 | 40 | 40 | 40 |
| 10 | 500 | 500 | 500 | 500 |
| 3.7 | <1 | 1.0 | 1.0 | 1.0 |
| | | CELLULOSIC FIBER INSULATION BOARD | ORIENTED STRAND BOARD | ORIENTED STRAND BOARD WITH VENT SPACERS |
| | | GLASSFIBER REINFORCED FELT | GLASSFIBER REINFORCED FELT | GLASSFIBER REINFORCED FELT |
| YES | YES | NO | NO | NO |
| X | | | | |
| X | | X | | X |
| X | | | X | X |
| 4' X 12' ; 4' X 16' | | | | |
| 2 IN - 7.2 / 6.7 | | 1.5 - 7.2 @ 75F | 1.5 - 6.6 @ 75F | 2.5 - 6.0 @ 75F |
| | | 1.8 - 9.6 @ 75F | 2 - 10.7 @ 75F | 3.5 - 12.1 @ 75F |
| | | 2.1 - 12.1 @ 75F | 2.4 - 14.3 @ 75F | 4.5 - 18.5 @ 75F |
| | | 2.3 - 13.8 @ 75F | 3 - 18.9 @ 75F | 5 - 21.7 @ 75F |
| | | 2.5 - 15.2 @ 75F | 4 - 27.0 @ 75F | 5.5 - 25.0 @ 75F |
| | | 3.0 - 19.5 @ 75F | | |
| | | 4.0 - 27.0 @ 75 F | | |
| | | | | |
| WATERTOWN, SD | | TRACY, CA | TRACY, CA | TRACY, CA |
| | 230, 259, 508, 510, 514, 710, 711, 718, 814, 818, 828 | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| | | X | X | X |

Composite Roof Insulation Board

| | | |
|---|---|--|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | ISO 95+ COMPOSITE | ISO 95+ COMPOSITE |
| 4. COMPLIES WITH (indicate applicable standard[s]): | ASTM C- 1289, TYPE III | ASTM C-1289, TYPE IV |
| 5. PHYSICAL PROPERTIES: | | |
| Compressive strength, min., psi | 20 | 20 |
| Dimensional stability, % linear change, max. | 2 | 2 |
| Flexural strength, min., psi | 40 | 40 |
| Tensile strength (perpendicular to board surface) min., psi | 500 | 500 |
| Water absorption, max., volume % | 1 | 2 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | PERLITE | FIBERBOARD |
| Bottom Surface | GLASS REINFORCED ORGANIC MAT | GLASS REINFORCED ORGANIC MAT |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | | |
| | 1.5 IN - 7.4 | 1.5 IN - 7.4 |
| | 2.0 IN - 10.4 | 2.0 IN - 10.4 |
| | 2.5 IN - 13.5 | 2.5 IN - 13.5 |
| | 3.0 IN - 16.7 | 3.0 IN - 16.7 |
| | 3.5 IN - 19.9 | 3.5 IN - 19.9 |
| | 4.0 IN - 23.1 | 4.0 IN - 23.1 |
| | | |
| | | |
| | | |
| 10. MANUFACTURING PLANT LOCATION(S) | CO, CT, FL, KY, PA, TX, UT, WI | CO, CT, FL, KY, PA, TX, UT, WI, |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9595 | |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | X | X |

Composite Roof Insulation Board

| | | | | |
|--|--|--|--|--|
| FIRESTONE BUILDING PRODUCTS | GAF MATERIALS CORP | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE |
| HAILGUARD | ENERGYGUARD COMPOSITE BOARD | FESCO FOAM | NAILBOARD | ENERGY 3 PLUS |
| ASTM C-1289, TYPE V | | ASTM C-1289, TYPE III | ASTM C-1289, TYPE V | ASTM C 1289 TYPE IV |
| 20 | 20 | 20 | 20 | 20 |
| 2 | <2 | <2.0 | <2.0 | 2 |
| 40 | | >40 | >40 | |
| 500 | | >575 | >500 | |
| 1 | 1.5 | 1.5 | 1.5 | <1 |
| OSB | HIGH DENSITY FIBERBOARD OR PERLITE | 1/2" PERLITE INSULATION BOARD | 7/16" OSB | 1/2" WOOD FIBER |
| GLASS REINFORCED ORGANIC MAT | COMPOSITE FACER | GLASS REINFORCED FACER | GLASS REINFORCED FACER | |
| NO | YES | YES | NO | |
| | | | | |
| | | | | |
| X | X | X | X | X |
| X | X | X | X | X |
| | | | | |
| 1.5 IN - 6.6 | 1.5 - 7.4 | 1.5 IN - 7.4 | 1.5 IN - 7.3 | 1.5 - 7.3 |
| 2.0 IN - 9.6 | 2.0 - 10.4 | 2.0 IN - 10.4 | 2.0 IN - 9.6 | 2.0 - 10.3 |
| 2.5 IN - 12.7 | 2.5 - 13.5 | 2.5 IN - 13.5 | 2.5 IN - 12.7 | 2.5 - 13.4 |
| 3.0 IN - 15.9 | 3.0 - 16.7 | 3.0 IN - 16.7 | 3.0 IN - 15.9 | 3.0 - 16.6 |
| 3.5 IN - 19.1 | 3.5 - 19.9 | 3.5 IN - 19.9 | 3.5 IN - 19.1 | 3.5 - 19.8 |
| 4.0 IN - 22.3 | 4.0 - 23.1 | 4.0 IN - 23.1 | 4.0 IN - 22.3 | 4.0 - 23 |
| | | | | |
| | | | | |
| | | | | |
| CO, CT, FL, KY, PA, TX, UT, WI, | | HAZELTON, PA JACKSONVILLE, FL BREMEN, IN FERNLEY, NV CORNWALL, ONT | HAZELTON, PA JACKSONVILLE, FL BREMEN, IN FERNLEY, NV CORNWALL, ONT | HAZELTON, PA JACKSONVILLE, FL BREMEN, IN FERNLEY, NV CORNWALL, ONT |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | NONE | NONE | |
| X | X | X | X | |

Composite Roof Insulation Board

| | | |
|---|---|---|
| 1. COMPANY NAME | JOHNS MANVILLE | KOPPERS INC. |
| 2. PRODUCT NAME | DURA FOAM | KOP-R COMPOSITE |
| 4. COMPLIES WITH (indicate applicable standard[s]): | ASTM C 1289 TYPE III | |
| 5. PHYSICAL PROPERTIES: | | |
| Compressive strength, min., psi | 20 | 20 |
| Dimensional stability, % linear change, max. | <2 | <2.0 |
| Flexural strength, min., psi | | |
| Tensile strength (perpendicular to board surface) min., psi | | |
| Water absorption, max., volume % | 1.5 | <1.0 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | 1/2" DURABOND | 1/2" PERLITE |
| Bottom Surface | | BLACK FIBER- REINFORCED FELT |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | | |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | |
| Other (describe) | | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.5 - 7.2 2.0 - 10.2 2.5 - 13.3 3.0 - 16.5 3.5 - 19.7 4.0 - 22.9 | 1.5 IN - NA / 7.4 2.0 IN - NA / 11.4 |
| 10. MANUFACTURING PLANT LOCATION(S) | HAZELTON, PA JACKSONVILLE, FL BREMEN, IN FERNLEY, NV CORNWALL, ONT | |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | | SEE CURRENT UL LISTING |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | | |

Composite Roof Insulation Board

| | | | |
|--|--|--|--|
| R MAX, INC. | T-CLEAR CORPORATION | T-CLEAR CORPORATION | U.S. INTEC |
| THERMAROOF COMPOSITE-3 | LIGHTGUARD | HEAVYGUARD | ENERGY GUARD COMPOSITE BOARD |
| ASTM C-1289, TYPE III | ASTM C-578-95, TYPE VI | ASTM C-578-95, TYPE VI | |
| 16 | 40 | 40 | 20 |
| <2.0 | 2.0 | 2.0 | <2 |
| >40 | 60 | 60 | |
| >500 | >35 | >35 | |
| 1.0 | 0.3 | 0.3 | 1.5 |
| PERLITE INSULATION BOARD | 3/8" CONCRETE | 15/16" CONCRETE | HIGH DENSITY FIBERBORAD OR PERLITE COMPOSITE FACER |
| ORANIC FILLED GLASS FIBER MAT | CONTINUOUS CLOSED CELL EXTRUDED SKIN | CONTINUOUS CLOSED CELL EXTRUDED SKIN | |
| NO | NO | NO | YES |
| | X | X | |
| X | | | |
| X | | | |
| | | | |
| 1.5 IN - NA / 7.4 | 2 IN - 10.8 / 10.0 | 2 IN - 10.8 / 10.0 | 1.5 / 7.4 |
| 2.0 IN - NA / 10.4 | 3 IN - 16.2 / 15.0 | 3 IN - 16.2 / 15.0 | 2.0 / 10.4 |
| 2.5 IN - NA / 13.5 | 4 IN - 21.6 / 20.0 | 4 IN - 21.6 / 20.0 | 2.5 / 13.5 |
| 3.2 IN - NA / 18.0 | | | 3.0 / 16.7 |
| | | | 3.5 / 19.9 |
| | | | 4.0 / 23.1 |
| | | | |
| | | | |
| | | | |
| DALLAS, TX FERNLEY, NV GREEN, SC | HAMILTON, OH | HAMILTON, OH | |
| 225, 230, 259, 510, 701, 713, 718, 719, 720, 722, 723, 724 725, 727, 728, 729, 730, 732, 801, 814, 817, 818, 819, 823,828 | 225, 229, 230, 235, 404, 505, 507, 714, 803 904 | 225, 229, 230, 235, 404, 505, 507, 714, 803 904 | |
| | | | |
| | | | |
| | | | |
| | | | |
| LOS ANGELES RR # 25378 | | | |
| | PMR INSULATION | PMR INSULATION | |
| X | | | |

Expanded Polystyrene Roof Insulation Board

| | | |
|---|----------------------------------|----------------------------------|
| 1. COMPANY NAME | AFM R-CONTROL | AFM R-CONTROL |
| 2. PRODUCT NAME | PERFORM CONTOUR TAPER TILE | PERFORM CONTOUR TAPER TILE |
| 3. NOMINAL DENSITY (lbs/ft³) | 1.00 | 1.25 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type I, II, VIII, IX or XI) | TYPE I | TYPE VIII |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 0.9 | 1.15 |
| Compressive strength, min., psi | 10 | 13 |
| Flexural strength, min., psi | 25 | 30 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 5.0 | 3.5 |
| Water absorption, max., volume % | 4.0 | 3.0 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | | |
| Bottom Surface | | |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | X | X |
| 3' X 4' | X | X |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1 IN - 4.00 / 3.60 | 1 IN - 4.20 / 3.80 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 10. MANUFACTURING PLANT LOCATION(S) | SEE APPENDIX | SEE APPENDIX |
| 11. UL "P" DESIGN NUMBERS (indicate P-design number) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | ESR-1006 | ESR-1006 |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | X | X |

Expanded Polystyrene Roof Insulation Board

| | | | | |
|-----------------------------------|-----------------------------------|--------------------|-------------------------|-------------------------|
| AFM R-CONTROL | AFM R-CONTROL | ARVRON, INC. | BENCHMARK FOAM, INC. | BENCHMARK FOAM, INC. |
| PERFORM CONTROUR TAPER TILE | PERFORM CONTROUR TAPER TILE | STEER-O-CELL | PERMA-FORM | PERMA-FOAM |
| 1.50 | 2.00 | 1.00 | 1.00 | 1.50 |
| TYPE II | TYPE IX | TYPE I | TYPE I | TYPE II |
| 1.35 | 1.80 | 0.90 | 0.90 | 1.35 |
| 15 | 25 | 10 - 14 | 10 | 15 |
| 40 | 50 | 25 - 30 | 25 | 40 |
| 3.5 | 2.0 | 2.0 - 5.0 | 5.0 | 3.5 |
| 3.0 | 2.0 | <4.0 | 4.0 | 3.0 |
| | | NONE | NA | NA |
| | | NONE | NA | NA |
| YES | YES | YES | YES | YES |
| X | X | | X | X |
| X | X | | X | X |
| X | X | X | X | X |
| X | X | X | X | X |
| | | | CUSTOM | CUSTOM |
| 1 IN - 4.40 / 4.00 | 1 IN - 4.60 | 1 IN - 4.17 / 3.85 | 1 IN - 4.00 / 3.60 | 1 IN - 4.40 / 4.00 |
| | | | 2 IN - 8.00 / 7.20 | 2 IN - 8.80 / 8.00 |
| | | | 3 IN - 12.00 / 10.80 | 3 IN - 13.20 / 12.00 |
| | | | 4 IN - 16.00 / 14.40 | 4 IN - 17.60 / 16.00 |
| | | | 6 IN - 24.00 / 21.60 | 6 IN - 26.40 / 24.00 |
| | | | 8 IN - 32.00 / 28.80 | 8 IN - 35.20 / 32.00 |
| | | | 10 IN - 40.00 / 36.00 | 10 IN - 44.00 / 40.00 |
| | | | | |
| SEE APPENDIX | SEE APPENDIX | GRAND RAPIDS, MI | WATERTOWN, SD | WATERTOWN SD |
| SEE APPENDIX | SEE APPENDIX | NA | SEE APPENDIX | SEE APPENDIX |
| | | 886.5 | | |
| | | 1717 | | |
| | | | | |
| ESR-1006 | ESR-1006 | | SEE APPENDIX | SEE APPENDIX |
| | | | | |
| X | X | | X | X |

Expanded Polystyrene Roof Insulation Board

| | | |
|---|---|---|
| 1. COMPANY NAME | BENCHMARK FOAM, INC. | BENCHMARK FOAM, INC. |
| 2. PRODUCT NAME | PERMA-FOAM | PERMA-FOAM |
| 3. NOMINAL DENSITY (lbs/ft³) | 1.25 | 2 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type I, II, VIII, IX or XI) | TYPE VIII | TYPE IX |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 1.15 | 1.80 |
| Compressive strength, min., psi | 13.0 | 25.0 |
| Flexural strength, min., psi | 30.0 | 50.0 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 3.5 | 2.0 |
| Water absorption, max., volume % | 3.0 | 2.0 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | NA | NA |
| Bottom Surface | NA | NA |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | X | X |
| 3' X 4' | X | X |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | CUSTOM | CUSTOM |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1 IN - 4.20 / 3.80 2 IN - 8.40 / 7.60 3 IN - 12.60 / 11.40 4 IN - 16.80 / 15.20 6 IN - 25.20 / 22.80 8 IN - 33.60 / 30.40 10 IN - 42.00 / 38.00 | 1 IN - 4.60 / 4.20 2 IN - 9.20 / 8.40 3 IN - 13.80 / 12.60 4 IN - 18.40 / 16.80 6 IN - 27.60 / 25.20 8 IN - 36.80 / 33.60 10 IN - 46.00 / 42.00 |
| 10. MANUFACTURING PLANT LOCATION(S) | WATERTOWN SD | WATERTOWN SD |
| 11. UL "P" DESIGN NUMBERS (indicate P-design number) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | SEE APPENDIX | SEE APPENDIX |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | X | X |

Expanded Polystyrene Roof Insulation Board

| | | | | |
|-------------------------|------------------------------------|---|---|---|
| BENCHMARK FOAM, INC. | CARLISLE SYNTEC INCORPORATED | CERTAINTED CORP. | CERTAINTED CORP. | CERTAINTED CORP. |
| PERMA-FOAM | SURE-SEAL EPS | FLINTBOARD EPS | FLINTBOARD EPS | FLINTBOARD TYPE II |
| 0.75 | 1.0 | 1.00 | 1.25 | 1.50 |
| TYPE XI | TYPE I | TYPE I | TPE VIII | TYPE II |
| 0.70 | 0.90 | 0.90 | 1.15 | |
| 5.0 | 10.0 | 10.0 | 13 | |
| 10.0 | 25.0 | 25.0 | 30 | |
| 5.0 | 5.0 | 5.0 | 3.5 | |
| 4.0 | 4.0 | 4.0 | 3.0 | |
| NA | | | | |
| NA | NONE | | | |
| YES | YES | YES | YES | YES |
| X | | X | X | X |
| X | | | | |
| X | X | X | X | X |
| X | X | X | X | X |
| CUSTOM | | 4' X 12' | 4' X 12' | 4' X 12' |
| 1 IN - 3.30 / 3.10 | 1 IN - 4.20 / 3.60 | 1 IN - 4.17 / 3.85 | 1 IN - 4.25 / 3.92 | 1 IN - 4.55 / 4.17 |
| 2 IN - 6.60 / 6.20 | | | | |
| 3 IN - 9.90 / 9.30 | | | | |
| 4 IN - 13.20 / 12.40 | | | | |
| 6 IN - 19.80 / 18.60 | | | | |
| 8 IN - 26.40 / 24.80 | | | | |
| 10 IN - 33.00 / 31.00 | | | | |
| | | | | |
| WATERTOWN SD | | | | |
| SEE APPENDIX | | 211, 225, 701, 801, 803, 814, 815, 817 | 211, 225, 701, 801, 803, 814, 815, 817 | 211, 225, 701, 801, 803, 814, 815, 817 |
| | 98-1 | | | |
| | ER-3826, ER-5527 | | | |
| | NER-570 | | | |
| SEE APPENDIX | | | | |
| | X | | | |
| X | X | | | |

Expanded Polystyrene Roof Insulation Board

| | | |
|---|---|-----------------------------|
| 1. COMPANY NAME | CERTAINTEED CORP. | DIVERSIFOAM PRODUCTS |
| 2. PRODUCT NAME | FLINTBOARD EPS | RAY LITE |
| 3. NOMINAL DENSITY (lbs/ft³) | 2.0 | 1.00 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type I, II, VIII, IX or XI) | TYPE IX | TYPE I |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 1.80 | 0.9 |
| Compressive strength, min., psi | 25.0 | 10 |
| Flexural strength, min., psi | 30.0 | 25 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 2.0 | 5.0 |
| Water absorption, max., volume % | 2.0 | 4.0 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | | |
| Bottom Surface | | |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | X | X |
| 3' X 4' | | X |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | 4' X 12' | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1 IN - 4.76 / 4.35 | 4.17 / 3.85 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 10. MANUFACTURING PLANT LOCATION(S) | | ROCKFORD, MN MENDOTA, IL |
| 11. UL "P" DESIGN NUMBERS (indicate P-design number) | 211, 225, 701, 801, 803, 814, 815, 817 | |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | | |

Expanded Polystyrene Roof Insulation Board

| DIVERSIFOAM PRODUCTS | DIVERSIFOAM PRODUCTS | DIVERSIFOAM PRODUCTS | FALCON FOAM A DIVISION OF ATLAS ROOFING CORP. | FALCON FOAM A DIVISION OF ATLAS ROOFING CORP. |
|-----------------------------|-----------------------------|-----------------------------|---|---|
| RAYLITE | RAYLITE | RAYLITE | FALCON FOAM | FALCON FOAM |
| 1.25 | 1.50 | 2.0 | 1.00 | 1.25 |
| TYPE VIII | TYPE II | TYPE IX | TYPE I | TYPE VIII |
| 1.15 | 1.35 | 1.8 | 0.90 | 1.15 |
| 13 | 15 | 25 | 10.0 | 13.0 |
| 30 | 40 | 50 | 25.0 | 30.0 |
| 3.5 | 3.5 | 2.0 | 5.0 | 3.5 |
| 3.0 | 3.0 | 2.0 | 4.0 | 3.0 |
| | | | | |
| | | | | |
| YES | YES | YES | YES | YES |
| X | X | X | X | X |
| X | X | X | X | X |
| X | X | X | X | X |
| X | X | X | X | X |
| | | | 4' X 12' | 4' X 12' |
| 4.25 / 3.92 | 4.55 / 4.17 | 4.76 / 4.35 | 1 IN - 4.17 / 3.85 | 1 IN - 4.27 / 3.92 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| ROCKFORD, MN MENDOTA, IL | ROCKFORD, MN MENDOTA, IL | ROCKFORD, MN MENDOTA, IL | | |
| | | | 211, 225, 701, 801, 803, 814, 815, 817 | 211, 225, 701, 801, 803, 814, 815, 817 |
| | | | | |
| | | | ICBO 4059 | ICBO 4059 |
| | | | | |
| | | | FM J 10 T0A6 | |
| | | | | |
| | | | | |

Expanded Polystyrene Roof Insulation Board

| | | |
|---|---|---|
| 1. COMPANY NAME | FALCON FOAM A DIVISION OF ATLAS ROOFING CORP. | FALCON FOAM A DIVISION OF ATLAS ROOFING CORP. |
| 2. PRODUCT NAME | FALCON FOAM | FALCON FOAM |
| 3. NOMINAL DENSITY (lbs/ft³) | 1.50 | 2.00 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type I, II, VIII, IX or XI) | TYPE II | TYPE IX |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 1.35 | 1.80 |
| Compressive strength, min., psi | 15.0 | 25.0 |
| Flexural strength, min., psi | 40.0 | 50.0 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 3.5 | 2.0 |
| Water absorption, max., volume % | 3.0 | 2.0 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | | |
| Bottom Surface | | |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | X | X |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | 4' X 12' | 4' X 12' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1 IN - 4.55 / 4.17 | 1 IN - 4.76 / 4.35 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 10. MANUFACTURING PLANT LOCATION(S) | | |
| 11. UL "P" DESIGN NUMBERS (indicate P-design number) | 211, 225, 701, 801, 803, 814, 815, 817 | 211, 225, 701, 801, 803, 814, 815, 817 |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | ICBO 4059 | ICBO 4059 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | | |

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Extruded Polystyrene Roof Insulation Board

| | | |
|--|--|--|
| 1. COMPANY NAME | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED |
| 2. PRODUCT NAME | DOW STYROFOAM DECKMATE | DOW STYROFOAM DECKMATE PLUS |
| 3. NOMINAL DENSITY (lbs/ft ³) | 1.5 | 1.65 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE X | TYPE IV |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft ³ | 1.35 | 1.6 |
| Compressive strength, min., psi | 15 | 25 |
| Flexural strength, min., psi | 40 | 50 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 1.1 | 1.1 |
| Water absorption, max., volume % | 0.3 | 0.3 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| Bottom Surface | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | X | X |
| Other (describe) | 2' X 8' | 2' X 8' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.0 IN - 5.4 / 5.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10.0 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15.0 3.5 IN - 18.9 / 17.5 4.0 IN - 21.6 / 20.0 | 1.0 IN - 5.4 / 5.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10.0 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15.0 3.5 IN - 18.9 / 17.5 4.0 IN - 21.6 / 20.0 |
| 10. MANUFACTURING PLANT LOCATION(S) | | |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | | |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | 2102 | 2102 |
| ICBO Evaluation Service, Inc. (indicate report number) | 2257, 5155 | 2257, 5155 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9576D | 9576D |
| Other agencies (indicate agency & report identification number) | UL CLASSIFIED FM APPROVED | UL CLASSIFIED FM APPROVED |
| 13. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | X | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|--|--|--|--|--|
| CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED |
| DOW STYROFOAM ROOFMATE | DOW STYROFOAM PLAZAMATE | DOW STYROFOAM RECOVERMATE | FOAMULAR THERMAPINK 18 | FOAMULAR THERMAPINK 25 |
| 1.9 | 2.2 | 2 | 1.4 | 1.65 |
| TYPE VI | TYPE VII | | TYPE X | TYPE IV |
| 1.8 | 2.2 | 2 | 1.3 | 1.6 |
| 40 | 60 | 18 | 18 | 25 |
| 60 | 75 | 90 | 60 | 70 |
| 1.1 | 1.1 | 1.8 | 1.1 | 1.1 |
| 0.3 | 0.3 | 0.6 | <0.10 | <0.10 |
| 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 CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| NO | NO | NO | NO | NO |
| | | | | |
| | | | | |
| | | | | |
| X | X | X | X | X |
| 2' X 8' | 2' X 8' | | | |
| 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 | 0.5 IN - 2.3 / 2.2 | 1 IN - 5.4 / 5.0 | 1 IN - 5.4 / 5.0 |
| 2.0 IN - 10.8 / 10.0 | 2 IN - 10.8 / 10.0 | | 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 |
| 2.5 IN - 13.5 / 12.5 | | | 2.0 IN - 10.0 / 10.8 | 2.0 IN - 10.0 / 10.8 |
| 3.0 IN - 16.2 / 15.0 | | | 3.0 IN - 16.2 / 15/0 | 3.0 IN - 16.2 / 15/0 |
| 3.5 IN - 18.9 / 17.5 | | | 4.0 IN - 21.6 / 20.0 | 4.0 IN - 21.6 / 20.0 |
| 4.0 IN - 21.6 / 20.0 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 2102 | 2102 | 96-52 | 96 -24 | 96 -24 |
| 2257 | 2257, 5155 | 2257, 5155 | 3628 | 3628 |
| 9576C | 9576D | 9576D | 9727 | 9727 |
| UL D369 FM APPROVED | UL D369 FM APPROVED | UL D369 FM APPROVED | UL CLASSIFIED FM APPROVED | UL CLASSIFIED FM APPROVED |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| X | X | X | X | X |

Extruded Polystyrene Roof Insulation Board

| | | |
|--|--|--|
| 1. COMPANY NAME | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED |
| 2. PRODUCT NAME | FOAMULAR THERMAPINK 40 | FOAMULAR DURAPINK |
| 3. NOMINAL DENSITY (lbs/ft ³) | 1.85 | 1.60 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE VI | TYPE IV |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft ³ | 1.8 | 1.6 |
| Compressive strength, min., psi | 40 | 25 |
| Flexural strength, min., psi | 115 | NA |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 1.1 | 1.1 |
| Water absorption, max., volume % | <0.05 | 0.1 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| Bottom Surface | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | NO |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | X | X |
| Other (describe) | | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.5 IN - 8.1 / 7.5 2.0 IN - 10.0 / 10.8 3.0 IN - 16.2 / 15/0 | 0.5 IN - 2.7 / 2.5 0.75 IN - 4.0 / 3.75 1.0 IN - 5.4 / 5.0 |
| 10. MANUFACTURING PLANT LOCATION(S) | | |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | | |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | 96 -24 | 96 -24 |
| ICBO Evaluation Service, Inc. (indicate report number) | 3628 | 3628 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9727 | 9727 |
| Other agencies (indicate agency & report identification number) | UL CLASSIFIED | UL CLASSIFIED FM APPROVED |
| 13. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | X | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|--|--|--|---------------------------------------|---------------------------------------|
| CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED | DIVERSIFOAM PRODUCTS | DIVERSIFOAM PRODUCTS | DIVERSIFOAM PRODUCTS |
| FOAMULAR 400 | FOAMULAR 600 | CERTIFOAM 15 | CERTIFOAM 25 | CERTIFOAM 40 |
| 1.85 | 2.20 | | | |
| TYPE VI | TYPE VII | TYPE X | TYPE IV | TYPE VI |
| 1.8 | 2.2 | 1.35 | 1.6 | 1.8 |
| 40 | 60 | 15 | 25 | 40 |
| 115 | 140 | 40 | 50 | 60 |
| 1.1 | 1.1 | 1.0 | 1.0 | 1.0 |
| <0.05 | <0.05 | <.10 | <.10 | <.10 |
| CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED | CONTINUOUS CLOSED-CELL EXTRUDED |
| CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED | CONTINUOUS CLOSED-CELL EXTRUDED |
| NO | NO | NO | YES | YES |
| | | | | |
| | | | | |
| | | | | |
| | | X | X | |
| 2' X 8' | 2' X 8' | | | 2' X 8' |
| 1.0 IN - 5.4 / 5.0 | 1.5 IN - 8.1 / 7.5 | 1 IN - 5.4 / 5.0 | 0.5 IN - 2.7 / 2.5 | 1 IN - 5.4 / 5 |
| 1.5 IN - 8.1 / 7.5 | 2.0 IN - 10.8 / 10.0 | 1.5 IN - 8.1 / 7.5 | 0.75 IN - 4 / 3.75 | 1.5 IN - 8.1 / 7.5 |
| 2.0 IN - 10.8 / 10.0 | 2.5 IN - 13.5 / 12.5 | 2 IN - 10.8 / 10.0 | 1 IN - 5.4 / 5 | 2 IN - 10.8 / 10 |
| 2.5 IN - 13.5 / 12.5 | 3.0 IN - 16.2 / 15.0 | | 1.5 IN - 8.1 / 7.5 | |
| 3.0 IN - 16.2 / 15.0 | 4.0 IN - 21.6 / 20.0 | | 2 IN - 10.8 / 10 | |
| | | | 2.5 IN - 13.5 / 12.5 | |
| | | | 3 IN - 16.2 / 15 | |
| | | | | |
| | | ROCKFORD, MN | ROCKFORD, MN | ROCKFORD, MN |
| | | | | |
| | | | | |
| 96 -24 | 96 -24 | | | |
| 3628 | 3628 | | | |
| | | | | |
| 9727 | 9727 | | | |
| | | | | |
| SEE APPENDIX | SEE APPENDIX | | | |
| X | X | | | |

Extruded Polystyrene Roof Insulation Board

| | | |
|--|--|--|
| 1. COMPANY NAME | DIVERSIFOAM PRODUCTS | THE DOW CHEMICAL COMPANY |
| 2. PRODUCT NAME | CERTIFOAM 60 | STYROFOAM DECKMATE |
| 3. NOMINAL DENSITY (lbs/ft³) | | 1.5 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE VII | TYPE X |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 2.2 | 1.35 |
| Compressive strength, min., psi | 60 | 15 |
| Flexural strength, min., psi | 75 | 40 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 1.0 | 1.1 |
| Water absorption, max., volume % | <.10 | 0.3 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | CONTINUOUS CLOSED-CELL EXTRUDED | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| Bottom Surface | CONTINUOUS CLOSED-CELL EXTRUDED | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES | YES |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | | x |
| Other (describe) | | 2' x 8' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.5 IN - 8.1 / 7.5 2 IN - 10.8 / 10 | 1.0 IN - 5.4 / 5.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10.0 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15.0 3.5 IN - 18.9 / 17.5 4.0 IN - 21.6 / 20.0 |
| 10. MANUFACTURING PLANT LOCATION(S) | ROCKFORD, MN | TORRANCE, CA ALLYNS POINT, CT JOLIET, IL DALTON, GA PEVLEY, MO |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | 2102 |
| ICBO Evaluation Service, Inc. (indicate report number) | | 2257 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | 9576C |
| Other agencies (indicate agency & report identification number) | | UL D369 FM APPROVED |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|--|--|--|--|---|
| THE DOW CHEMICAL COMPANY | THE DOW CHEMICAL COMPANY | THE DOW CHEMICAL COMPANY | THE DOW CHEMICAL COMPANY | THE DOW CHEMICAL COMPANY |
| STYROFOAM DECKMATE PLUS | STYROFOAM PLAZAMATE | STYROFOAM ROOFMATE | STYROFOAM HIGH LOAD 100 | STYROFOAM RIBBED ROOFMATE |
| 1.65 | 2.2 | 1.9 | 3.0 | 1.9 |
| TYPE IV | TYPE VII | TYPE VI | TYPE V | TYPE VI |
| 1.60 | 2.2 | 1.8 | 3.0 | 1.8 |
| 25 | 60 | 40 | 100 | 40 |
| 50 | 75 | 60 | 100 | 60 |
| 1.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN | CONT CLOSED- CELL EXT SKIN W/ CUT GROOVES |
| 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 |
| YES | NO | NO | YES | NO |
| | | | | |
| | | | | |
| | | | | |
| x | | | | |
| 2' x 8' | 2' X 8' | 2' X 8' | 2' X 8' | 2' X 8' |
| 1.0 IN - 5.4 / 5.0 | 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 | 2 IN - 10.8 / 10.0 | 2 IN - 10 @ 75F |
| 1.5 IN - 8.1 / 7.5 | 2.0 IN - 10.8 / 10 | 2.0 IN - 10.8 / 10.0 | 3 IN - 16.2 / 15 | |
| 2.0 IN - 10.8 / 10.0 | | 2.5 IN - 13.5 / 12.5 | | |
| 2.5 IN - 13.5 / 12.5 | | 3.0 IN - 16.2 / 15.0 | | |
| 3.0 IN - 16.2 / 15.0 | | 3.5 IN - 18.9 / 17.5 | | |
| 3.5 IN - 18.9 / 17.5 | | 4.0 IN - 21.6 / 20.0 | | |
| 4.0 IN - 21.6 / 20.0 | | | | |
| | | | | |
| | | | | |
| TORRANCE, CA ALLYNS POINT, CT JOLIET, IL DALTON, GA PEVLEY, MO | TORRANCE, CA ALLYNS POINT, CT JOLIET, IL DALTON, GA PEVLEY, MO | TORRANCE, CA ALLYNS POINT, CT JOLIET, IL DALTON, GA PEVLEY, MO | TORRANCE, CA ALLYNS POINT, CT | PEVELEY, MD |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| | | | | |
| 2102 | 2102 | 2102 | 2102 | 2102 |
| 2257 | 2257 | 2257 | 2257 | 2257 |
| | | | | 9576C |
| 9576C | 9576C | 9576C | 9576C | |
| UL D369 FM APPROVED | UL D369 FM APPROVED | UL D369 FM APPROVED | UL D369 FM APPROVED | UL D 369 FM APPROVED |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| X | X | X | X | X |

Extruded Polystyrene Roof Insulation Board

| | | |
|--|--------------------------------|--|
| 1. COMPANY NAME | THE DOW CHEMICAL COMPANY | OWENS CORNING |
| 2. PRODUCT NAME | STYROFOAOM RECOVERMATE CR | THERMAPINK 18 |
| 3. NOMINAL DENSITY (lbs/ft³) | 2.0 | 1.40 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | | TYPE X |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 2.0 | 1.30 |
| Compressive strength, min., psi | 15 | 18 |
| Flexural strength, min., psi | | 60 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | | 1.1 |
| Water absorption, max., volume % | 0.3 | <0.10 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | POLYKRAFT FACER | AS EXTRUDED SURFACE |
| Bottom Surface | POLYKRAFT FACER | AS EXTRUDED SURFACE |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | | X |
| Other (describe) | 4' X 50' FANFOLD | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 3/8 IN - 1.7 / 1.5 | 1.0 IN - 5.4 / N.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10 3.0 IN - 16.2 / 15 4.0 IN - 21.6 / 20 |
| 10. MANUFACTURING PLANT LOCATION(S) | GRAND RAPIDS, MI | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | 96-52 | 96-24 |
| ICBO Evaluation Service, Inc. (indicate report number) | 2257 | 3628 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9576C | 9727A |
| Other agencies (indicate agency & report identification number) | UL D369 | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | X | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|---|---|---|---|---|
| OWENS CORNING | OWENS CORNING | OWENS CORNING | OWENS CORNING | OWENS CORNING |
| THERMAPINK 25 | THERMAPINK 40 | THERMAPINK 60 | DURAPINK | DURAPINK FA |
| 1.65 | 1.85 | 2.20 | 1.60 | 1.60 |
| TYPE IV | TYPE VI | TYPE VII | TYPE IV | TYPE IV |
| 1.60 | 1.80 | 2.20 | 1.60 | 1.60 |
| 25 | 40 | 60 | 25 | 25 |
| 70 | 115 | 140 | NA | 75 |
| 1.1 | 1.1 | 1.1 | 1.1 | <0.50 |
| <0.10 | <0.05 | <0.05 | 0.10 | 0.10 |
| AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| YES | YES | YES | NO | NO |
| X | X | 2' X 8' | X | X |
| 1.0 IN - 5.4 / N.0 | 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 | 0.5 IN - 2.7 / 2.5 | 0.75 IN - 4.0 / 3.75 |
| 1.5 IN - 8.1 / 7.5 | 2.0 IN - 10.8 / 10 | 2.0 IN - 10.8 / 10 | 0.75 IN - 4.0 / 3.75 | 1.0 IN - 5.4 / 5.0 |
| 2.0 IN - 10.8 / 10 | 3.0 IN - 16.2 / 15 | 3.0 IN - 16.2 / 15 | 1.0 IN - 5.4 / 5.0 | 1.5 IN - 8.1 / 7.5 |
| 3.0 IN - 16.2 / 15 | | | | 2.0 IN - 10.8 / 10 |
| 4.0 IN - 21.6 / 20 | | | | |
| TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| 96-24 3628 | 96-24 3628 | 96-24 3628 | 96-24 3628 | 96-24 3628 |
| 9727A | 9727A | 9727A | 9727A | 9727A |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| X | X | X | X | X |

Extruded Polystyrene Roof Insulation Board

| | | |
|--|---|--|
| 1. COMPANY NAME | OWENS CORNING | OWENS CORNING |
| 2. PRODUCT NAME | DURAPINK PLUS | FOAMULAR 404 |
| 3. NOMINAL DENSITY (lbs/ft³) | 1.50 | 1.85 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE IV | TYPE VI |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 1.50 | 1.80 |
| Compressive strength, min., psi | 18 | 40 |
| Flexural strength, min., psi | 80 | 115 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | <0.50 | 1.1 |
| Water absorption, max., volume % | 0.10 | <0.07 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | LAMINATED POLYESTER | AS EXTRUDED SURFACE |
| Bottom Surface | LAMINATED POLYESTER | EDGE RAIN CHANNELS |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | X | |
| Other (describe) | | 2' X 8' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 0.5 IN - 2.7 / 2.5 | 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15 4.0 IN - 21.6 / 20 |
| 10. MANUFACTURING PLANT LOCATION(S) | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | 96-24 | 96-24 |
| ICBO Evaluation Service, Inc. (indicate report number) | 3628 | 3628 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9727A | 9727A |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | X | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|---|---|---|---|---|
| OWENS CORNING | OWENS CORNING | OWENS CORNING | OWENS CORNING | OWENS CORNING |
| FOAMULAR 604 | FOAMULAR 404 RB | FOAMULAR 604 RB | FOAMULAR 150 | FOAMULAR 250 |
| 2.20 | 1.85 | 2.20 | 1.40 | 1.65 |
| TYPE VII | TYPE VI | TYPE VII | TYPE X | TYPE IV |
| 2.20 | 1.80 | 2.20 | 1.30 | 1.60 |
| 60 | 40 | 60 | 15 | 25 |
| 140 | 115 | 140 | 60 | 75 |
| 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| <0.07 | <0.07 | <0.07 | <0.10 | <0.10 |
| AS EXTRUDED SURFACE | DRAINAGE RIBS FOR PAVER | DRAINAGE RIBS FOR PAVER | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| EDGE RAIN CHANNELS | EDGE RAIN CHANNELS | EDGE RAIN CHANNELS | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| NO | NO | NO | NO | NO |
| | | | | |
| | | | | |
| | | | | |
| | | | X | X |
| 2' X 8' | 2' X 8' | 2' X 8' | 2' X 8' | 2' X 8' |
| 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 | 1.0 IN - 5.4 / 5.0 | 1.0 IN - 5.4 / 5.0 |
| 2.0 IN - 10.8 / 10 | 2.0 IN - 10.8 / 10 | 2.0 IN - 10.8 / 10 | 1.5 IN - 8.1 / 7.5 | 1.5 IN - 8.1 / 7.5 |
| 2.5 IN - 13.5 / 12.5 | 3.0 IN - 16.2 / 15 | 3.0 IN - 16.2 / 15 | 2.0 IN - 10.8 / 10 | 2.0 IN - 10.8 / 10 |
| 3.0 IN - 16.2 / 15 | | | 2.5 IN - 13.5 / 12.5 | 2.5 IN - 13.5 / 12.5 |
| | | | 3.0 IN - 16.2 / 15 | 3.0 IN - 16.2 / 15 |
| | | | 4.0 IN - 21.6 / 20 | 4.0 IN - 21.6 / 20 |
| | | | | |
| | | | | |
| | | | | |
| TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| 96-24 | 96-24 | 96-24 | 96-24 | 96-24 |
| 3628 | 3628 | 3628 | 3628 | 3628 |
| 9727A | 9727A | 9727A | 9727A | 9727A |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| X | X | X | X | X |

Extruded Polystyrene Roof Insulation Board

| | | |
|--|--|--|
| 1. COMPANY NAME | OWENS CORNING | OWENS CORNING |
| 2. PRODUCT NAME | FOAMULAR 400 | FOAMULAR 600 |
| 3. NOMINAL DENSITY (lbs/ft³) | 1.85 | 2.20 |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE VI | TYPE VII |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | | |
| Density, min., lbs/ft³ | 1.8 | 2.20 |
| Compressive strength, min., psi | 40 | 60 |
| Flexural strength, min., psi | 115 | 140 |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 1.1 | 1.1 |
| Water absorption, max., volume % | <0.05 | <0.05 |
| 6. SURFACE TREATMENT: | | |
| Top Surface | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| Bottom Surface | AS EXTRUDED SURFACE | AS EXTRUDED SURFACE |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | | |
| 4' X 8' | X | X |
| Other (describe) | 2' X 8' | 2' X 8' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.0 IN - 5.4 / 5.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15 4.0 IN - 21.6 / 20 | 1.0 IN - 5.4 / 5.0 1.5 IN - 8.1 / 7.5 2.0 IN - 10.8 / 10 2.5 IN - 13.5 / 12.5 3.0 IN - 16.2 / 15 4.0 IN - 21.6 / 20 |
| 10. MANUFACTURING PLANT LOCATION(S) | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX | SEE APPENDIX |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | 96-24 | 96-24 |
| ICBO Evaluation Service, Inc. (indicate report number) | 3628 | 3628 |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | 9727A | 9727A |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | SEE APPENDIX |
| 14. SEE APPENDIX IF CHECKED | X | X |

Extruded Polystyrene Roof Insulation Board

| | | | | |
|---|--|--|--|---|
| OWENS CORNING | PACTIV BUILDING PRODUCTS | PACTIV BUILDING PRODUCTS | PACTIV BUILDING PRODUCTS | T-CLEAR CORPORATION |
| FOAMULAR 1000 | GREENBOARD PB-6 / PB6W / PB 6 PLUS | PLYGOOD- PG38 / PG 39 | GREENBOARD INSULATION BOARD | THERMADRY 1250 |
| 3.00 | 2.90 | 2.40 | 2.0 | 1.8 MIN |
| TYPE V | NA | NA | TYPE IV (1-2") TYPE VI (3") | TYPE VI |
| 3.00 | 2.90 | 2.40 | 2.0 | 1.8 MIN |
| 100 | 15 | 15 | 25 (1-2") 40 (3") | 40 |
| 140 | | | 50 (1-2") 60 (3") | 60 MIN |
| 1.1 | 0.6 | 0.6 | 1.1 | 0/8 |
| <0.05 | 0.6 | 0.6 | <0.1 | <0.1 |
| AS EXTRUDED SURFACE | EXTRUDED CORE, PLASTIC CAP SHEETS | EXTRUDED CORE, PLASTIC CAP SHEETS | CONTINUOUS EXTRUDED SKIN | DRAINAGE CHANNEL COVERED W/ FILTER FABRIC |
| AS EXTRUDED SURFACE | EXTRUDED CORE, PLASTIC CAP SHEETS | EXTRUDED CORE, PLASTIC CAP SHEETS | CONTINUOUS EXTRUDED SKIN | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| NO | NO | NO | YES | NO |
| X | | X | X | |
| 2' X 8' | 4' X 50' | 4' X 9' | 2' X 8' | 2' X 8' |
| 2 IN - 10.8 / 10 | | | | 1.5 IN - 8.1 / 7.5 2.25 IN - 12.15 / 11.25 |
| TALLMADE, OH ROCKFORD, IL VALLEYFIELD, QUEBEC | WINCHESTER, VA YAKIMA, WA CHIPPEWA FALLS, WI | WINCHESTER, VA YAKIMA, WA CHIPPEWA FALLS, WI | WINCHESTER, VA YAKIMA, WA CHIPPEWA FALLS, WI | HAMILTON, OH |
| SEE APPENDIX | UL A 184 | UL A 184 | UL A 183 | |
| 96-24 3628 | 21-88 4280 | 21-88 4280 | 90-78-1 4280 | |
| 9727A | 2228A | 2228A | 2228A | |
| SEE APPENDIX | | | | |
| X | X | X | X | |

Extruded Polystyrene Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | T-CLEAR CORPORATION |
| 2. PRODUCT NAME | THERMADRY 1750 |
| 3. NOMINAL DENSITY (lbs/ft³) | 2.2 MIN |
| 4. COMPLIES WITH: ASTM C 578-01 <i>Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation</i> (indicate Type IV, V, VI, VII, X or XII) | TYPE VII |
| 5. PHYSICAL PROPERTIES (per ASTM D 578-01): | |
| Density, min., lbs/ft³ | 2.2 MIN |
| Compressive strength, min., psi | 60 |
| Flexural strength, min., psi | 75 MIN |
| Water vapor permeance of 1.0 inch thickness, max., perm. | 0.8 |
| Water absorption, max., volume % | <0.1 |
| 6. SURFACE TREATMENT: | |
| Top Surface | DRAINAGE CHANNEL COVERED W/ FILTER FABRIC |
| Bottom Surface | CONTINUOUS CLOSED-CELL EXTRUDED SKIN |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO |
| 8. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | |
| 4' X 8' | |
| Other (describe) | 2' X 8' |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 1.5 IN - 8.1 / 7.5 2.25 IN - 12.15 / 11.25 |
| | |
| | |
| | |
| | |
| | |
| | |
| 10. MANUFACTURING PLANT LOCATION(S) | HAMILTON, OH |
| 11. UL "P" DESIGN NUMBERS (indicate P-design numbers) | |
| 12. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | |
| 14. SEE APPENDIX IF CHECKED | |

Glass Fiber Roof Insulation Board

| | | |
|-----|--|---|
| 1. | COMPANY NAME | JOHNS MANVILLE |
| 2. | PRODUCT NAME | FIBER GLASS |
| 3. | COMPLIES WITH: ASTM C726-93 <i>Standard Specification for Mineral Fiber Roof Insulation Board</i> (indicate X) | X |
| 4. | PHYSICAL PROPERTIES (per ASTM C726-93): | |
| | Compressive strength, min., psi | 12 |
| | Tensile strength perpendicular to board surface, min., lbf/ft ² | 100 |
| | Breaking load, min., lbf | 20 |
| | Water absorption, max., volume % | 10 |
| 5. | SURFACE TREATMENT: | |
| | Top Surface | ASPHALT AND KRAFT |
| | Bottom Surface | NONE NONE |
| 6. | AVAILABLE AS TAPERED MATERIAL (yes/no) | |
| 7. | COMMON AVAILABLE SIZES: | |
| | 2' X 4' | |
| | 3' X 4' | |
| | 4' X 4' | X |
| | 4' X 8' | X |
| | Other (describe) | |
| 8. | COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 0.75 IN - NA / 2.78 0.938 IN - NA / 3.70 1.063 IN - NA / 4.17 1.63 IN - NA / 6.67 2.0 IN - NA / 8.0 2.25 IN - NA / 9.09 3.0 IN - NA / 12.50 |
| 9. | MANUFACTURING PLANT LOCATION(S) | NEWARK, OH |
| 10. | UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. | CODE ACCEPTANCE: | |
| | BOCA Evaluation Service, Inc. (indicate report number) | |
| | ICBO Evaluation Service, Inc. (indicate report number) | |
| | National Evaluation Service, Inc. (indicate report number) | |
| | SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| | Other agencies (indicate agency & report identification number) | |
| 12. | LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX |
| 13. | SEE APPENDIX IF CHECKED | X |

Glass Mat-faced Gypsum Board

| | | |
|--|-----------------------------------|-----------------------------------|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | 3/8 INCH DENS-DECK | 3/8 INCH DENS-DECK PRIME |
| 3. NOMINAL DENSITY (lbs/ft³) | 47 | 47 |
| 4. COMPLIES WITH: ASTM C 1177-99, <i>Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing</i> | NO | NO |
| 5. PHYSICAL PROPERTIES (per ASTM C 1177-99): | | |
| Flexural strength, min., lbf | 50 | 50 |
| Humidified Reflection, Max., IN. | | |
| Core, End and Edge Hardness, Min., 15 lbf. | | |
| Nail-pull Resistance, Min., Lbf. | | |
| Water Resistance, Max., Weight % | | |
| 6. SURFACE TREATMENT: | | |
| Top Surface | GLASS MAT | GLASS MAT |
| Bottom Surface | GLASS MAT | GLASS MAT |
| 7. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 8. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | | |
| 9. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 3/8 IN - 0.42 | 3/8 IN - 0.42 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 10. MANUFACTURING PLANT LOCATION(S) | TEXAS | TEXAS |
| 11. UL "P" DESIGN NUMBERS (indicate P-design number) | | |
| 12. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | | |
| 13. LIMITATIONS AND/OR RESTRICTIONS | | |
| 14. SEE APPENDIX IF CHECKED | | |

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Perlite Roof Insulation Board

| | |
|---|--|
| 1. COMPANY NAME | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | ENERGYGUARD PERLITE |
| 3. COMPLIES WITH: ASTM C 728-97 Standard Specification for Perlite Thermal Insulation Board (indicate Type I or Type II) | TYPE I |
| 4. PHYSICAL PROPERTIES (per ASTM C728-97): | |
| Density, min., lbs/ft ³ Type I: 8; Type II: 10 | 8 |
| Compressive strength, min., psi 20 | 30 |
| Tensile strength, perpendicular, min., lbf/ft ² Type I: 575; Type II: 700 | |
| Flexural strength, min., psi Type I: 40; Type II: 60 | 65 |
| Water absorption, max., volume % Type I: 1.5; Type II: 3.5 | 1.5 |
| 5. SURFACE TREATMENT: | |
| Top Surface | |
| Bottom Surface | |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | X |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 0.5 IN - 1.32 0.75 IN - 2.08 1 IN - 2.78 1.5 IN - 4.17 2 IN - 5.56 |
| 9. MANUFACTURING PLANT LOCATION(S) | |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX |
| 13. SEE APPENDIX IF CHECKED | X |

Perlite Roof Insulation Board

| | | | | |
|------------------------------|------------------------------|--------------------|--------------------|---------------------|
| JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | JOHNS MANVILLE | KOPPERS INC. |
| FESCO BOARD | 1/2 INCH RETROFIT BOARD | DURABOARD | DURABOARD | PERLITE |
| TYPE I | TYPE II | TYPE I | TYPE II | TYPE I |
| 9 | 11 | 10 | 10 | 9 |
| 30 | 35 | 35 | 35 | 30 |
| >575 | >700 | 575 | 575 | |
| 65 | 60 | 125 | 125 | 65 |
| 1.5 | 3.5 | 5.5 | 3.5 | 1.5 |
| COATED | COATED | COATED | COATED | COATED |
| NONE | NONE | NONE | NONE | NONE |
| YES | | | | YES |
| X | X | | | X |
| X | X | X | X | X |
| | X | | | |
| 0.75 IN - NA / 2.08 | 0.5IN - NA / 1.32 | 0.5 IN - NA / 1.2 | 0.5 IN - NA / 1.2 | 0.75 IN - NA / 2.08 |
| 1.0 IN - NA / 2.78 | | 0.75 IN - NA / 1.8 | 0.75 IN - NA / 1.8 | 1.0 IN - NA / 2.78 |
| 1.5 IN - NA / 4.17 | | 1.0 IN - NA / 2.3 | 1.0 IN - NA / 2.3 | 1.5 IN - NA / 4.17 |
| 2.0 IN - NA / 5.56 | | | | |
| | | | | |
| | | | | |
| | | | | |
| ROCKDALE, IL EDINBURG, VA | ROCKDALE, IL EDINBURG, VA | EDINBURG, VA | EDINBURG, VA | |
| SEE APPENDIX | | | | SEE UL LISTING |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| X | | | | X |

Perlite Roof Insulation Board

| | |
|---|----------------------|
| 1. COMPANY NAME | U.S. INTEC |
| 2. PRODUCT NAME | ENERGUARD PERLITE |
| 3. COMPLIES WITH: ASTM C 728-97 Standard Specification for Perlite Thermal Insulation Board (indicate Type I or Type II) | TYPE I |
| 4. PHYSICAL PROPERTIES (per ASTM C728-97): | |
| Density, min., lbs/ft ³ Type I: 8; Type II: 10 | 9 |
| Compressive strength, min., psi 20 | 30 |
| Tensile strength, perpendicular, min., lbf/ft ² Type I: 575; Type II: 700 | |
| Flexural strength, min., psi Type I: 40; Type II: 60 | 65 |
| Water absorption, max., volume % Type I: 1.5; Type II: 3.5 | 1.5 |
| 5. SURFACE TREATMENT: | |
| Top Surface | |
| Bottom Surface | |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | X |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 0.5 IN - 1.32 |
| | 0.75 IN - 2.08 |
| | 1 IN - 2.78 |
| | 1.5 IN - 4.17 |
| | 2 IN - 5.56 |
| | |
| | |
| | |
| 9. MANUFACTURING PLANT LOCATION(S) | |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | |
| 13. SEE APPENDIX IF CHECKED | |

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Polyisocyanurate Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | ATLAS ROOFING CORPORATION |
| 2. PRODUCT NAME | ACFOAM-II |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | TYPE II, CLASS 1 |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | TYPE 2 |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | TYPE 3, CLASS 1 |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| Dimensional stability, % linear change, max., 158°F/97%RH Type I, Class 1: 2.0; Type I, Class 2: 1.5; Type II-VI: 4.0 | 2.0 |
| Flexural strength, min., psi Type I-V: 40; Type VI 50 | 40 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| Water absorption, max., volume % Type I, III and V: 1.0; Type II and VI: 1.5; Type IV: 2.0 | 1.5 |
| 5. SURFACE TREATMENT: | |
| Top Surface | GLASS FIBER REINFORCED FELT |
| Bottom Surface | GLASS FIBER REINFORCED FELT |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | FLUTE FILL |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1.0 IN - 6.0 |
| | 1.5 IN - 9.0 |
| | 2.0 IN - 12.1 |
| | 2.7 IN - 16.6 |
| | |
| | |
| | |
| | |
| 9. MANUFACTURING PLANT LOCATION(S) | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | SEE APPENDIX |
| 12. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX |
| 13. SEE APPENDIX IF CHECKED | X |

Polyisocyanurate Roof Insulation Board

| ATLAS ROOFING CORPORATION ACFOAM - III | ATLAS ROOFING CORPORATION ACFOAM SUPREME | ATLAS ROOFING CORPORATION ACFOAM RECOVER BOARD | ATLAS ROOFING CORPORATION ACFOAM COMPOSITE/PB | ATLAS ROOFING CORPORATION ACFOAM NAIL BASE INSULATION |
|---|---|---|---|---|
| TYPE II, CLASS 2 | TYPE I, CLASS 1 | TYPE II | TYPE III | TYPE V |
| TYPE 2 | TYPE 2 | | | TYPE 2 |
| TYPE 3, CLASS 1 | TYPE 3, CLASS 1 | | | |
| 16 | 16 | 16 | 16 | 16 |
| 4.0 | 2.0 | 4.0 | 4.0 | 4.0 |
| 40 | 40 | 40 | 40 | 40 |
| 500 | 500 | 500 | 500 | 500 |
| 1.5 | 1.0 | 1.5 | 1.0 | 1.0 |
| COATED GLASS FIBER MAT | TRI-LAMINATE FOIL | COATED GLASS FIBER MAT | PERLITE | OSB |
| COATED GLASS FIBER MAT | TRI-LAMINATE FOIL | COATED GLASS FIBER MAT | GLASS FIBER REINFORCED FELT | GLASS FIBER REINFORCED FELT |
| YES | NO | NO | YES | NO |
| | | | | |
| | | | | |
| X | X | | X | |
| X | X | X | X | X |
| X | | | | |
| 1.0 IN - 6.0 | 1.0 IN - 6.2 | 1.0 IN - 6.0 | 1.5 IN - 7.4 | 1.5 IN - 6.6 |
| 1.5 IN - 9.0 | 1.5 IN - 9.3 | | 2.0 IN - 10.4 | 2.0 IN - 9.6 |
| 2.0 IN - 12.1 | 2.0 IN - 12.4 | | 2.7 IN - 14.8 | 2.7 IN - 14.0 |
| 2.7 IN - 16.6 | 2.7 IN - 16.7 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO |
| 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 |

Polyisocyanurate Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | ATLAS ROOFING CORPORATION |
| 2. PRODUCT NAME | AC FOAM CROSSVENT |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | TYPE 2, CLASS 2 |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | TYPE 3, CLASS 1 |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| Dimensional stability, % linear change, max., 158°F/97%RH Type I, Class 1: 2.0; Type I, Class 2: 1.5; Type II-VI: 4.0 | 2.0 |
| Flexural strength, min., psi Type I-V: 40; Type VI 50 | 40 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| Water absorption, max., volume % Type I, III and V: 1.0; Type II and VI: 1.5; Type IV: 2.0 | 1.5 |
| 5. SURFACE TREATMENT: | |
| Top Surface | OSB WITH VENT SPACERS |
| Bottom Surface | GLASS FIBER REINFORCED FELT |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 2.5 IN - 6.0 |
| | 3.0 IN - 9.0 |
| | 4.5 IN - 18.5 |
| | 5.5 IN - 25.0 |
| | |
| | |
| | |
| | |
| 9. MANUFACTURING PLANT LOCATION(S) | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | SEE APPENDIX |
| 12. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX |
| 13. SEE APPENDIX IF CHECKED | X |

Polyisocyanurate Roof Insulation Board

| ATLAS ROOFING CORPORATION ACFOAM COMPOSITE/FB | ATLAS ROOFING CORPORATION AC FOAM COMPOSITE/GB | ATLAS ROOFING CORPORATION GEMINI CRICKET | CARLISLE SYNTEC INCORPORATED POLYISO HP | CARLISLE SYNTEC INCORPORATED POLYISO HP-H |
|---|---|---|--|--|
| TYPE IV | | TYPE II | TYPE II, CLASS 1 | TYPE II, CLASS 1 |
| | | | | |
| | | | | |
| 16 | 16 | 16 | 16 | 16 |
| 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 40 | 40 | 40 | 40 | 40 |
| 500 | 500 | 500 | 500 | 500 |
| 2.0 | 2.0 | 1.0 | 1.5 | 1.5 |
| HIGH DENSITY WOOD FIBERBORAD | GLASSMAT FACED GYPSUM BOARD | GLASS FIBER REINFORCED FELT | FIBROUS FELT OR GLASS FIBER MAT | FIBROUS FELT OR GLASS FIBER MAT |
| GLASS FIBER REINFORCED FELT | GLASS FIBER REINFORCED FELT | GLASS FIBER REINFORCED FELT | FIBROUS FELT OR GLASS FIBER MAT | FIBROUS FELT OR GLASS FIBER MAT |
| YES | YES | YES | YES | YES |
| | | | | |
| | | | | |
| X | X | | X | X |
| X | X | | X | X |
| | | | | |
| 1.5 IN - 7.3 | 1.3 IN - 6.3 | 1 IN - 6.7 / 6.0 | 1 IN - 6.0 | 1 IN - 6.0 |
| 3.0 IN - 16.6 | 2.5 IN - 13.7 | | 1.5 IN - 10.0 | 1.5 IN - 10.0 |
| 3.5 IN - 19.8 | 3.5 IN - 20.1 | | 2.0 - 14.3 | 2.0 - 14.3 |
| 4.0 IN - 23.0 | 4.0 IN - 23.3 | | 2.5 IN - 18.6 | 2.5 IN - 18.6 |
| | | | 3.0 - 22.0 | 3.0 - 22.0 |
| | | | | |
| | | | | |
| | | | | |
| MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | | |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | | |
| | | | | |
| | | | ER-3826 | ER-3826 |
| | | | ER-5527 | ER-5527 |
| | | | NER-570 | NER-570 |
| | | | NER-575 | NER-575 |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | DADE COUNTY NEW YORK CITY | DADE COUNTY NEW YORK CITY |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPENDIX |
| X | X | X | X | X |

Polyisocyanurate Roof Insulation Board

| | |
|--|---------------------------------------|
| 1. COMPANY NAME | CARLISLE SYNTEC INCORPORATED |
| 2. PRODUCT NAME | POLYISO HP-N |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | TYPE II, CLASS 1 |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| | 16 |
| | 4.0 |
| Flexural strength, min., psi | Type I-V: 40; Type VI 50 |
| | 40 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| | 500 |
| | 1.5 |
| 5. SURFACE TREATMENT: | |
| Top Surface | FIBROUS FELT OR GLASS FIBER MAT |
| Bottom Surface | FIBROUS FELT OR GLASS FIBER MAT |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1 IN - 6.0 |
| | 1.5 IN - 10.0 |
| | 2.0 - 14.3 |
| | 2.5 IN - 18.6 |
| | 3.0 - 22.0 |
| | |
| | |
| | |
| 9. MANUFACTURING PLANT LOCATION(S) | |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | ER-3826 |
| ICBO Evaluation Service, Inc. (indicate report number) | ER-5527 |
| National Evaluation Service, Inc. (indicate report number) | NER-570 |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | NER-575 |
| Other agencies (indicate agency & report identification number) | DADE COUNTY NEW YORK CITY |
| 12. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX |
| 13. SEE APPENDIX IF CHECKED | X |

Polyisocyanurate Roof Insulation Board

| | | | | |
|---------------------------------------|-----------------------------------|---------------------------|---|--------------------------------|
| CARLISLE SYNTEC INCORPORATED | CERTAINTED CORPORATION | CERTAINTED CORPORATION | CONKLIN CO., INC. | THE DOW CHEMICAL CO. |
| POLYISO HP-W | FLINT BOARD ISO | FLINT BOARD ISO COLD | CONKLIN ROOF INSULATION II | HY-THERM AP |
| TYPE II, CLASS 1 | TYPE II, CLASS 1 | TYPE II, CLASS | TYPE II | TYPE II, CLASS 1 |
| | TYPE 2 | TYPE 2 | TYPE 2 | TYPE 2 |
| | X | X | | |
| 16 | 20 | 20 | 16 | 20 |
| 4.0 | <2.0 | 2.0 | 4.0 | 2.0 |
| 40 | 40 | 40 | 40 | 40 |
| 500 | 500 | 500 | 500 | 500 |
| 1.5 | <1.0 | >1.0 | 1/5 | 1.5 |
| FIBROUS FELT OR GLASS FIBER MAT | GLASS FIBER REINFORCED FELT | COATED GLASS FIBER MAT | GLASS FIBER REINFORCED FELT | GLASS FIBER REINFORCED FELT |
| FIBROUS FELT OR GLASS FIBER MAT | GLASS FIBER REINFORCED FELT | COATED GLASS FIBER MAT | GLASS FIBER REINFORCED FELT | GLASS FIBER REINFORCED FELT |
| YES | YES | YES | YES | NO |
| | | | | |
| | | | | |
| X | X | X | X | X |
| X | X | X | X | X |
| | FLUTE FULL | | FLUTE FILL | |
| 1 IN - 6.0 | 1.0 IN - 6.0 | 1.0 IN - 6.0 | 1.0 IN - 6.0 | 1 IN - 6.0 @ 75F |
| 1.5 IN - 10.0 | 1.5 IN - 9.0 | 1.5 IN - 9.0 | 1.5 IN - 9.0 | 1.5 IN - 9.0 @ 75F |
| 2.0 - 14.3 | 2.0 IN - 12.1 | 2.0 IN - 12.1 | 2.0 IN - 12.1 | 1.8 IN - 10.9 @ 75F |
| 2.5 IN - 18.6 | 2.7 IN - 16.6 | 2.7 IN - 16.6 | | 2 IN - 12.1 @ 75F |
| 3.0 - 22.0 | | | | 2.5 IN - 15.3 @ 75F |
| | | | | 3 IN - 18.5 @ 75F |
| | | | | 4 IN - 25.0 @ 75F |
| | | | | |
| | | | | |
| | | | MESA, AZ; DIBOLL, TX LA GRANGE, GA CAMP HILL, PA E. MOLINE, IL NORTHGLENN, CO ETOBICOKE, ONTARIO | TRACY, CA |
| | SEE APPENDIX | SEE APPENDIX | | SEE APPENDIX |
| | | | | |
| ER-3826 | | | | |
| ER-5527 | | | | |
| NER-570 | | | | |
| NER-575 | | | | |
| DADE COUNTY NEW YORK CITY | | | | |
| SEE APPENDIX | | | | SEE APPENDIX |
| X | X | X | | X |

Polyisocyanurate Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | FIRESTONE BUILDING PRODUCTS |
| 2. PRODUCT NAME | ISO 300 |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | TYPE II, CLASS 2 |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| Dimensional stability, % linear change, max., 158°F/97%RH | Type I, Class 1: 2.0; Type I, Class 2: 1.5; Type II-VI: 4.0 |
| Flexural strength, min., psi | Type I-V: 40; Type VI 50 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| Water absorption, max., volume % | Type I, III and V: 1.0; Type II and VI: 1.5; Type IV: 2.0 |
| 5. SURFACE TREATMENT: | |
| Top Surface | POLYMER BONDED GLASS FIBER MAT |
| Bottom Surface | POLYMER BONDED GLASS FIBER MAT |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1 IN - 6.0 |
| | 1.5 IN - 9.0 |
| | 1.7 IN - 10.3 |
| | 2 IN - 12.1 |
| | 2.7 IN - 16.6 |
| | 3 IN - 18.5 |
| | 3.3 IN - 20.4 |
| | 3.5 IN - 21.7 |
| | 4 IN - 25 |
| 9. MANUFACTURING PLANT LOCATION(S) | CO; CT; FL; KY; PA; TX UT; WI |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | |
| 13. SEE APPENDIX IF CHECKED | X |

| | | | | |
|---|---|---------------------------------|---------------------------------|-----------------------------------|
| FIRESTONE BUILDING PRODUCTS | FIRESTONE BUILDING PRODUCTS | GAF MATERIALS CORPORATION | GAF MATERIALS CORPORATION | HUNTER PANELS |
| RETRO GARD | ISO 95+ ISOCYANURATE | EVERGUARD ULTRA | ENERGY GUARD POLYISO | H-SHIELD |
| TYPE II, CLASS 1 | TYPE II | | TYPE II | TYPE II |
| | TYPE 2 | | | TYPE 2 |
| | | | | |
| 20 | 20 | 20 | 20 | 20, 25 |
| 2.0 | 2.0 | <2.0 | <2.0 | 4.0 |
| 40 | 40 | | | 40 |
| 500 | 500 | | | 500 |
| 1 | 1.0 | 1.5 | 1.6 | 1.5 |
| GLASS REINFORCED ORGANIC MAT | GLASS REINFORCED ORGANIC MAT | GLASS FIBER MAT FACER | COMPOSITE FACER | GLASS FIBER REINFORCED FELT |
| GLASS REINFORCED ORGANIC MAT | GLASS REINFORCED ORGANIC MAT | GLASS FIBER MAT FACER | COMPOSITE FACER | GLASS FIBER REINFORCED FELT |
| NO | YES | YES | YES | YES |
| | | | | |
| | | | | |
| | X | X | X | X |
| X | X | X | X | X |
| | | | | 4' X 10' 4' X 12' |
| 0.5 IN - 2.8 | 1 IN - 6 | 1.0 IN - 6.0 | 1.0 IN - 16.0 | 1.0 IN - 6.0 |
| | 1.5 IN - 9 | 1.4 IN - 8.4 | 1.4 IN - 8.4 | 1.5 IN - 9.0 |
| | 1.7 IN - 10.3 | 1.5 IN - 9.0 | 1.5 IN - 9.0 | 2.0 IN - 12.1 |
| | 2 IN - 12.1 | 2.0 IN - 12.1 | 2.0 IN - 12.1 | 2.7 IN - 16.6 |
| | 2.7 IN - 16.6 | 2.5 IN - 15.3 | 2.5 IN - 15.3 | 3.0 IN - 18.5 |
| | 3 IN - 18.5 | 2.7 IN - 16.6 | 2.7 IN - 16.6 | 4.0 IN - 25.0 |
| | 3.3 IN - 20.4 | 3.0 IN - 18.5 | 3.0 IN - 18.5 | |
| | 3.5 IN - 21.7 | 3.5 IN - 21.7 | 3.5 IN - 21.7 | |
| | 4 IN - 25 | 4.0 IN - 25 | 4.0 IN - 25 | |
| CO; CT; FL; KY; PA; TX; UT; WI | CO; CT; FL; KY; PA; TX; UT; WI | | | KINGSTON, NY FRANKLIN PARK, IL |
| SEE APPENDIX | SEE APPENDIX | SEE APPENDIX | SEE APPDENDIX | SEE APPENDIX |
| | | | | |
| | | | | |
| | | | | |
| | 9595 | | | |
| | | | | |
| | | | | |
| X | X | X | X | X |

Polyisocyanurate Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | JOHNS MANVILLE |
| 2. PRODUCT NAME | ENRGY 3 |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | TYPE II, CLASS 1 |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | TYPE 1 |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | TYPE 3 |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| Dimensional stability, % linear change, max., 158°F/97%RH | Type I, Class 1: 2.0; Type I, Class 2: 1.5; Type II-VI: 4.0 |
| Flexural strength, min., psi | Type I-V: 40; Type VI 50 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| Water absorption, max., volume % | Type I, III and V: 1.0; Type II and VI: 1.5; Type IV: 2.0 |
| 5. SURFACE TREATMENT: | |
| Top Surface | GLASS REINFORCED FACER |
| Bottom Surface | GLASS REINFORCED FACER |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1.0 IN - 6.0 |
| | 2.0 IN - 12.1 |
| | 3.0 IN - 18.5 |
| | 4.0 IN - 25.0 |
| | |
| | |
| | |
| | |
| 9. MANUFACTURING PLANT LOCATION(S) | SEE APPENDIX |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE APPENDIX |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | NONE |
| 13. SEE APPENDIX IF CHECKED | X |

Polyisocyanurate Roof Insulation Board

| JOHNS MANVILLE | KOPPERS INC. | RMAX INC | RMAX INC | RMAX INC |
|---------------------------|-----------------------------------|---|---|---|
| ISO 3 | KOP-R ISOCYANURATE | MULTI-MAX FA-3 | MULTI-MAX 3 | TAPERED THERMAROOF - 3 |
| TYPE II, CLASS 1 | TYPE II | TYPE II | TYPE II | TYPE II |
| TYPE 1 | | | | |
| TYPE 3 | | | | |
| 20 | 20 | 16 | 16 | 16 |
| <2 | <2.0 | <2.0 | <2.0 | <2.0 |
| >40 | | >40 | >40 | >40 |
| >500 | | >500 | >500 | >500 |
| <1 | <1.0 | <1.5 | <1.5 | <1.5 |
| GLASS REINFORCED FACER | BLACK FIBER-REINFORCED FELT | ORGANIC FILLED GLASS FIBER MAT | GLASS FIBER MAT | ORGANIC FILLED GLASS FIBER MAT |
| GLASS REINFORCED FACER | BLACK FIBER-REINFORCED FELT | ORGANIC FILLED GLASS FIBER MAT | GLASS FIBER MAT | ORGANIC FILLED GLASS FIBER MAT |
| YES | YES | NO | NO | YES |
| | | | | |
| | | | | |
| X | | X | X | X |
| X | | X | X | |
| | | | | |
| 1.0 IN - 6.0 | 1.5 IN - NA / 9.0 | 1.5 IN - NA / 9.0 | 1.5 IN - NA / 9.0 | 1.5 IN - NA / 9.0 |
| 2.0 IN - 12.1 | 2.0 IN - NA / 12.1 | 2.0 IN - NA / 12.1 | 2.0 IN - NA / 12.1 | 2.0 IN - NA / 12.1 |
| 3.0 IN - 18.5 | | 3.0 IN - NA / 18.5 | 3.0 IN - NA / 18.5 | 3.0 IN - NA / 18.5 |
| 4.0 IN - 25.0 | | 4.0 IN - NA / 25.3 | 4.0 IN - NA / 25.0 | 4.0 IN - NA / 25.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| SEE APPENDIX | | DALLAS, TX FERNLEY, NV GREEN, SC | DALLAS, TX FERNLEY, NV GREEN, SC | DALLAS, TX FERNLEY, NV GREEN, SC |
| SEE APPENDIX | SEE CURRENT UL LISTING | 225, 230, 259, 510, 701, 713, 718, 719, 720, 722, 723, 724 725, 727, 728, 729, 730, 732, 801, 814, 817, 818, 819, 823, | 225, 230, 259, 510, 701, 713, 718, 719, 720, 722, 723, 724 725, 727, 728, 729, 730, 732, 801, 814, 817, 818, 819, 823, | 225, 230, 259, 510, 701, 713, 718, 719, 720, 722, 723, 724 725, 727, 728, 729, 730, 732, 801, 814, 817, 818, 819, 823, |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | CITY OF LOS ANGELES RR #25378 | CITY OF LOS ANGELES RR #25378 | CITY OF LOS ANGELES RR #25378 |
| NONE | | | | |
| X | X | X | X | X |

Polyisocyanurate Roof Insulation Board

| | |
|--|---|
| 1. COMPANY NAME | TREMCO INC |
| 2. PRODUCT NAME | TRISOTECH G |
| 3. COMPLIES WITH: | |
| 3A. ASTM C 1289-02 <i>Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board</i> (indicate Type I, Class 1; Type I Class 2, Type III; Type IV; Type V or Type VI) | TYPE II, CLASS 1 |
| 3B. CAN/CGSB-51.26-M86 <i>Thermal Insulation, Urethane and Isocyanurate, Boards, Faced</i> (no response or indicate Type 1, 2, 3 or 4) | TYPE 2 |
| 3C. CAN/ULC-S704 <i>Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards Faced</i> (no response or indicate X) | X |
| 4. PHYSICAL PROPERTIES (per ASTM C 1289-02) | |
| Compressive strength, min., psi | 16 |
| Dimensional stability, % linear change, max., 158°F/97%RH | Type I, Class 1: 2.0; Type I, Class 2: 1.5; Type II-VI: 4.0 |
| Flexural strength, min., psi | Type I-V: 40; Type VI 50 |
| Tensile strength (perpendicular to board surface) min., psf | 500 |
| Water absorption, max., volume % | Type I, III and V: 1.0; Type II and VI: 1.5; Type IV: 2.0 |
| 5. SURFACE TREATMENT: | |
| Top Surface | GLASS REINFORCED FELT |
| Bottom Surface | GLASS REINFORCED FELT |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | YES |
| 7. COMMON AVAILABLE SIZES: | |
| 2' X 4' | |
| 3' X 4' | |
| 4' X 4' | X |
| 4' X 8' | X |
| Other (describe) | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | |
| | 1 IN - 6.0 |
| | 1.5 IN - 9.0 |
| | 2 IN - 12.1 |
| | 2.7 IN - 16.6 |
| | |
| | |
| | |
| 0 | |
| 9. MANUFACTURING PLANT LOCATION(S) | |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | |
| 11. CODE ACCEPTANCE: | |
| BOCA Evaluation Service, Inc. (indicate report number) | |
| ICBO Evaluation Service, Inc. (indicate report number) | |
| National Evaluation Service, Inc. (indicate report number) | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | |
| Other agencies (indicate agency & report identification number) | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | |
| 13. SEE APPENDIX IF CHECKED | |

Polyisocyanurate Roof Insulation Board

| | |
|------------------------|--------------------------|
| U.S. INTEC | U.S. INTEC |
| ENERGYGUARD POLYISO | ENERGYGUARD ULTRA |
| TYPE II | |
| | |
| | |
| | |
| 20 | 20 |
| <2.0 | <2.0 |
| | |
| | |
| 1.5 | 1.5 |
| COMPOSITE FACER | GLASS FIBER MAT FACER |
| COMPOSITE FACER | GLASS FIBER MAT FACER |
| YES | YES |
| | |
| | |
| | |
| X | X |
| X | X |
| | |
| 1.0 IN - 6.0 | 1 IN - 6 |
| 1.4 IN - 8.4 | 1.4 IN - 8.4 |
| 1.5 IN - 9.0 | 1.5 IN - 9.0 |
| 2.0 IN - 12.1 | 2.0 IN - 12.1 |
| 2.5 IN - 15.3 | 2.5 IN - 15.3 |
| 2.7 IN - 16.6 | 2.7 IN - 16.6 |
| 3.0 IN - 18.5 | 3.0 IN - 18.5 |
| 3.5 IN - 21.7 | 3.5 IN - 21.7 |
| 4.0 IN - 25.0 | 4.0 IN - 25.0 |
| | |
| SEE APPENDIX | SEE APPENDIX |
| | |
| | |
| | |
| | |
| | |
| | SEE APPENDIX |
| X | X |

Wood Fiberboard Roof Insulation Board

| | | |
|--|------------------------------------|--|
| 1. COMPANY NAME | CARLISLE SYNTEC INCORPORATED | FIRESTONE BUILDING PRODUCTS, INC. |
| 2. PRODUCT NAME | HP RECOVERY BOARD | FIBER TOP |
| 3. DENSITY (indicate Normal or High) | HIGH | HIGH |
| 4. COMPLIES WITH: ASTM C 208-95 <i>Standard Specification for Cellulosic Fiber Insulating Board</i> (indicate Type II, Grade 1 or Type II, Grade 2) | TYPE II, GRADE 2 | TYPE II, GRADE 2 |
| 5. SURFACE TREATMENT: Top Surface | ASPHALT EMULSION | |
| Bottom Surface | NONE | |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 7. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | | |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 9. MANUFACTURING PLANT LOCATION(S) | | PENNSYLVANIA LOUISIANA VIRGINIA MINNESOTA OREGON |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | | |
| 11. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | ER-3826, ER-5527 | |
| National Evaluation Service, Inc. (indicate report number) | NER-570, NER-575 | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | ER-9947 | |
| Other agencies (indicate agency & report identification number) | DADE COUNTY NEW YORK CITY | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | SEE APPENDIX | |
| 13. SEE APPENDIX IF CHECKED | X | |

Wood Fiberboard Roof Insulation Board

| GAF MATERIALS CORPORATION | GAF MATERIALS CORPORATION | HUEBERT BROTHERS PRODUCTS, LLC | HUEBERT BROTHERS PRODUCTS, LLC | KOPPERS INC. |
|---------------------------------|---------------------------------|--------------------------------------|---|---------------------------|
| ENERGYARD FIBERBOARD | ENERGYGUARD FIBERBOARD | REGULAR ROOF INSULATION | HIGH DENSITY COATED ROOF INSULATION | REGULAR FIBERBOARD |
| NORMAL | HIGH | NORMAL | HIGH | NORMAL |
| TYPE II | TYPE II | TYPE II, GRADE 1 | TYPE II, GRADE 2 | GRADE I |
| | SURFACE TREATMENT | NONE | BLACK COATING | ASPHALT EMULSION |
| | NONE | NONE | NONE | NONE |
| | | NO | NO | NO |
| | | X | X | X |
| X | X | X | X | X |
| X | X | X | X | X |
| 0.5 IN - 1.39 | 0.5 IN - 1.3 | 0.5 IN - 1.38 | 0.5 IN - 1.38 | 0.5 IN - NA / 1.25 |
| 1 IN - 2.78 | 1 IN - 2.5 | 0.75 IN - 2.08 | 0.75 IN - 2.08 | |
| 1.5 IN - 4.17 | 1.5 IN - 3.8 | 1.0 IN - 2.78 | 1.0 IN - 2.78 | |
| 2 IN - 5.56 | | 1.5 IN - 4.17 | 1.5 IN - 4.17 | |
| | | 2.0 IN - 5.26 | 2.0 IN - 5.26 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | BOONVILLE, MO | BOONVILLE, MO | |
| SEE APPENDIX | SEE APPENDIX | | | SEE CURRENT UL LISTING |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | SEE APPENDIX | SEE APPENDIX | |
| | | X | X | X |

Wood Fiberboard Roof Insulation Board

| | | |
|--|---|--|
| 1. COMPANY NAME | KOPPERS INC. | TEMPLE |
| 2. PRODUCT NAME | HIGH DENSITY FIBERBOARD | FIBERBASE HD 1 |
| 3. DENSITY (indicate Normal or High) | HIGH | HIGH |
| 4. COMPLIES WITH: ASTM C 208-95 <i>Standard Specification for Cellulosic Fiber Insulating Board</i> (indicate Type II, Grade 1 or Type II, Grade 2) | GRADE 2 | GRADE 1 |
| 5. SURFACE TREATMENT: Top Surface | ASPHALT EMULSION | |
| Bottom Surface | NONE | |
| 6. AVAILABLE AS TAPERED MATERIAL (yes/no) | NO | NO |
| 7. COMMON AVAILABLE SIZES: | | |
| 2' X 4' | X | |
| 3' X 4' | | |
| 4' X 4' | X | X |
| 4' X 8' | X | X |
| Other (describe) | | |
| 8. COMMON AVAILABLE THICKNESSES/R-VALUES (indicate thickness, R-value for thickness at 40° F and R-value at 75° F) | 0.5 IN - NA / 1.28 0.75 IN - NA / 2.10 1.0 IN - NA / 2.78 | 0.5 IN - 1.32 / 0.75 25/32 IN - 2.06 / 1.35 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 9. MANUFACTURING PLANT LOCATION(S) | | DIBOLL, TX |
| 10. UL "P" DESIGN NUMBERS (indicate P-design numbers) | SEE CURRENT UL LISTING | 517 |
| 11. CODE ACCEPTANCE: | | |
| BOCA Evaluation Service, Inc. (indicate report number) | | |
| ICBO Evaluation Service, Inc. (indicate report number) | | |
| National Evaluation Service, Inc. (indicate report number) | | |
| SBCCI Public Safety Testing & Evaluation Service, Inc. (indicate report number) | | |
| Other agencies (indicate agency & report identification number) | | |
| 12. LIMITATIONS AND/OR RESTRICTIONS | | |
| 13. SEE APPENDIX IF CHECKED | X | |

Wood Fiberboard Roof Insulation Board

| | | | |
|------------------------|-------------------|---------------------------|---------------------------|
| TEMPLE | TREMCO INC. | U.S. INTEC | U.S. INTEC |
| FIBERBASE HD 6 | FIBERBASE HD | ENERGYGUARD FIBERBOARD | ENERGYGUARD FIBERBOARD |
| HIGH | HIGH | NORMAL | HIGH |
| | | | |
| GRADE 2 | TYPE II, GRADE 2 | TYPE II | TYPE II |
| | | | |
| ASPHALT COATED | ASPHALT COATED | | |
| | ASPHALT COATED | | |
| NO | NO | | |
| | | | |
| | | | |
| X | | X | X |
| X | X | X | X |
| | | | |
| 0.5 IN - 1.32 / 0.75 | 0.5 IN - 1.32 | 0.5 IN - 1.39 | 0.5 IN - 1.30 |
| 25/32 IN - 2.06 / 1.35 | 0.781 IN - 2.06 | 1 IN - 2.78 | 1 IN - 2.50 |
| | | 1.5 IN - 4.17 | 1.5 IN - 3.80 |
| | | 2 IN - 5.56 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| DIBOLL, TX | DIBOLL, TX | | |
| | | | |
| 517 | 517 | SEE APPENDIX | SEE APPENDIX |
| | | | |
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| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
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Manufacturers Appendix, Rigid Board Insulation

AFM R-CONTROL BUILDING SYSTEMS

Manufacturing locations for AFM R-Control Perform, Contour Taper Tile and Perform Protect: AFP R-Control, 5250 N. Sherman St., Denver, CO 80216, 303/297-3844; AFP R-Control, 111 W. Fireclay Ave., Murray, UT 84107; AFP R-Control, 920 Kleppe Lane, Sparks, NV 89431, 800/444-9290; Allied Foam Products, Inc. 1604 Athens Hwy., P.O. Drawer 695, Gainesville, GA 30503, 800/533-2613; Branch River Foam Plastics, Inc., 15 Thurber Blvd., Smithfield, RI 02917, 800/336-3626; Big Sky Insulations, Inc. 15 Arden Drive, P.O. Box 838, Belgrade, MT 59714, 800/766-3626; Contour Products, Inc., 1418 Cow Palace Road, Newton KS 67114, 800/835-2161; IBS R-Control, 326 McGhee Road, Winchester, CVA 22603, 800/662-1065; 800/44-2188; Poly-Foam Inc., 116 Pine Street South, Lester Prairie, MN 55354, 320/395-2551, 612/445-4089; Team R-Control, 4580 Airwest Drive SE/P.O. Box 888691, Grand Rapids, MI 49588, 800/356-5548; Therma Foam, Inc., P.O. Box 161128, Fort Worth, TX 76161, 800/33-3626; Heartland EPS, Inc., 90 Trowbridge Drive, P.O. Box 669, Fond du Lac, WI 54936-5377, 800/236-5377; Heartland EPS, 3751 Sunset Ave., Waukegan, IL, 60087, 847.263-0200; Heartland EPS, 809 E. 15th Street, Washington, IA, 888/633-6033; Contour Products, Inc. 4001 Kaw Drive, Kansas City, KS 800/638-3626.

AFM R-Control Perform, Contour Taper Tile and Perform Protect roof insulations have been fully tested for flame-spread classification. AFM R-Control EPS may be used in numerous assemblies. See listing in the following directories: UL Roofing Materials and Systems Directory; UL Building Materials Directory; UL Fire Resistance Directory; FM Building Materials Approval Guide.

AFM-R Control EPS products are covered by a 20 year, 100 percent R-value retention warranty. AFM-R Control SIPs and SpecLam roof insulations have been fully tested for flame-spread classification. AFM-R Control SIPs and SpecLam may be used in numerous assemblies. See listing in the following directories: UL Roofing Materials and Systems Directory; UL Building Materials Directory; UL Fire Resistance Directory; FM Building Materials Approval Guide. AFM-R Control SIPs and SpecLam are covered by a 20-year, 100 percent R-value retention warranty.

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 and is HCFC free.

ACFoam-III also features the closed-cell foam core integrally laminated to heavy coated glass facers. It is a single-ply, cold-applied BUR, and cold-applied modified bitumen membrane systems. Do not use with hot-applied membranes. HCFC free.

ACFoam Supreme has a polyisocyanurate foam core with tri-laminate foil facers. Specifically designed for use with mechanically fastened and loose laid ballasted single-ply systems, ACFoam Supreme should not be used directly with hot asphalt or torch-applied systems. HCFC free.

ACFoam Composite/PB 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. HCFC free.

ACFoam Composite/FB consists of a closed-cell polyiso bonded to ½ in. high density wood fiberboard on the top and a fiber-reinforced felt facer on the bottom. ACFoam Composite may be used with BUR, modified bitumen, and single-ply systems.

ACFoam Composite/GB is a closed cell polyiso foam bonded to ¼ in primed glass-mat gypsum board on the top and a fiber-reinforced felt facer on the bottom. The glass mat gypsum board provides a dense layer for the primary foam insulation and has a 500-psi compressive strength.

ACFoam Recover Board is covered on both sides with a heavy, strong coated fibrous facer. HCFC free.

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./ft. HCFC free.

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. HCFC free.

Vented-R is a polyiso insulation, laminated to OSB, constructed with ventilation spaces to reduce heat buildup. Available in non-HCFC formulation.

Compliances: (Check with Atlas for specific applications for each product) Miami-Dade County, FL No. 00-0298.04; Calif. State Insul. Qual. Standards & Title 25 Foam Flammability Criteria (License #TC 1231); IBC, NBC and SBC 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, Nail Base and Crossvent: 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 C1289-98, Type II; C1289-02, Type V; C1289-02, Type I, Class I; C1289-02, Type II; C1289-02, Type IV. Meets Can/CGSB Standards, CCMC No. 12464-L, CCMC No. 12423-L, and CCMC No. 12422-R.

BENCHMARK FOAM, INC.

Perma-Foam EPS Insulation is available as flat or custom tapered in sheet sizes up to 36 inch X 48 inch x 216 inch.

Roofing systems described in the UL Fire Resistance Directory approving Perma-Foam EPS include: P225, P230, P238, P246, P250, P251, P255, P259, P261, P262, P264, P269, P404, P410, P411, P501, P508, P509, P510, P511, P513, P514, P515, P519, P520, P701, P710, P713, P717, P719, P725, P734, P735, P801, P803, P814, P815, P818, P825, P902, P904, P907, P909, P912, P915, P919, P920, P921, P922, P923, P924, P925, P926, P928, P929, P930 and K902.

Roofing systems described in the UL Roofing Materials and Systems Directory approving Perma-Foam EPS include: Const. No. 219, 237, 292, 374 and 458.

Benchmark Foam Inc. can also provide: Factory Mutual Research Corporation approval as an insulation component in Class 1 insulated steel and concrete roof constructions. See FMRC Standard 4450 file 3D7A2.AM.

Third party certification by Resources, Applications, Designs and Controls, Inc. (RADCO) ensuring Perma-Foam insulation meets ASTM C-578 as well as Smoke Development (ASTM E-84) and Flame Spread (ASTM E-84). See listing #1165.

A 20-year 100 percent R-value warranty upon request. Contact the roofing sales department at 800/658-3444.

CARLISLE SYNTEC, INC.

Complies with UL Design Numbers 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.

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 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.

Polyisocyanurate HP, HP-H, 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.

CERTAINTED CORPORATION

Complies with UL Design Numbers P225, P230, P259, P508, P510, P514, P419, P701, P710, P713, P717, P718, P720, P722, P723, P724, P725, P727, P728, P729, P730, P732, P801, P814, P815, P818, P819 and P828. Flintboard Iso Cold is for use in cold-applied roof systems only.

THE DOW CHEMICAL COMPANY

STYROFOAM Deckmate, Deckmate Plus, Tapered Deckmate Plus, Roofmate, Plazamate, High Load 100: Check with The Dow Chemical Company for specific application compliances. Complies with ASTM C578-955, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation"; BOCA, ICBO, SBCCI, ICC sections on foam insulation; FM 4450/4470 approval for Class 1 insulated roof deck design construction; UL Standard 1256 Classification insulated metal deck construction assemblies, Construction Nos. 1, 2, 3, 9, 14, 58, 87, 200, 237, 260, 276, 287, 380 and 440; UL 790 Class A with most roof membrane systems; UL 263 fire rated constructions 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.

Limitations and/or restrictions:

Styrofoam brand insulations have poor resistance to aromatic hydrocarbons, chlorinated hydrocarbons, olefins, naphthas, ketones, gasoline, fuel oil and oil based paint. Maximum service temperature is 165F. When stored outdoors for extended periods it should be shielded from sunlight with an opaque, light-colored covering. Styrofoam brand insulation is combustible and should be stored, handled, and used properly.

HY-THERM AP Roof Insulation, Composite Roof Insulation, Nail-Line Roof Insulation; Celo-Vent Insulated Shingle Deck:

Compliances: Check with The Dow Chemical Company for specific application compliances. Complies with ASTM C 1289-95, "Standard Specification for Faced Rigid Cellular

Polyisocyanurate Thermal Insulation Board"; BOCA, ICBO, SBCCI, ICC sections on foam insulation; FM 4450/4470 approval for Class 1 insulated roof deck construction; UL Standard 1256 Classification insulated metal deck construction assemblies, Construction Nos. 99, 120 and 123; UL790 Class A with most roof membrane systems; UL263 fire rated constructions D2708, P225, P229, P230, P259, P263, P508, P514, P701, P710, P717, P718, P719, P720, P722, P723, P724, P727, P728, P729, P730, P732, P801, P814, P815, P817, P818, P823 and P828,

Limitations: These materials must be kept dry at all times, in storage and during application on the roof. When stored outdoors for extended periods it should be shielded from sunlight. Dow polyisocyanurate foam insulation is combustible and should be stored, handled, and used properly.

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, P259, P302, P303, P508, P510, P514, P519, P701, P710, P713, P717, P718, P719, P720, P722, P723, P727, P728, P729, P730, P732, P739, P741, P742, P801, P814, P815, P818, P819, and P828; meets the requirements of IBC Section 2603, 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, P510, P514, P701, P717, P718, P719, P723, P801, P815, P818, P819, P828; meets the requirements of IBC Section 2603, 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, P827.

Mechanical Fasteners: GAF recommends the use of GAFTITE 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.

HUEBERT BROTHERS PRODUCTS

HBP Insulation Board: Contact Huebert Brothers Products current literature or call 800/748-7147 for any information on limitations or restrictions.

HUNTER PANELS

Complies with UL "P" Design Numbers 225, 230, 232, 259, 508, 510, 514, 519, 701, 713, 717, 718, 719, 720, 722, 723, 724, 727, 728, 729, 730, 732, 734, 735, 739, 801, 814, 818, 819, 823, 824, 826, 827, 828 and 832.

JOHNS MANVILLE

Compliance: for square edge, 1-inch thick (24x48 in) boards for Roof-Ceiling Design Nos. P001, P004, P206, P210, P211, P225, P230, P237, P238, P250, P254, P259, P267, P404, P508, P510, P514, P701, P710, P713, P718, P719, P720, P723, P732, P734, P735, P740, P801, P803, P805, P814, P818, P828.

Plant locations: Bremen, IN; Belvidere, IL; Anderson, SC; Jacksonville, FL; Riverside, CA; Kent, WA; Hazleton, PA; Cornwall, Ontario. Compliance for Types E'NRGY'2, "E'NRG'Y 2 Plus, Fesco-Foam, E'NRG'Y 2 Gypsum Composite for use in Design Nos. P225, P230, P259, P508, P510, P514, P519, P701, P710, P713, P717, P719, P720, P722, P723, P727, P728, P729, P730, P732, P741, P801, P814, P815, P818, P819, P823, P826.

KOPPERS 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.

OWENS CORNING

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 applied 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 technical service (800) GET-PINK. 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, 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 is listed for use by UL in Roof Deck construction #457, and as FM Class 2 roof construction, applied directly over steel roof decks without the use of a thermal barrier. Roofing assemblies that require timed fire resistance may still require a gypsum board layer. See the UL Roofing Materials and Systems Directory and the FM Approval Guide for necessary details.

Tapered Insulation: Tapered Thermapink 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.

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 Owens Corning 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.

FACTIV BUILDING PRODUCTS

Extruded Polystyrene Roofing Recover Board (3/8-in. thickness): available as 4 ft. x 50 ft. fanfolded bundle (GreenGuard-PB6), 4 ft. x 8 ft. sheets (GreenGuard Plygood-PG38), or 4 ft. x 9 ft. sheets (GreenGuard Plygood-PG39).

Extruded Polystyrene Insulation Board: Available as GreenGuard-CM (square edge), or GreenGuard-SL (sidelap edge), GreenGuard-DC (drainage channels). GreenGuard available as 2 ft. x 8 ft. and 4 ft. x 8 ft. sizes. R-values and C-value for GreenGuard are for Type IV.

Underwriters Laboratories, Inc. Roof deck construction numbers: GreenGuard-CM, SL, 1, 2, 3, 9, 14, 58, 87, 200.

Limitations and/or restrictions: GreenGuard-PB6, GreenGuard-Plygood-PG38, and GreenGuard Plygood-PG39 Roofing Recovery Boards are designed for use in mechanically fastened or loose-laid and ballasted single-ply roofing systems. GreenGuard 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 GreenGuard Roofing Recovery and GreenGuard Insulation Boards have poor resistance to fuel oil, oil-based paint, olefins, ketones, gasoline, chlorinated and aromatic hydrocarbons, and naphthas. Foam plastic insulation will ignite if exposed to fire of sufficient heat and intensity. Protect foam insulation from exposure to open flame or other ignition sources during shipment, storage, and installation. Obtain installation instructions from your supplier or Pactiv Building Products, 2100 RiverEdge Parkway, Suite 175, Atlanta, GA 30328.

R-MAX, INC.

Thermarroof Plus-3: 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-3: 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-3: 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-3: 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 systems as outlined in FM reports J.I. 2M3A2.AM and J.I. 1T6A2.AM. Approval under these reports includes 25/32" Fiber Base HD, effective June 1, 1999. FM allows Fiber Base HD wherever generic wood fiber insulation is specified. Fiber Base HD is available by special order as UL-classified product for the built-up roof covering material. See R11115 under TEVT in UL Roofing 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 application instructions for specific recommendations. Compliances: Industry Standard and ASTM C208.

TREMCO

Trisotech G: A rigid, closed cell HCFC-free polyisocyanurate foam core laminated on both sides to a black, glass fiber reinforced, non-asphaltic facer. A wood fiberboard overly is required over Trisotech G when the BURmastic Cold Process BUR System is specified.

UL "P" Design Numbers for Trisotech G: P225, P230, P232, P263, P508, P510, P514, P710, P713, P717, P718, 719, P720, P722, P723, P724, P725, P728, P729, P730, P732, P801, P814, P815, P817, P818, P819, P823. Meets BOCA, ICBO, SBCCI and IBC sections on foam insulation.

U.S. INTEC

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.

2004-05

LOW-SLOPE ROOFING

MATERIALS GUIDE

VOLUME 2

SECTION 3: ROOF FASTENERS

**SECTION 4: ROOF CEMENTS, ADHESIVES AND
COATINGS**

SECTION 5: ROOF MEMBRANE WARRANTIES

SECTION 6: INCOMPLETE DATA

The information source for low-slope roof membranes; insulation boards; roof cements, adhesives and coatings; roof fastener products; and membrane warranties for commercial roof designers, specifiers, installers, manufacturers and users.



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National Roofing Contractors Association

LOW-SLOPE

Roofing Materials Guide
2004-05



ROOF FASTENERS

Information about Section 3: Roof Fasteners

General Information

Section 3: Roof Fasteners in the 2004-05 edition of NRCA's *Low-Slope Roofing Materials Guide* provides a comprehensive listing of fastener products used in low-slope roofing. Such fasteners are typically used to attach rigid board insulation and/or single-ply membranes to structural roof deck substrates.

Information about roof fasteners is presented in the guide in four sections, based on the substrate into which fasteners will be attached. These four sections are as follows:

- Steel decks
- Wood decks
- Concrete decks
- Lightweight concrete, gypsum and cementitious wood fiber decks

An index of the manufacturers included in Section 3: Roof Fasteners and locations of their specific products within this section immediately follows this Roof Fasteners section.

Roof Fastener Products: Steel Decks

Specific listing information about roof fastener products used for steel roof decks is as follows:

1. Company name
2. Product name
3. Country of manufacture
4. Used with
5. Material type
6. Coating type
7. Shank type
8. Point type
9. Method of attachment
10. Diameter, length, fastening range, penetration
11. Head shape
12. Head dimensions
13. Plates
14. Plate shape, dimensions and material
15. Installation equipment
16. Average pullout resistance
17. Meets FM approval requirements as a component of a Class I steel roof deck
18. Passes FM 4470 for corrosion resistance
19. Acceptable by the following codes
20. Warranty available from manufacturer

Roof Fastener Products: Wood Decks

Specific listing information on roof fastener products used for wood roof decks is as follows:

1. Company name
2. Product name
3. Country of manufacture
4. Used with
5. Material type
6. Coating type
7. Shank type
8. Point type
9. Method of attachment
10. Diameter, length, fastening range, penetration
11. Head shape
12. Head dimensions
13. Plates
14. Plate shape, dimensions and material
15. Installation equipment
16. Average pullout resistance
17. Meets FM approval requirements as a component of a Class I wood roof deck
18. Acceptable by the following codes
19. Warranty available from manufacturer

Roof Fastener Products: Concrete Decks

Specific listing information on roof fastener products used for concrete roof decks is as follows:

1. Company name
2. Product name
3. Country of manufacture
4. Used with
5. Material type
6. Coating type
7. Shank type
8. Point type
9. Method of attachment
10. Diameter, length, fastening range, penetration
11. Head shape
12. Head dimensions
13. Plates
14. Plate shape, dimensions and material
15. Installation equipment
16. Average pullout resistance
17. Meets FM approval requirements as a component of a Class I concrete roof deck
18. Acceptable by the following codes
19. Warranty available from manufacturer

Roof Fastener Products: Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

Specific listing information on roof fastener products used for lightweight concrete, gypsum or cementitious wood fiber roof decks is as follows:

1. Company name
2. Product name
3. Country of manufacture
4. Deck type
5. Used with
6. Material type
7. Coating type
8. Shank type
9. Point type
10. Method of attachment
11. Diameter, length, fastening range, penetration
12. Head shape
13. Head dimensions
14. Plates
15. Plate shape, dimensions and material
16. Installation equipment
17. Average pullout resistance
18. Acceptable by the following codes
19. Warranty available from manufacturer

Additional Information

Users of the guide who are interested in additional information regarding roof fasteners are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Index to Listed Roof Fasteners

| LIGHTWEIGHT CONCRETE, GYPSUM, AND WOOD CEMENTITIOUS FIBER DECKS | | | | | LIGHTWEIGHT CONCRETE, GYPSUM, AND CEMENTITIOUS WOOD FIBER DECKS | | | | |
|--|-----|------------|-----|-----|---|-----|------------|-----|-----|
| CONCRETE DECKS | | WOOD DECKS | | | CONCRETE DECKS | | WOOD DECKS | | |
| STEEL DECKS | | | | | STEEL DECKS | | | | |
| CARLISLE SYNTEC INCORPORATED 1285 Ritner Hwy. P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX 717/245-7053 Web: www.carlisle-syntec.com | 428 | 448 | 474 | 488 | POWERS FASTENERS, INC. 2 Powers Square New Rochelle, NY 10801 914/235-6300 FAX 914/576-6483 E-mail: info@powers.com Web: www.powers.com | 438 | 459 | 479 | 502 |
| ES PRODUCTS INC. 280 Franklin Street P.O. Box 810 Bristol, RI 02809 401/253-8600 FAX 401/253-8896 E-mail: Web: www.esproducts.com | | 450 | | 490 | SFS INTEC P.O. Box 6326 Wyommising, PA 19610 610/790-2661 FAX: 610/376-0932 E-mail: Web: | 439 | 461 | 481 | 503 |
| FIRESTONE BUILDING PRODUCTS 525 Congressional Blvd. Carmel, IN 46032 800/428-4442 FAX 317/575-7100 E-mail: firestonebp.com Web: www.firestonebp.com | 431 | 451 | 475 | 495 | SIMPLEX NAILS & FASTENERS 100 Petty Road Suite A Lawrenceville, GA 30043 770/822-5812 770/822-6822 E-mail: Web: www.simplexnails.com | | 462 | 482 | 504 |
| GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 FAX 973/628-3451 E-mail: Web: www.gaf.com | 493 | 519 | 549 | 569 | TREMCO INC. 3735 Green Road Beachwood, OH 44122 216/292-5000 FAX: 216/292-5076 E-mail: tremcoroofing.com Web: | 441 | | | 505 |
| JOHNS MANVILLE Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX 303/978-3904 Web: www.jm.com | 434 | 455 | 477 | 499 | TRU-FAST CORPORATION 2105 William County Road 12-C Bryan, OH 43506 800/443-9602 FAX: 419/636-1784 E-mail: tru-fast@bright.net Web: www.trufast.com | 441 | 469 | 484 | |
| NATIONAL NAIL CORP. 2964 Clydon SW Grand Rapids, MI 49509 800/746-5659 FAX 616/531-5970 E-mail: Web: | | 456 | 478 | | U.S. INTEC, INC. 1361 Alps Road Wayne, NJ 07470 973/628-3000 800/766-3411 or 973/628-3000 FAX: 973/628-4167 Web: www.usiintec.com | 445 | 471 | 486 | 516 |
| OLYMPIC FASTENERS P.O. Box 508 153 Bowles Road Agawam, MA 01001 800/633-3800 or 413/789-0252 FAX 413/789-1069 E-mail: info@olvfast.com | 435 | 457 | 478 | 499 | | | | | |

Roof Fasteners - Steel Decks

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1. COMPANY NAME | CARLISLE SYNTEC INCORPORATED | CARLISLE SYNTEC INCORPORATED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. PRODUCT NAME | HP FASTENER | HP PURLIN FASTENER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. COUNTRY OF MANUFACTURE | U.S. | U.S. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. USED WITH: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Attachment | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Built-Up Membranes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | SINGLE LEAD "V" THREAD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. POINT TYPE | MIN-DRILL POINT | DRILL POINT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. METHOD OF ATTACHMENT | THREADED | THREADED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. SHANK DIAMETER (INCHES) / SHANK LENGTH (INCHES) / THICKNESS (INCHES) / DECK PENETRATION (INCHES) | <table border="1"> <tr><td>0.180</td><td>1-1/4</td><td>1/2</td><td>3/4</td></tr> <tr><td>0.180</td><td>1-3/4</td><td>1</td><td>3/4</td></tr> <tr><td>0.180</td><td>2-1/4</td><td>1-1/2</td><td>3/4</td></tr> <tr><td>0.180</td><td>2-3/4</td><td>2</td><td>3/4</td></tr> <tr><td>0.180</td><td>3-1/4</td><td>2-1/2</td><td>3/4</td></tr> <tr><td>0.180</td><td>3-3/4</td><td>3</td><td>3/4</td></tr> <tr><td>0.180</td><td>4-1/4</td><td>3-1/2</td><td>3/4</td></tr> <tr><td>0.180</td><td>5</td><td>4-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>6</td><td>5-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>7</td><td>6-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>8</td><td>7-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>9</td><td>8-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>10</td><td>9-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>11</td><td>10-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>12</td><td>11-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>13</td><td>12-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>14</td><td>13-1/4</td><td>3/4</td></tr> <tr><td>0.180</td><td>15</td><td>14-1/4</td><td>3/4</td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table> | 0.180 | 1-1/4 | 1/2 | 3/4 | 0.180 | 1-3/4 | 1 | 3/4 | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <table border="1"> <tr><td>0.160</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>0.160</td><td>4</td><td>3</td><td>1</td></tr> <tr><td>0.160</td><td>5</td><td>4</td><td>1</td></tr> <tr><td>0.160</td><td>6</td><td>5</td><td>1</td></tr> <tr><td>0.160</td><td>7</td><td>6</td><td>1</td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table> | 0.160 | 3 | 2 | 1 | 0.160 | 4 | 3 | 1 | 0.160 | 5 | 4 | 1 | 0.160 | 6 | 5 | 1 | 0.160 | 7 | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.180 | 1-1/4 | 1/2 | 3/4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.180 | 1-3/4 | 1 | 3/4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 11. HEAD SHAPE | WAFER | HEX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. HEAD DIMENSIONS (inches) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 13. PLATES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | <table border="1"> <tr><td>SQUARE</td><td>2-7/8</td><td>GALVALUME (w/rounded corner)</td></tr> <tr><td>ROUND</td><td>2</td><td>GALVALUME</td></tr> <tr><td>ROUND</td><td>2</td><td>PLASTIC</td></tr> <tr><td>ROUND</td><td>3</td><td>PLASTIC</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | SQUARE | 2-7/8 | GALVALUME (w/rounded corner) | ROUND | 2 | GALVALUME | ROUND | 2 | PLASTIC | ROUND | 3 | PLASTIC | | | | | | | | | | | | | | | | | | | | | | | | | <table border="1"> <tr><td>ROUND</td><td>2</td><td>PLASTIC</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | ROUND | 2 | PLASTIC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 15. INSTALLATION EQUIPMENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 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) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 Gauge | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 Gauge | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 Gauge | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. MANUFACTURER WARRANTY AVAILABLE (yes/no) | FM | FM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21. SEE APPENDIX IF CHECKED | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NA = not applicable

Roof Fasteners - Steel Decks

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Roof Fasteners - Steel Decks

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Roof Fasteners - Steel Decks

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| TRU-FAST CORPORATION | | | | TRU-FAST CORPORATION | | | | TRU-FAST CORPORATION | | | |
| HD (HEAVY DUTY) #14 | | | | EHD (EXTRA HEAVY DUTY) #15 | | | | SHD | | | |
| U.S. | | | | U.S. | | | | U.S. | | | |
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| X | | | | X | | | | X | | | |
| CARBON STEEL C-1022 | | | | CARBON STEEL C-1022 | | | | CARBON STEEL C-1022 | | | |
| TRU-KOTE (ELECTRODEPOSITION) | | | | TRU-KOTE (ELECTRODEPOSITION) | | | | TRU-KOTE (ELECTRODEPOSITION) | | | |
| THREADED | | | | THREADED | | | | THREADED | | | |
| DOUBLE FLUTE SELF-DRILLING | | | | DOUBLE FLUTE SELF-DRILLING | | | | DOUBLE FLUTE SELF-DRILLING | | | |
| THREADED | | | | THREADED | | | | THREADED | | | |
| | | | | | | | | | | | |
| 0.180 | 1 | 1/4 | 3/4 | 0.204 | 1-1/4 | 1/2 | 3/4 | 0.254 | 1-1/4 | 3/4 | 3/4 |
| 0.180 | 1-1/2 | 3/4 | 3/4 | 0.204 | 2 | 1-1/4 | 3/4 | 0.254 | 2 | 1-1/4 | 3/4 |
| 0.180 | 2 | 1-1/4 | 3/4 | 0.204 | 3 | 2-1/4 | 3/4 | 0.254 | 3 | 2-1/4 | 3/4 |
| 0.180 | 2-1/2 | 1-3/4 | 3/4 | 0.204 | 4 | 3-1/4 | 3/4 | 0.254 | 4 | 3-1/4 | 3/4 |
| 0.180 | 3 | 2-1/4 | 3/4 | 0.204 | 5 | 4-1/4 | 3/4 | 0.254 | 5 | 4-1/4 | 3/4 |
| 0.180 | 3-1/2 | 2-3/4 | 3/4 | 0.204 | 6 | 5-1/4 | 3/4 | 0.254 | 6 | 5-1/4 | 3/4 |
| 0.180 | 4 | 3-1/4 | 3/4 | 0.204 | 7 | 6-1/4 | 3/4 | 0.254 | 7 | 6-1/4 | 3/4 |
| 0.180 | 4-1/2 | 3-3/4 | 3/4 | 0.204 | 8 | 7-1/4 | 3/4 | 0.254 | 8 | 7-1/4 | 3/4 |
| 0.180 | 5 | 4-1/4 | 3/4 | 0.204 | 9 | 8-1/4 | 3/4 | 0.254 | 9 | 8-1/4 | 3/4 |
| 0.180 | 5-1/2 | 4-3/4 | 3/4 | 0.204 | 10 | 9-1/4 | 3/4 | | | | |
| 0.180 | 6 | 5-1/4 | 3/4 | 0.204 | 11 | 10-1/4 | 3/4 | | | | |
| 0.180 | 7 | 6-1/4 | 3/4 | 0.204 | 12 | 11-1/4 | 3/4 | | | | |
| 0.180 | 8 | 7-1/4 | 3/4 | 0.204 | 14 | 13-1/4 | 3/4 | | | | |
| 0.180 | 9 | 8-1/4 | 3/4 | 0.204 | 16 | 15-1/4 | 3/4 | | | | |
| 0.180 | 10 | 9-1/4 | 3/4 | 0.204 | 18 | 17-1/4 | 3/4 | | | | |
| 0.180 | 11 | 10-1/4 | 3/4 | 0.204 | 20 | 19-1/4 | 3/4 | | | | |
| 0.180 | 12 | 11-1/4 | 3/4 | 0.204 | 22 | 21-1/4 | 3/4 | | | | |
| | | | | 0.204 | 24 | 23-1/4 | 3/4 | | | | |
| | | | | 0.204 | 26 | 25-1/4 | 3/4 | | | | |
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| TRUSS #3 PHILLIPS | | | | TRUSS #3 PHILLIPS | | | | TRUSS #3 PHILLIPS | | | |
| | | | | | | | | | | | |
| 0.105 | | | | 0.105 | | | | 0.140 | | | |
| 0.440 | | | | 0.440 | | | | 0.560 | | | |
| | | | | | | | | | | | |
| YES | | | | YES | | | | YES | | | |
| YES | | | | YES | | | | YES | | | |
| ROUND | 2 | GALVALUME | | ROUND | 3 | GALVALUME | | BATTEN BAR | 1 | GALVALUME | |
| ROUND | 2.4 | GALVALUME | | ROUND | 2 | GALVALUME | | | | | |
| ROUND | 3 | GALVALUME | | ROUND | 2.4 | GALVALUME | | | | | |
| ROUND | 3 | PLASTIC | | ROUND | 3 | PLASTIC | | | | | |
| | | | | BATTEN BAR | 1 | GALVALUME | | | | | |
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| | | | | REQUIRED | | | | REQUIRED | | | |
| REQUIRED | | | | OPTIONAL | | | | OPTIONAL | | | |
| OPTIONAL | | | | OPTIONAL | | | | OPTIONAL | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 850 | | | | | | | | | | | |
| 656 | | | | | | | | | | | |
| 472 | | | | 680 | | | | 950 | | | |
| | | | | | | | | | | | |
| YES | | | | YES | | | | | | | |
| | | | | | | | | | | | |

Roof Fasteners - Steel Decks

[illegible]

NA = not applicable

Roof Fasteners - Steel Decks

| | | | | | | | | | | |
|--|---|--|--|--|--|--|--|--|--|--|
| TRU-FAST CORPORATION | U.S. INTEC | | | | | | U.S. INTEC | | | |
| SIP HD | DRILL-TEC #12 STANDARD SCREWS | | | | | | DRILL-TEC #14 STANDARD SCREWS | | | |
| U.S. | U.S. | | | | | | U.S. | | | |
| X | X | | | | | | X | | | |
| | X | | | | | | X | | | |
| CARBON STEEL C-1022 | CARBON STEEL | | | | | | CARBON STEEL | | | |
| TRU-KOTE (ELECTRODEPOSITION) | FLUOROPOLYMER PAINT | | | | | | FLUOROPOLYMER PAINT | | | |
| THREADED | THREADED | | | | | | THREADED | | | |
| LONG FLUTE SELF-DRILLING | DRILL POINT | | | | | | DRILL POINT | | | |
| THREADED | MECHANICAL | | | | | | MECHANICAL | | | |
| | | | | | | | | | | |
| 0.210 6 5 1 | 0.167 1-5/8 1-1/4 1 | | | | | | 0.180 1-1/4 7/8 1 | | | |
| 0.210 8 7 1 | 0.167 2-1/4 2-1/4 1 | | | | | | 0.180 1-5/8 1-1/4 1 | | | |
| 0.210 9-3/4 8-3/4 1 | 0.167 2-7/8 2-1/2 1 | | | | | | 0.180 2-1/4 1-7/8 1 | | | |
| 0.210 11-3/4 10-3/4 1 | 0.167 3-1/4 2-7/8 1 | | | | | | 0.180 2-7/8 2-1/2 1 | | | |
| 0.210 13-3/4 12-3/4 1 | 0.167 3-3/4 3-3/8 1 | | | | | | 0.180 3-1/4 2-7/8 1 | | | |
| | 0.167 4-1/2 4-1/8 1 | | | | | | 0.180 3-3/4 3-7/8 1 | | | |
| | 0.167 5 4-5/8 1 | | | | | | 0.180 4-1/2 4-1/8 1 | | | |
| | 0.167 6 5-5/8 1 | | | | | | 0.180 5 4-5/8 1 | | | |
| | 0.167 7 6-5/8 1 | | | | | | 0.180 6 5-5/8 1 | | | |
| | 0.167 8 7-5/8 1 | | | | | | 0.180 7 6-5/8 1 | | | |
| | | | | | | | 0.180 8 7-5/8 1 | | | |
| | | | | | | | 0.180 10 9-5/8 1 | | | |
| | | | | | | | 0.180 12 11-5/8 1 | | | |
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| PANCAKE #3 SQUARE | HEX OR #3 PHILLIPS | | | | | | TRUSS #3 PHILLIPS | | | |
| | | | | | | | | | | |
| 0.075 | | | | | | | 0.118 | | | |
| 0.650 | | | | | | | 0.448 | | | |
| | | | | | | | | | | |
| NO | YES | | | | | | YES | | | |
| | YES | | | | | | YES | | | |
| | ROUND 2.7 GALVALUME | | | | | | ROUND 2.7 GALVALUME | | | |
| | ROUND 3 PLASTIC | | | | | | ROUND 3 PLASTIC | | | |
| | HEX 2.7 GALVALUME | | | | | | HEX 2.7 GALVALUME | | | |
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| | | | | | | | | | | |
| REQUIRED | REQUIRED | | | | | | REQUIRED | | | |
| OPTIONAL | OPTIONAL | | | | | | OPTIONAL | | | |
| OPTIONAL | OPTIONAL | | | | | | OPTIONAL | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 19 GA (MIN) 1000 | 558 | | | | | | | | | |
| 13 GA (MIN) 1500 | 456 | | | | | | | | | |
| | 452 | | | | | | | | | |
| | | | | | | | | | | |
| YES | YES | | | | | | YES | | | |
| | | | | | | | | | | |
| YES | YES | | | | | | YES | | | |
| FM | FM, METRO-DADE COUNTY | | | | | | FM, METRO-DADE COUNTY | | | |
| YES | YES | | | | | | YES | | | |

Roof Fasteners - Steel Decks

[illegible]

NA = not applicable

THIS PAGE IS INTENTIONALLY LEFT BLANK.

Roof Fasteners - Wood Decks

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 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: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Attachment | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Built-Up Membranes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. SHANK DIAMETER (in.) / SHANK LENGTH (in.) / FASTENING RANGE THICKNESS (in.) / PLYWOOD DECK PENETRATION (in.) / WOOD DECK PENETRATION (in.) | <table border="1"> <tr><td>0.180</td><td>1-1/4</td><td>1/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>1-3/4</td><td>3/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>2-1/4</td><td>1-1/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>2-3/4</td><td>1-3/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>3-1/4</td><td>2-1/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>3-3/4</td><td>2-3/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>4-1/4</td><td>3-1/4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>5</td><td>4</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>6</td><td>5</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>7</td><td>6</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>8</td><td>7</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>9</td><td>8</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>10</td><td>9</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>11</td><td>10</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>12</td><td>11</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>13</td><td>12</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>14</td><td>13</td><td>1</td><td>1</td></tr> <tr><td>0.180</td><td>15</td><td>14</td><td>1</td><td>1</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table> | 0.180 | 1-1/4 | 1/4 | 1 | 1 | 0.180 | 1-3/4 | 3/4 | 1 | 1 | 0.180 | 2-1/4 | 1-1/4 | 1 | 1 | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <table border="1"> <tr><td>0.500</td><td>1-3/4</td><td>0</td><td>--</td><td>--</td></tr> <tr><td>0.500</td><td>2-1/2</td><td>1/2-3/4</td><td>--</td><td>--</td></tr> <tr><td>0.500</td><td>3-1/4</td><td>1-1-1/2</td><td>--</td><td>--</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table> | 0.500 | 1-3/4 | 0 | -- | -- | 0.500 | 2-1/2 | 1/2-3/4 | -- | -- | 0.500 | 3-1/4 | 1-1-1/2 | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.180 | 1-1/4 | 1/4 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.180 | 1-3/4 | 3/4 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.180 | 2-1/4 | 1-1/4 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | <table border="1"> <tr><td>SQUARE W/ROUNDED CORNER</td><td>2-7/8</td><td>GALVALUME</td></tr> <tr><td>ROUND</td><td>2</td><td>GALVALUME</td></tr> <tr><td>ROUND</td><td>2</td><td>PLASTIC</td></tr> <tr><td>ROUND</td><td>3</td><td>PLASTIC</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | SQUARE W/ROUNDED CORNER | 2-7/8 | GALVALUME | ROUND | 2 | GALVALUME | ROUND | 2 | PLASTIC | ROUND | 3 | PLASTIC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | <table border="1"> <tr><td>ROUND</td><td>2</td><td>GALVALUME</td></tr> <tr><td>ROUND</td><td>3</td><td>GALVALUME</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | ROUND | 2 | GALVALUME | ROUND | 3 | GALVALUME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 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. MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. SEE APPENDIX IF CHECKED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NA = not applicable

Roof Fasteners - Wood Decks

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| | | | | | | | | | | | |
|-----|--|---|-------|-----------------|-----|---|-----------------------------------|-------|-----------------|-----|---|
| 1. | COMPANY NAME | OLYMPIC MANUFACTURING GROUP | | | | | OLYMPIC MANUFACTURING GROUP | | | | |
| 2. | PRODUCT NAME | OLYMPIC FASTENER STD #12 | | | | | OLYMPIC FASTENER HD #14 (C STEEL) | | | | |
| 3. | COUNTRY OF MANUFACTURE | U.S. | | | | | U.S. | | | | |
| 4. | USED WITH: | | | | | | | | | | |
| | Insulation Attachment | X | | | | | X | | | | |
| | Built-Up Membranes | X | | | | | X | | | | |
| | Single-Ply Membranes | X | | | | | X | | | | |
| 5. | MATERIAL TYPE | STAINLESS STEEL, SPECIAL 400-SERIES BLEND | | | | | HARDENED CARBON STEEL | | | | |
| 6. | COATING TYPE | CR-10 | | | | | CR-10 | | | | |
| 7. | SHANK TYPE | THREADED | | | | | THREADED | | | | |
| 8. | POINT TYPE | PINCH, SELF-DRILLING | | | | | PINCH, SELF-DRILLING OR TAPEX | | | | |
| 9. | METHOD OF ATTACHMENT | THREADED | | | | | THREADED | | | | |
| 10. | SHANK DIAMETER (in.) / SHANK LENGTH (in.) / FASTENING RANGE THICKNESS (in.) / PLYWOOD DECK PENETRATION (in.) / WOOD DECK PENETRATION (in.) | | | | | | | | | | |
| | | 0.168 | 1-5/8 | 5/8 | 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 |
| | | 0.168 | 2-7/8 | 2-3/8 | 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 |
| | | 0.168 | 3-3/4 | 2-3/4 | 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 |
| | | 0.168 | 5 | 4 | 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 |
| | | 0.168 | 7 | 6 | 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 | 10 | 9-1/2 | 1/2 | 1 |
| | | | | | | | 0.190 | 12 | 11-1/2 | 1/2 | 1 |
| | | | | | | | 0.190 | 14 | 13-1/2 | 1/2 | 1 |
| | | | | | | | 0.190 | 16 | 15-1/2 | 1/2 | 1 |
| | | | | | | | 0.190 | 17 | 16-1/2 | 1/2 | 1 |
| | | | | | | | 0.201 | 18 | 17-1/2 | 1/2 | 1 |
| | | | | | | | 0.201 | 20 | 19-1/2 | 1/2 | 1 |
| | | | | | | | 0.201 | 21 | 20-1/2 | 1/2 | 1 |
| | | | | | | | 0.201 | 22 | 21-1/2 | 1/2 | 1 |
| | | | | | | | 0.201 | 24 | 23-1/2 | 1/2 | 1 |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 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 | | | | | | | | | | |
| | Required (yes/no) | YES | | | | | YES | | | | |
| | Available From Manufacturer (yes/no) | YES | | | | | YES | | | | |
| 14. | PLATE 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 | | |
| | | ROUND | 3-1/2 | STEEL | | | ROUND | 3-1/2 | STEEL | | |
| | | | | | | | | | | | |
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| 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 | | | | | 590 | | | | |
| | 2 inch pine plank | 735 | | | | | 820 | | | | |
| 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, ICBO, METRO-DADE COUNTY | | | | | FM, UL, ICBO, METRO-DADE COUNTY | | | | |
| 19. | MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | | | | | YES | | | | |
| 20. | SEE APPENDIX IF CHECKED | X | | | | | X | | | | |

NA = not applicable

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|-----|--|-------------------------|-------|-----------|---|--|
| 1 | COMPANY NAME | U.S. INTEC | | | | |
| 2. | PRODUCT NAME | DRILL TEC #15 XHD SCREW | | | | |
| 3. | COUNTRY OF MANUFACTURE | U.S. | | | | |
| 4. | USED WITH: | | | | | |
| | Insulation Attachment | X | | | | |
| | Built-Up Membranes | X | | | | |
| | Single-Ply Membranes | X | | | | |
| 5. | MATERIAL TYPE | CARBON STEEL | | | | |
| 6. | COATING TYPE | FLUOROPOLYMER PAINT | | | | |
| 7. | SHANK TYPE | THREADED | | | | |
| 8. | POINT TYPE | THREADED, SELF-TAPPING | | | | |
| 9. | METHOD OF ATTACHMENT | MECHANICAL | | | | |
| 10. | SHANK DIAMETER (in.) / SHANK LENGTH (in.) / FASTENING RANGE THICKNESS (in.) / PLYWOOD DECK PENETRATION (in.) / WOOD DECK PENETRATION (in.) | | | | | |
| | | 0.204 | 1-1/4 | 1/4 | 1 | |
| | | 0.204 | 2 | 1 | 1 | |
| | | 0.204 | 3 | 2 | 1 | |
| | | 0.204 | 4 | 3 | 1 | |
| | | 0.204 | 5 | 4 | 1 | |
| | | 0.204 | 6 | 5 | 1 | |
| | | 0.204 | 7 | 6 | 1 | |
| | | 0.204 | 8 | 7 | 1 | |
| | | 0.204 | 10 | 9 | 1 | |
| | | 0.204 | 12 | 11 | 1 | |
| | | 0.204 | 14 | 13 | 1 | |
| | | 0.204 | 16 | 15 | 1 | |
| | | 0.204 | 18 | 17 | 1 | |
| | | 0.204 | 20 | 19 | 1 | |
| | | 0.204 | 22 | 21 | 1 | |
| | | 0.204 | 24 | 23 | 1 | |
| | | 0.204 | 26 | 25 | 1 | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| 11. | HEAD SHAPE | TRUSS #3 PHILLIPS | | | | |
| 12. | HEAD DIMENSIONS (inches) | | | | | |
| | Thickness | 0.130 | | | | |
| | Diameter | 0.448 | | | | |
| 13. | PLATES | | | | | |
| | Required (yes/no) | YES | | | | |
| | Available From Manufacturer (yes/no) | YES | | | | |
| 14. | PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | ROUND | 2.7 | GALVALUME | | |
| | | HEX | 2.7 | GALVALUME | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| 15. | INSTALLATION EQUIPMENT | | | | | |
| | Screw Gun (optional/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) | | | | | |
| | 3/4-inch plywood 2 inch pine plank | 938 | | | | |
| 17. | MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF A CLASS I WOOD ROOF (yes/no) | YES | | | | |
| 18. | ACCEPTED BY THE FOLLOWING CODES | FM, METRO-DADE COUNTY | | | | |
| 19. | MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | | | | |
| 20. | SEE APPENDIX IF CHECKED | | | | | |

NA = not applicable

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|---|--------------------------|----|----|---|---------------------------------|--------|-----------------|---|
| 1. COMPANY NAME | GAF MATERIALS CORP. | | | | GAF MATERIALS CORP. | | | |
| 2. PRODUCT NAME | DRILL TEC #15 XHD SCREWS | | | | GAFTITE CD-10/EVERGUARD SPIKE | | | |
| 3. COUNTRY OF MANUFACTURE | U.S. | | | | U.S. | | | |
| 4. USED WITH: | | | | | | | | |
| Insulation Attachment | X | | | | X | | | |
| Built-Up Membranes | X | | | | X | | | |
| Single-Ply Membranes | X | | | | X | | | |
| 5. MATERIAL TYPE | CARBON STEEL | | | | HARDENED CARBON STEEL | | | |
| 6. COATING TYPE | FLUOROPOLYMER PAINT | | | | CR-10 FLUOROCARBON | | | |
| 7. SHANK TYPE | THREADED | | | | | | | |
| 8. POINT TYPE | SELF-TAPPING | | | | DIAMOND STARTER POINT | | | |
| 9. METHOD OF ATTACHMENT | MECHANICAL | | | | SHANK EXPANSION | | | |
| 10. SHANK DIAMETER (INCHES) / SHANK LENGTH (INCHES) / THICKNESS (INCHES) / DECK PENETRATION (INCHES) | | | | | | | | |
| | 0.204 | 2 | 1 | 1 | 0.215 | 2 | 1 | 1 |
| | 0.204 | 3 | 2 | 1 | 0.215 | 2-1/2 | 1-1/2 | 1 |
| | 0.204 | 4 | 3 | 1 | 0.215 | 3 | 2 | 1 |
| | 0.204 | 5 | 4 | 1 | 0.215 | 3-1/2 | 2-1/2 | 1 |
| | 0.204 | 6 | 5 | 1 | 0.215 | 4 | 3 | 1 |
| | 0.204 | 7 | 6 | 1 | 0.215 | 4-1/2 | 3-1/2 | 1 |
| | 0.204 | 8 | 7 | 1 | 0.215 | 5 | 4 | 1 |
| | 0.204 | 9 | 8 | 1 | 0.215 | 5-1/2 | 4-1/2 | 1 |
| | 0.204 | 10 | 9 | 1 | 0.215 | 6 | 5 | 1 |
| | 0.204 | 12 | 11 | 1 | 0.215 | 6-1/2 | 5-1/2 | 1 |
| | 0.204 | 14 | 13 | 1 | 0.215 | 7 | 6 | 1 |
| | 0.204 | 16 | 15 | 1 | 0.215 | 7-1/2 | 6-1/2 | 1 |
| | 0.204 | 18 | 17 | 1 | 0.215 | 8 | 7 | 1 |
| | 0.204 | 20 | 19 | 1 | 0.215 | 8-1/2 | 7-1/2 | 1 |
| | 0.204 | 22 | 21 | 1 | 0.215 | 9 | 8 | 1 |
| | 0.204 | 24 | 23 | 1 | 0.215 | 9-1/2 | 8-1/2 | 1 |
| | 0.204 | 26 | 25 | 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 | | | |
| 12. HEAD DIMENSIONS (inches) | | | | | | | | |
| Thickness | | | | | 0.105 | | | |
| Diameter | | | | | 0.435 | | | |
| 13. PLATES | | | | | | | | |
| Required (yes/no) | | | | | YES | | | |
| Available From Manufacturer (yes/no) | | | | | YES | | | |
| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | | | | | | | |
| | | | | | ROUND | 2 | STEEL | |
| | | | | | ROUND | 2 | PLASTIC | |
| | | | | | ROUND | 2 | STAINLESS STEEL | |
| | | | | | ROUND | 3 | STEEL | |
| | | | | | ROUND | 3 | PLASTIC | |
| | | | | | ROUND | 3 | STAINLESS STEEL | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| 15. INSTALLATION EQUIPMENT | | | | | | | | |
| Screw Gun (optional/required) | | | | | | | | |
| Installation Tool With Screw Gun (optional/required) | | | | | | | | |
| Special Tool Needed (optional/required) | | | | | | | | |
| Other | | | | | HAMMER DRILL | | | |
| 16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS) 3,000 psi AGED 28 DAYS | | | | | 1164 | | | |
| 17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CONCRETE ROOF CONSTRUCTION (yes/no) | | | | | YES | | | |
| 18. ACCEPTED BY THE FOLLOWING CODES | | | | | FM, UL, ICBO, METRO-DADE COUNTY | | | |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | | | | | YES | | | |
| 20. SEE APPENDIX IF CHECKED | | | | | | | | |

NA = not applicable

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|---|--------------------------------|-------|-----------------|-------|------------------------------------|-------|-----------------|-----|
| 1. COMPANY NAME | POWERS FASTENERS | | | | POWERS FASTENERS | | | |
| 2. PRODUCT NAME | POWERS RAWL 1/4" SPIKE | | | | POWERS RAWL #14 DECK SCREW | | | |
| 3. COUNTRY OF MANUFACTURE | U.S. | | | | U.S. | | | |
| 4. USED WITH: | | | | | | | | |
| Insulation Attachment | X | | | | X | | | |
| Built-Up Membranes | X | | | | X | | | |
| Single-Ply Membranes | X | | | | X | | | |
| 5. MATERIAL TYPE | HEAT TREATED CARBON STEEL | | | | CASE HARDENED CARBON STEEL | | | |
| 6. COATING TYPE | PERMA-SEAL CLUOROPOLYMER | | | | PERMA-SEAL CLUOROPOLYMER | | | |
| 7. SHANK TYPE | NA | | | | SPIRAL THREAD | | | |
| 8. POINT TYPE | NA | | | | DRILL TYPE | | | |
| 9. METHOD OF ATTACHMENT | PRE-EXPANDED SHANK COMPRESSION | | | | THREADED | | | |
| 10. SHANK DIAMETER (INCHES) / SHANK LENGTH (INCHES) / THICKNESS (INCHES) / DECK PENETRATION (INCHES) | | | | | | | | |
| | 0.240 | 1 | 1/8 | 7/8 | 0.238 | 1-5/8 | 1/8 | 1/2 |
| | 0.240 | 1-1/4 | 3/8 | 7/8 | 0.238 | 2-1/4 | 3/4 | 1/2 |
| | 0.240 | 1-1/2 | 1/4 | 1-1/4 | 0.238 | 2-7/8 | 1-3/8 | 1/2 |
| | 0.240 | 2 | 3/4 | 1-1/4 | 0.238 | 3-3/4 | 2-1/4 | 1/2 |
| | 0.240 | 2-1/2 | 1-1/4 | 1-1/4 | 0.238 | 4-1/2 | 3 | 1/2 |
| | 0.240 | 3 | 1-3/4 | 1-1/4 | 0.238 | 5 | 3-1/2 | 1/2 |
| | 0.240 | 3-12 | 2-1/4 | 1-1/4 | 0.238 | 6 | 4-1/2 | 1/2 |
| | 0.240 | 4 | 2-3/4 | 1-1/4 | 0.238 | 7 | 5-1/2 | 1/2 |
| | 0.240 | 4-1/2 | 3-1/4 | 1-1/4 | 0.238 | 8 | 6-1/2 | 1/2 |
| | 0.240 | 5 | 3-3/4 | 1-1/4 | 0.238 | 10 | 8-1/2 | 1/2 |
| | 0.240 | 5-1/2 | 4-1/4 | 1-1/4 | 0.238 | 12 | 10-1/2 | 1/2 |
| | 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 | 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 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 11. HEAD SHAPE | MUSHROOM | | | | PHILLIPS FLAT TRUSS HEAD #3 RECESS | | | |
| 12. HEAD DIMENSIONS (inches) | | | | | | | | |
| Thickness | 0.110 | | | | 0.118 | | | |
| Diameter | 0.422 | | | | 0.448 | | | |
| 13. PLATES | | | | | | | | |
| Required (yes/no) | YES | | | | YES | | | |
| Available From Manufacturer (yes/no) | YES | | | | YES | | | |
| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | | | | | | | |
| | ROUND BARBED | 2 | GALVALUME | | ROUND BARBED | 2 | GALVALUME | |
| | ROUND | 3 | GALVALUME | | ROUND | 3 | GALVALUME | |
| | ROUND | 3 | STAINLESS STEEL | | ROUND | 3 | STAINLESS STEEL | |
| | ROUND | 3 | PLASTIC | | ROUND | 3 | PLASTIC | |
| | | | | | | | | |
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| | | | | | | | | |
| 15. INSTALLATION EQUIPMENT | | | | | | | | |
| Screw Gun (optional/required) | | | | | REQUIRED | | | |
| Installation Tool With Screw Gun (optional/required) | | | | | STAND-UP TOOL (OPTIONAL) | | | |
| 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 | 1100 | | | | 960 | | | |
| 17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CONCRETE ROOF CONSTRUCTION (yes/no) | YES | | | | YES | | | |
| 18. ACCEPTED BY THE FOLLOWING CODES | FM, METRO-DADE COUNTY | | | | FM | | | |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | | | | YES | | | |
| 20. SEE APPENDIX IF CHECKED | | | | | | | | |

NA = not applicable

Roof Fasteners - Concrete Decks

[illegible]

Roof Fasteners - Concrete Decks

| | | | | | |
|---|---------------------------------|--|-------|-----------|-----|
| 1. COMPANY NAME | SFS INTEC | SIMPLEX | | | |
| 2. PRODUCT NAME | 1/4" DEKSPIKE | ZANCHOR DRIVE NAIL EGS-PIN | | | |
| 3. COUNTRY OF MANUFACTURE | U.S. | U.S. | | | |
| 4. USED WITH: | | | | | |
| Insulation Attachment | X | | | | |
| Built-Up Membranes | X | X | | | |
| Single-Ply Membranes | X | X | | | |
| 5. MATERIAL TYPE | CARBON STEEL | ZINC (ZAMAK 7) | | | |
| 6. COATING TYPE | ELECTRO-DEPOSITION | ZINC | | | |
| 7. SHANK TYPE | NA | ELECTRO GALVANIZED CARBON STEEL | | | |
| 8. POINT TYPE | NA | BLUNT | | | |
| 9. METHOD OF ATTACHMENT | HAMMERED | SLEEVE EXPANSION | | | |
| 10. SHANK DIAMETER (INCHES) / SHANK LENGTH (INCHES) / THICKNESS (INCHES) / DECK PENETRATION (INCHES) | | | | | |
| | 0.239 1-1/4 1-1/4 UP TO 1/4 | 1/4 | 3/4 | 1/4 | 1/2 |
| | 0.239 1-1/2 1-1/4 UP TO 1/2 | 3/16 | 7/8 | 3/8 | 1/2 |
| | 0.239 2 1-1/4 UP TO 3/4 | 1/4 | 1 | 1/8 | 7/8 |
| | 0.239 2-1/2 1-1/4 3/4 - 1-1/4 | 1/4 | 1-1/4 | 3/8 | 7/8 |
| | 0.239 3 1-1/4 1-1/4 - 1-3/4 | 1/4 | 1-1/2 | 5/8 | 7/8 |
| | 0.239 3-1/2 1-1/4 1-3/4 - 2-1/4 | 1/4 | 2 | 1-1/8 | 7/8 |
| | 0.239 4 1-1/4 2-1/4 - 2-3/4 | | | | |
| | 0.239 4-1/2 1-1/4 2-3/4 - 3-1/4 | | | | |
| | 0.239 5 1-1/4 3-1/4 - 3-3/4 | | | | |
| | 0.239 5-1/2 1-1/4 3-3/4 - 4-1/4 | | | | |
| | 0.239 6 1-1/4 4-1/4 - 4-3/4 | | | | |
| | 0.239 6-1/2 1-1/4 4-3/4 - 5-1/4 | | | | |
| | 0.239 7 1-1/4 5-1/4 - 5-3/4 | | | | |
| | 0.239 7-1/2 1-1/4 5-3/4 - 6-1/4 | | | | |
| | 0.239 8 1-1/4 6-1/4 - 6-3/4 | | | | |
| | 0.239 9 1-1/4 7-1/4 - 7-3/4 | | | | |
| | 0.239 10 1-1/4 8-1/4 - 8-3/4 | | | | |
| | 0.239 11 1-1/4 9-1/4 - 9-3/4 | | | | |
| | 0.239 12 1-1/4 10-1/4 - 10-3/4 | | | | |
| | 0.239 13 1-1/4 11-1/4 - 11-3/4 | | | | |
| | 0.239 14 1-1/4 12-1/4 - 12-3/4 | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| 11. HEAD SHAPE | | MUSHROOM | | | |
| 12. HEAD DIMENSIONS (inches) | | | | | |
| Thickness | | 0.125 | | | |
| Diameter | | 0.550 | | | |
| 13. PLATES | | | | | |
| Required (yes/no) | | NO | | | |
| Available From Manufacturer (yes/no) | | YES | | | |
| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | | | | |
| | | PARABOLIC | 2 | GALVALUME | |
| | | PARABOLIC | 3 | GALVALUME | |
| | | | | | |
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| 15. INSTALLATION EQUIPMENT | | | | | |
| Screw Gun (optional/required) | | NA | | | |
| Installation Tool With Screw Gun (optional/required) | | NA | | | |
| Special Tool Needed (optional/required) | | TERMINATION BARDS CAN BE USED (OPTIONAL) | | | |
| Other | | 1/4" DRILL BIT AND DRILL (REQUIRED) | | | |
| 16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS) 3,000 psi AGED 28 DAYS | | 648, 937, 1151, 1184, 1272 | | | |
| 17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CONCRETE ROOF CONSTRUCTION (yes/no) | | YES | | | |
| 18. ACCEPTED BY THE FOLLOWING CODES | | DADE COUNTY | | | |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | | YES | | | |
| 20. SEE APPENDIX IF CHECKED | | X | | | |

NA = not applicable

Roof Fasteners - Concrete Decks

| | | |
|---|-------------------------------|-------------------------|
| 1. COMPANY NAME | TRU-FAST CORPORATION | TRU-FAST CORPORATION |
| 2. PRODUCT NAME | TRU-SPIKE | ZAMAC NAIL |
| 3. COUNTRY OF MANUFACTURE | U.S. | U.S. |
| 4. USED WITH: | | |
| Insulation Attachment | X | X |
| Built-Up Membranes | X | |
| Single-Ply Membranes | X | |
| 5. MATERIAL TYPE | CARBON STEEL C-1022 | ZINC |
| 6. COATING TYPE | TRU-KOTE (ELECTRO-DEPOSITION) | NA |
| 7. SHANK TYPE | DEFORMED S | ELECTRO GALVANIZED PIN |
| 8. POINT TYPE | BLUNT | BLUNT |
| 9. METHOD OF ATTACHMENT | FRICTION | SLEEVE EXPANSION |
| 10. SHANK DIAMETER (INCHES) / SHANK LENGTH (INCHES) / THICKNESS (INCHES) / DECK PENETRATION (INCHES) | | |
| | 0.25 1-1/4 3/8 7/8 | 0.250 1 7/8 |
| | 0.25 1-1/2 5/8 7/8 | 0.250 1-1/4 7/8 |
| | 0.25 2 3/4 1-1/4 | 0.250 1-1/2 7/8 |
| | 0.25 2-1/2 1-1/4 1-1/4 | 0.250 2 7/8 |
| | 0.25 3 1-3/4 1-1/4 | |
| | 0.25 3-1/2 2-1/4 1-1/4 | |
| | 0.25 4 2-3/4 1-1/4 | |
| | 0.25 4-1/2 3-1/4 1-1/4 | |
| | 0.25 5 3-3/4 1-1/4 | |
| | 0.25 5-1/2 4-1/4 1-1/4 | |
| | 0.25 6 4-3/4 1-1/4 | |
| | 0.25 6-1/2 5-1/4 1-1/4 | |
| | 0.25 7 5-3/4 1-1/4 | |
| | 0.25 7-1/2 6-1/4 1-1/4 | |
| | 0.25 8 6-3/4 1-1/4 | |
| | 0.25 9 7-3/4 1-1/4 | |
| | 0.25 10 8-3/4 1-1/4 | |
| | 0.25 11 9-3/4 1-1/4 | |
| | 0.25 12 10-3/4 1-1/4 | |
| | 0.25 13 11-3/4 1-1/4 | |
| | 0.25 14 12-3/4 1-1/4 | |
| | | |
| | | |
| | | |
| | | |
| 11. HEAD SHAPE | MUSHROOM | MUSHROOM |
| 12. HEAD DIMENSIONS (inches) | | |
| Thickness | 0.120 | 0.170 |
| Diameter | 0.500 | 0.525 |
| 13. PLATES | | |
| Required (yes/no) | NO | NO |
| Available From Manufacturer (yes/no) | YES | YES |
| 14. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | |
| | ROUND 2 GALVALUME | ROUND 2 GALVALUME |
| | ROUND 2.4 GALVALUME | ROUND 2.4 GALVALUME |
| | ROUND 3 GALVALUME | BATTEN BAR 1 GALVALUME |
| | ROUND 3 PLASTIC | TERMINATION |
| | BATTEN BAR 1 GALVALUME | BAR 1 ALUMINUM |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 15. INSTALLATION EQUIPMENT | | |
| Screw Gun (optional/required) | NO | NO |
| Installation Tool With Screw Gun (optional/required) | NA | NA |
| Special Tool Needed (optional/required) | NA | NA |
| Other | 1/4" DRILL BIT REQUIRED | 1/4" DRILL BIT REQUIRED |
| 16. AVERAGE PULLOUT RESISTANCE (lbs.) (FM TINIUS OLSEN PULLOUT RESISTANCE TESTS) 3,000 psi AGED 28 DAYS | 1000 | 800 |
| 17. MEETS THE FM APPROVAL REQUIREMENTS AS A COMPONENT OF CONCRETE ROOF CONSTRUCTION (yes/no) | YES | YES |
| 18. ACCEPTED BY THE FOLLOWING CODES | FM | FM |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | YES |
| 20. SEE APPENDIX IF CHECKED | | |

NA = not applicable

[illegible]

486

Roof Fasteners - Concrete Decks

[illegible]

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

| | | | | | | | | | |
|-----|---|----------------------------|---|------|-------|----------------------------|--------|----|----|
| 1. | COMPANY NAME | ES PRODUCTS INC. | | | | ES PRODUCTS NC. | | | |
| 2. | PRODUCT NAME | NAIL-TITE TYPE R | | | | ES-90 BASE PLY FASTENER | | | |
| 3. | COUNTRY OF MANUFACTURE | U.S. | | | | U.S. | | | |
| 4. | DECK TYPE | | | | | | | | |
| | Lightweight Concrete | | | | | X | | | |
| | Gypsum | X | | | | | | | |
| | Cementitious Wood Fiber | | | | | | | | |
| 5. | USED WITH: | | | | | | | | |
| | Insulation Attachment | | | | | | | | |
| | Built-Up Membranes | X | | | | X | | | |
| | Single-Ply Membranes | | | | | X | | | |
| 6. | MATERIAL TYPE | CARBON STEEL | | | | STEEL | | | |
| 7. | COATING TYPE | ZINC PLATED | | | | HOT DIPPED G-90 GALVANIZED | | | |
| 8. | SHANK TYPE | TAPERED COE | | | | TWO-PIECE RECTANGULAR | | | |
| 9. | POINT TYPE | ROUND | | | | NA | | | |
| 10. | METHOD OF ATTACHMENT | CONICAL EXTENDING LEGS | | | | SHANK EXPANSION | | | |
| 11. | SHANK DIAMETER (inches) / SHANK LENGTH (inches) / FASTENING RANGE THICKNESS (inches) / DECK PENETRATION (inches) | | | | | | | | |
| | | NA | 1 | 1/16 | 15/16 | NA | 1-7/10 | NA | NA |
| | | | | | | | | | |
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| | | | | | | | | | |
| 12. | HEAD SHAPE | ROUND | | | | ROUND | | | |
| 13. | HEAD DIMENSIONS (inches) | | | | | | | | |
| | Thickness | 0.015 | | | | - | | | |
| | Diameter | 1.7 | | | | 2.75 | | | |
| 14. | PLATES | | | | | | | | |
| | Required (yes/no) | NO | | | | NO | | | |
| | Available From Manufacturer (yes/no) | NA | | | | NO | | | |
| 15. | PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | | | | | | | |
| | | | | | | | | | |
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| 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.) Lightweight Concrete Gypsum Cementitious Wood Fiber | | | | | | | | |
| | | NA | | | | 90 MIN. | | | |
| | | 159 | | | | NA | | | |
| | | NA | | | | NA | | | |
| 18. | ACCEPTED BY THE FOLLOWING CODES Lightweight Concrete Gypsum Cementitious Wood Fiber | | | | | | | | |
| | | | | | | - | | | |
| | | UL, FM, METRO-DADE COUNTY | | | | NA | | | |
| | | YES | | | | NA | | | |
| 19. | MANUFACTURER WARRANTY AVAILABLE (yes/no) | | | | | YES | | | |
| 20. | SEE APPENDIX IF CHECKED | | | | | | | | |

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

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|--|--|--------------------------|-------|---|-------|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|---|---|-------|-----|-------|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|---|-----|-----|----|-----|---|-----|----|----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. PRODUCT NAME | DRILL TEC NTB-1 HWO | DRILL TECK NTB-2HWW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. COUNTRY OF MANUFACTURE | U.S. | U.S. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. DECK TYPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lightweight Concrete | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gypsum | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cementitious Wood Fiber | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. USED WITH: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Attachment | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Built-Up Membranes | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Single-Ply Membranes | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. MATERIAL TYPE | GLASS FILLED NYLON | GLASS FILLED NYLON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. COATING TYPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. SHANK TYPE | THREADED BUTTRESS | THREADED BUTTRESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. POINT TYPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. METHOD OF ATTACHMENT | MECHANICAL | MECHANICAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. SHANK DIAMETER (inches) / SHANK LENGTH (inches) / FASTENING RANGE THICKNESS (inches) / DECK PENETRATION (inches) | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>NA</td><td>2.5</td><td>1</td><td>1.5</td></tr> <tr><td>NA</td><td>3</td><td>1.5</td><td>1.5</td></tr> <tr><td>NA</td><td>3.5</td><td>2</td><td>1.5</td></tr> <tr><td>NA</td><td>4</td><td>2.5</td><td>1.5</td></tr> <tr><td>NA</td><td>4.5</td><td>3</td><td>1.5</td></tr> <tr><td>NA</td><td>5</td><td>3.5</td><td>1.5</td></tr> <tr><td>NA</td><td>5.5</td><td>4</td><td>1.5</td></tr> <tr><td>NA</td><td>6</td><td>4.5</td><td>1.5</td></tr> <tr><td>NA</td><td>6.5</td><td>5</td><td>1.5</td></tr> <tr><td>NA</td><td>7</td><td>5.5</td><td>1.5</td></tr> <tr><td>NA</td><td>7.5</td><td>6</td><td>1.5</td></tr> <tr><td>NA</td><td>8</td><td>6.5</td><td>1.5</td></tr> <tr><td>NA</td><td>8.5</td><td>7</td><td>1.5</td></tr> <tr><td>NA</td><td>9</td><td>7.5</td><td>1.5</td></tr> <tr><td>NA</td><td>9.5</td><td>8</td><td>1.5</td></tr> <tr><td>NA</td><td>10</td><td>8.5</td><td>1.5</td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table> | NA | 2.5 | 1 | 1.5 | NA | 3 | 1.5 | 1.5 | NA | 3.5 | 2 | 1.5 | NA | 4 | 2.5 | 1.5 | NA | 4.5 | 3 | 1.5 | NA | 5 | 3.5 | 1.5 | NA | 5.5 | 4 | 1.5 | NA | 6 | 4.5 | 1.5 | NA | 6.5 | 5 | 1.5 | NA | 7 | 5.5 | 1.5 | NA | 7.5 | 6 | 1.5 | NA | 8 | 6.5 | 1.5 | NA | 8.5 | 7 | 1.5 | NA | 9 | 7.5 | 1.5 | NA | 9.5 | 8 | 1.5 | NA | 10 | 8.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>NA</td><td>2.5</td><td>1</td><td>1.5</td></tr> <tr><td>NA</td><td>3</td><td>1.5</td><td>1.5</td></tr> <tr><td>NA</td><td>3.5</td><td>2</td><td>1.5</td></tr> <tr><td>NA</td><td>4</td><td>2.5</td><td>1.5</td></tr> <tr><td>NA</td><td>4.5</td><td>3</td><td>1.5</td></tr> <tr><td>NA</td><td>5</td><td>3.5</td><td>1.5</td></tr> <tr><td>NA</td><td>5.5</td><td>4</td><td>1.5</td></tr> <tr><td>NA</td><td>6</td><td>4.5</td><td>1.5</td></tr> <tr><td>NA</td><td>6.5</td><td>5</td><td>1.5</td></tr> <tr><td>NA</td><td>7</td><td>5.5</td><td>1.5</td></tr> <tr><td>NA</td><td>7.5</td><td>6</td><td>1.5</td></tr> <tr><td>NA</td><td>8</td><td>6.5</td><td>1.5</td></tr> <tr><td>NA</td><td>8.5</td><td>7</td><td>1.5</td></tr> <tr><td>NA</td><td>9</td><td>7.5</td><td>1.5</td></tr> <tr><td>NA</td><td>9.5</td><td>8</td><td>1.5</td></tr> <tr><td>NA</td><td>10</td><td>8.5</td><td>1.5</td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table> | NA | 2.5 | 1 | 1.5 | NA | 3 | 1.5 | 1.5 | NA | 3.5 | 2 | 1.5 | NA | 4 | 2.5 | 1.5 | NA | 4.5 | 3 | 1.5 | NA | 5 | 3.5 | 1.5 | NA | 5.5 | 4 | 1.5 | NA | 6 | 4.5 | 1.5 | NA | 6.5 | 5 | 1.5 | NA | 7 | 5.5 | 1.5 | NA | 7.5 | 6 | 1.5 | NA | 8 | 6.5 | 1.5 | NA | 8.5 | 7 | 1.5 | NA | 9 | 7.5 | 1.5 | NA | 9.5 | 8 | 1.5 | NA | 10 | 8.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 2.5 | 1 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 3 | 1.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 3.5 | 2 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 4 | 2.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 4.5 | 3 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 5 | 3.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 5.5 | 4 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 6 | 4.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 6.5 | 5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 7 | 5.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 7.5 | 6 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 8 | 6.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 8.5 | 7 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 9 | 7.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 9.5 | 8 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 10 | 8.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NA | 2.5 | 1 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 3 | 1.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 3.5 | 2 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 4 | 2.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 4.5 | 3 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 5 | 3.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 5.5 | 4 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 6 | 4.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 6.5 | 5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 7 | 5.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | 7.5 | 6 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NA | 10 | 8.5 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 12. HEAD SHAPE | DOUBLE INTRNAL HEX DRIVE | DOUBLE INTRNAL HEX DRIVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. HEAD DIMENSIONS (inches) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 14. PLATES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Required (yes/no) | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Available From Manufacturer (yes/no) | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>3</td><td>STEEL</td></tr> <tr><td>2</td><td>STEEL</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> | 3 | STEEL | 2 | STEEL | | | | | | | | | | | | | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>3</td><td>STEEL</td></tr> <tr><td>2</td><td>STEEL</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> | 3 | STEEL | 2 | STEEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | STEEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | STEEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 3 | STEEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 16. INSTALLATION EQUIPMENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Screw Gun (optional/required) | REQUIRED | REQUIRED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Installation Tool With Screw Gun (optional/required) | REQUIRED | REQUIRED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Special Tool Needed (optional/required) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. AVERAGE PULLOUT RESISTANCE (lbs.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lightweight Concrete | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gypsum | 540 | 540 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cementitious Wood Fiber | 440 | 440 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. ACCEPTED BY THE FOLLOWING CODES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lightweight Concrete | FM, METRO-DADE COUNTY | FM, METRO-DADE COUNTY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gypsum | FM, METRO-DADE COUNTY | FM, METRO-DADE COUNTY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cementitious Wood Fiber | FM, METRO-DADE COUNTY | FM, METRO-DADE COUNTY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. SEE APPENDIX IF CHECKED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

| | | |
|--|--|---|
| 1. COMPANY NAME | POWERS FASTENERS | POWERS FASTENERS |
| 2. PRODUCT NAME | POWERS RAWL SPEED-LOCK TOGGLE | POWERS RAWL POWERLITE |
| 3. COUNTRY OF MANUFACTURE | U.S. | U.S. |
| 4. DECK TYPE | | |
| Lightweight Concrete | X | X |
| Gypsum | X | X |
| Cementitious Wood Fiber | X | X |
| 5. USED WITH: | | |
| Insulation Attachment | X | X |
| Built-Up Membranes | X | X |
| Single-Ply Membranes | X | X |
| 6. MATERIAL TYPE | CARBON STEEL & STAINLESS STEEL | DUPONT ZYTEL NYLON |
| 7. COATING TYPE | PERMA-SEAL FLUOROPOLYMER (CARBON STEEL BOLT ONLY) | NA |
| 8. SHANK TYPE | ANNULAR THREAD | HIGH THREAD WITH TAPERED ROOT |
| 9. POINT TYPE | NA | SHARP |
| 10. METHOD OF ATTACHMENT | CLAMPING | THREADED, SUBSTRATE COMPACTION |
| 11. SHANK DIAMETER (inches) / SHANK LENGTH (inches) / FASTENING RANGE THICKNESS (inches) / DECK PENETRATION (inches) | | |
| | 0.250 5 3-1/2 1-1/2 | 0.675 2 1/2 1-1/2 |
| | 0.250 3 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 |
| | | 0.675 9 7-1/2 1-1/2 |
| | | 0.675 9-1/2 8 1-1/2 |
| | | 0.675 10 8-1/2 1-1/2 |
| | | 0.675 11 9-1/2 1-1/2 |
| | | 0.675 12 10-1/2 1-1/2 |
| | | 0.675 13 11-1/2 1-1/2 |
| | | 0.675 14 12-1/2 1-1/2 |
| | | |
| | | |
| | | |
| 12. HEAD SHAPE | PHILLIPS FLAT HEAD #3 RECESS | 1/4" SQUARE DRIVE RECESS |
| 13. HEAD DIMENSIONS (inches) | | |
| Thickness | 0.042 | 0.134 |
| Diameter | 0.428 | 1.000 |
| 14. PLATES | | |
| Required (yes/no) | YES | YES |
| Available From Manufacturer (yes/no) | YES | YES |
| 15. PLATE SHAPE / DIMENSIONS (inches) / MATERIAL | | |
| | ROUND 3 GALVALUME | ROUND |
| | | BARBED 2 GALVALUME |
| | | ROUND |
| | | BARBED 3 GALVALUME |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 16. INSTALLATION EQUIPMENT | | |
| Screw Gun (optional/required) | OPTIONAL | |
| Installation Tool With Screw Gun (optional/required) | | |
| Special Tool Needed (optional/required) | | |
| Other | APPROPRIATE DRILL & BIT FOR BASE MATERIAL (REQUIRED) | APP. DRILL & BIT FOR BASE MAT'L/IMPACT WRENCH (REQ) |
| 17. AVERAGE PULLOUT RESISTANCE (lbs.) | | |
| Lightweight Concrete | 995 | - |
| Gypsum | 620 | 540 |
| Cementitious Wood Fiber | 570 | 595 |
| 18. ACCEPTED BY THE FOLLOWING CODES | | |
| Lightweight Concrete | FM | FM |
| Gypsum | FM | FM |
| Cementitious Wood Fiber | FM | FM |
| 19. MANUFACTURER WARRANTY AVAILABLE (yes/no) | YES | YES |
| 20. SEE APPENDIX IF CHECKED | X | X |

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Roof Fasteners - Lightweight Concrete, Gypsum and Cementitious Wood Fiber Decks

[illegible]

NA = not applicable

Manufacturers Appendix, Roof Fasteners

GAF MATERIALS CORPORATION

For Drill-Tec 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 Drill-Tec 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. 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 and #12 fasteners are available with a 1/4 inch hex head design.

JOHNS MANVILLE

The UltraFast, UltraGard AP, and High Load fastener lines are available as separate screws and plates or as pre-assembled screws and plates as in the UltraFast ASAP, UltraGard APB ASAP, and High Load ASAP product line.

The UltraFast and UltraFast ASAP fastener lines are available with either a 1/4-inch hex head or a #3 phillips head.

NATIONAL NAIL CORP.

Round-Top and R/S Round Top round heads reduce tearing or cutting of felt and/or insulation roofing material. National Nail has developed pneumatic nailing equipment to automatically apply their round top nails.

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-inch 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 inches per FMRC 1-29.

Wood Deck: deck screws should penetrate through a minimum 1/4 inch in plywood decks that are 3/4 inches thick per FMRC 1-29.

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ROOF CEMENTS, ADHESIVES AND COATINGS

National Roofing Contractors Association

LOW-SLOPE
Roofing Materials Guide
2004-05



Information about Section 4: Roof Cements, Adhesives and Coatings

General Information

Section 4: Roof Cements & Adhesives and Roof Coatings in the 2004-05 edition of NRCA's *Low-Slope Roofing Materials Guide* is divided into three parts, as follows:

- Part 1: Roof Cements & Adhesives and Roof Coatings, General Information
- Part 2: Roof Cements & Adhesives, Technical Data
- Part 3: Roof Coatings, Technical Data

Specific listing information included in Part 1: Roof Cements & Adhesives and Roof Coatings, General Information is as follows:

1. Company name
2. Product name
3. Product description
4. Uses
5. Application method(s)
6. Roof system description
7. Country of manufacture
8. Year of first commercial use
9. Sales information contact
10. Technical information contact
11. See appendix

In Part 2: Roof Cements & Adhesives, Technical Data specific listing information is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Fire resistance classification
5. See appendix

Reporting of compliance information in Item 3 is based upon the following American Society for Testing and Materials (ASTM) standards:

- ASTM D 2822, "Standard Specification for Asphalt Roof Cement"
- ASTM D 3019, "Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non Fibered, Asbestos Fibered, and Non Asbestos Fibered"
- ASTM D 3747, "Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation"
- ASTM D 4022, "Standard Specification for Coal Tar Cement, Asbestos Containing"
- ASTM D 4586, "Standard Specification for Asphalt Roof Cement, Asbestos-Free"

In Part 3: Roof Coatings, Technical Data specific listing information is as follows:

1. Company name
2. Product name
3. Complies with (ASTM designation)
4. Fire resistance classification
5. See appendix

Reporting of compliance information in Item 3 is based upon the following American Society for Testing and Materials (ASTM) standards:

- ASTM C 836, "Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface"
- ASTM C 957, "Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface"
- ASTM D 41, "Standard Specification for Asphalt Primers Used in Roofing, Dampproofing, and Waterproofing"
- ASTM D 43, "Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing"
- ASTM D 1187, "Standard Specification for Asphalt-Base Emulsions for Use as Protective Coatings for Metal"
- ASTM D 1227, "Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing"
- ASTM D 2923, "Standard Specification for Asphalt Roof Coatings"
- ASTM D 2824, "Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos"
- ASTM D 3468, "Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing"
- ASTM D 4479, "Standard Specification for Asphalt Roof Coatings -- Asbestos Free"
- ASTM D 6083, titled "Standard Specification for Liquid Applied Acrylic Coating Used in Roofing"

Users of the guide who are interested in additional information regarding roof cements & adhesives and roof coatings are encouraged to refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*.

Section 4: Roof Cements and Coatings in the 2004-05 edition of NRCA's *Low-Slope Roofing Materials Guide* provides a comprehensive listing of cements and coatings used in low-slope roofing. In addition, it provides information on cold-applied roof systems that employ coating products or cements as the primary weatherproofing medium and, in some instances, adhesive and stabilizing properties.

An index of the manufacturers included in Section 4: Roof Cements, Adhesives and Coatings and locations of their specific products within this section immediately follows this section.

Index to Listed Roof Cements, Adhesives and Coatings

| ROOF CEMENTS, ADHESIVES AND COATINGS | INCOMPLETE DATA | |
|--|-------------------|--|
| ALCO-NVC, INC. P.O. Box 14001 Detroit, MI 48214 800/323-0029 FAX: 313/331-4726 E-mail:alconvc@sbcglobalnet.com Web: www.alconvc.com | 518 566 598 | |
| AMERICAN TAR COMPANY Division of Fields Company, LLC 2240 Taylor Way Tacoma, WA 98421 253/627-4099 FAX: 253/627-3859 E-mail: | 519 567 599 | |
| ANDEK CORP. P.O. Box 392 850 Glen Avenue Moorestown, NJ 08057 888/88ANDEK FAX: 888/44ANDEK E-mail: andekcorp.@aol.com | 521 569 603 | |
| CERTAINTED CORP. 750 E. Swedesford Rd. P.O. Box 860 Valley Forge, PA 19482 800/233-8990 FAX: 610/341-7859 | 522 569 603 | |
| DEWITT PRODUCTS CO. 5860 Plumer Detroit, MI 48209 313/554-0575 800/962-8599 FAX: 313/554-2171 E-mail: Web: ww.dewitt@globalbiz.com | 523 569 605 | |
| ECOLOGY ROOF SYSTEMS 505 N. Tustin Avenue #188 Santa Ana, CA 92705 714/972-1001 FAX: 714/972-1079 E-mail: Web: www.ecologyroofsystems.com | 525 571 608 | |
| FIELDS COMPANY, LLC 2240 Taylor Way Tacoma, WA 98421 253/627-4098 FAX: 253/383-2181 E-mail: Web: | 527 571 611 | |
| GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 800/766-3411 FAX: 973/628-3451 E-mail: Web: www.gaf.com | 531 575 616 | |
| GARDNER ASPHALT CORP/APOC DIVISION P.O. Box 5449 Tampa, FL 33675-5449 FAX: 813/248-6768 E-mail: Web: | 534 577 617 | |

| ROOF CEMENTS, ADHESIVES AND COATINGS | INCOMPLETE DATA | |
|--|-------------------|-----|
| GARLAND COMPANY, INC. 3800 E. 91st Street Cleveland, OH 44105 216/641-7500 FAX: 216/641-0633 E-mail: Web: | 537 580 619 | 835 |
| GMX, INC. 9105 Way Avenue Cleveland, OH 44105 216/641-7502 FAX: 216/641-0633 E-mail: Web: | 539 623 | |
| HENRY COMPANY 2911 Slauson Avenue Huntington, CA 90255 223/583-5000 FAX: 223/582-6429 E-mail: techservices@henry.com Web: www.henry.com | 540 581 625 | |
| KARNAK CORPORATION 330 Central Avenue Clark, NJ 07066 732/388-0300 800/526-4236 FAX: 732/388-9422 E-mail: info@karnakcorp.com Web: www.karnakcorp.com | 547 590 634 | |
| KOKEM PRODUCTS INC. 4432 N.E. Davis Portland, OR 97213 503/235-9206 FAX: 503/235-9206 E-mail: Web: | 551 637 | |
| METACRYLICS ACRYLIC-POLYESTER ROOFING PRODUCTS 142 N. 27th Street San Jose, CA 95116 408/280-7733 FAX: 408/280-6239 E-mail: sales@metacrylica.com Web: www.metacrylics.com | 551 592 37 | |
| NEOGARD div. of JONES BLAIR 2728 Empire Central, P.O. Box 35288 Dallas, TX 75235 800/321-6588 FAX: 214/357-7532 E-mail: neogard@neogard.com Web: www.neogard.com | 554 639 | |
| REPUBLIC POWDERED METALS 2628 Pearl Road Medina, OH 44256 800/551-7081 FAX: 800/382-1218 E-mail: Web: www.rpmrepublic.com | 554 639 | |
| SOMAY PRODUCTS, INC. 4301 N.W. 35th Avenue Miami, FL 33142-4382 305/633-6333 or 888/24-somay FAX: 305/638-5524 E-mail: paint@somay.com Web: www.somay.com | 555 641 | |

Index to Listed Roof Cements, Adhesives and Coatings

| ROOF CEMENTS, ADHESIVES AND COATINGS | INCOMPLETE DATA | |
|---|-------------------|-----|
| SOUTHWESTERN PETROLEUM CORP. (SWEPCO) 534 N. Main St., P.O. Box 961005 Ft. Worth, TX 76161-0005 817/332-2336 800/877-9372 FAX: 817/877-4047 E-mail: swepcousa.com | 555 593 641 | |
| TOPCOAT DIVISION OF GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 800/766-3411 FAX: 973/628-3451 Web: www.gaf.com | 557 645 | 905 |
| TREMCO INC. 3735 Green Road Beachwood, OH 44122-8069 216/292-5000 FAX: 216/766-5629 E-mail: Web: www.tremcoroofing.com | 558 593 647 | |

| ROOF CEMENTS, ADHESIVES AND COATINGS | INCOMPLETE DATA | |
|--|-------------------|-----|
| UNITED COATINGS 19011 E. Cataldo Greenacres, WI 99016 509/928-7143 FAX: 509/928-1116 E-mail: info@unitedcoatings.com Web: www.unitedcoatings.com | 561 651 | 906 |
| U. S. INTEC 1361 Alsp Road, Building 22 Wayne, NJ 07470 973/628-3178 FAX: 973/628-3451 E-mail: chsmith@gaf.com Web: www.gaf.com | 561 595 651 | 906 |
| W.P. HICKMAN SYSTEMS, INC. 30700 Solon Industrial Parkway Solon, OH 44139 216/248-7760 FAX: 216/248-6524 E-mail: wphickman@wphickman.com Web: www.wphickman.com | 563 651 | 906 |

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Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 1. COMPANY NAME | ALCO-NVC INC. | ALCO-NVC INC. | ALCO-NVC INC. | ALCO-NVC INC. | ALCO-NVC, INC. | ALCO-NVC, INC. |
| 2. PRODUCT NAME | 24/7 FLASHING CEMENT | #218 ACRYLIC ROOF COATING | #218E WHITE ELASTOMERIC | #218C WHITE PATCHING CEMENT | #216 AF FLASHING CEMENT | #269T AF SBS TROWEL GRADE |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coal Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | X | | | | X | X |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | X | | | | X | X |
| Elastomeric Coating or Cement (specify type) | | COATING | COATING | CEMENT | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | NON-FIBRATED | NON-FIBRATED | NON-FIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | BLACK | WHITE | WHITE | WHITE PATCHING | BLACK | BLACK |
| Solids Content (% by volume) | 65 | 50 | 50 ±2 | 50 ±2 | 68 ±2 | 68 |
| Weight Per Gallon (lbs.) | 8.73 | 12.4 | 11.7 | 11.4 | 9.5 | 9 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 24 | 24 | 24 | 24 | 48-72 | |
| Coverage (gals./square) | 8 | | | | 8 | 8 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | | | | X | X |
| Modified Bitumen Roofing | X | X | X | X | X | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | | | | X | X |
| Metal Roofing | X | X | X | X | X | X |
| Other Roofing | X | X | X | X | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | X | | | | X | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | | | X | X | X |
| Composite Roofing | X | | | | X | X |
| Metal Roofing | X | | | X | X | X |
| Other Roofing | X | | | X | X | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | X | X | X | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | X | X | X | | |
| Other Roofing | | X | X | X | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | X | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | X | X | X | X |
| Reroofing/Maintenance | X | X | X | X | X | X |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | | | | | TROWEL | TROWEL |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | | |
| See Built-Up Roofing Section If Checked | X | | | | | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 2003 | 1990 | 1990 | 1990 | 1984 | 1986 |
| 9. SALES INFORMATION CONTACT: | SALES 800/323-0024 | SALES 800/323-0024 | SALES 800/323-0024 | SALES 800/323-0024 | SALES 800/323-0029 | SALES 800/323-0029 |
| 10. TECHNICAL INFORMATION CONTACT: | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| ALCO-NVC, INC. | ALCO-NVC, INC. | ALCO-NVC, INC. | ALCO-NVC, INC. | ALCO-NVC, INC. | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
|------------------------------|---|---------------------------------------|--------------------------------|-------------------------------|--|--|------------------------------|---|--|
| #269 AF SBS PLUS ADHESIVE | #214 AF ALUMAGARD NON FIBRATED COAT | #215 AF ALUMAGARD FIBRATED COAT | #207 ASPHALT ROOF PRIMER | #270 AF ROOF CAP MASTIC | # 1818 (A100) ATCOCOAT | # 1825 (A110) ATCOLAP | # 1826 (A470) RAINSTOP | #1840 (A700) ATCOGARD | #1850 (A750) ATCOGARD 2 |
| | | | X | | | | | | |
| | X | X | | | X | X | X | | |
| | | | | | | | | X | X |
| X | | | | X | | | | | |
| | | | | | | | | | |
| NONFIBRATED BLACK | NONFIBRATED ALUMINUM | FIBRATED ALUMINUM | NONFIBRATED BLACK | FIBRATED BLACK | FIBRATED BLACK | FIBRATED BLACK | FIBRATED BLACK | NONFIBRATED BLACK | FIBRATED BLACK |
| 8 | 8.5 | 8.8 | 40 + 7.2 | 58 + 8 | 7.8 | 8 | 7.2 | 8.4 | 8.4 |
| 30-40 | 8-24 | 8-24 | 4 | 6 | 24-144 | 24-144 | 24-144 | 6-48 | 6-48 |
| 1.5 | 1 | 1-1.5 | 1-1.5 | 2-2.5 | 2-6 | 2-6 | 2-6 | 3-12 | 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 | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | X | X | X | X | X | | X | X | 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 | BRUSH, SPRAY ROLLER | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY SQUEEGEE | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY | BRUSH, SPRAY |
| | | | | | ADHESIVE, FIELDS GLASS & POLYESTER | ADHESIVE, FIELDS GLASS & POLYESTER | NA | ADHESIVE, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER |
| X | | | | | ADHESIVE, FIELDS GLASS & POLYESTER | ADHESIVE, FIELDS GLASS & POLYESTER | NA | ADHESIVE, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY |
| | | | | | NA | | NA | NA | NA |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1986 | 1965 | 1965 | 1912 | 1990 | 1926 | 1926 | 1926 | 1926 | 1926 |
| SALES 800/323-0029 | SALES 800/323-0029 | SALES 800/323-0029 | SALES 800/323-0029 | SALES 800/323-0029 | | | | | |
| TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | TECH. DEPT. 800/323-0024 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |

Roof Cements, Adhesives 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 |
| 2. PRODUCT NAME | #1857 (A690) ATCOSCREEN | #1858 SUNSHIELD | # 1859 (A650) ATCOSHIELD | # 1860 SUNSHIELD 2 | # 1864 (A640) ATCOSHIELD 2 | # 1866 PREMIUM FIBERED ALUMINUM COAT |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | X | X | X | X | X | X |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | NONFIBRATED | FIBRATED | NONFIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | ALUMINUM | ALUMINUM | ALUMINUM | ALUMINUM | ALUMINUM | ALUMINUM |
| Solids Content (% by volume) | | | | | | |
| Weight Per Gallon (lbs.) | 7.5 | 7.8 | 8.2 | 7.8 | 8.2 | 8.8 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 8-24 | 8-24 | 8-24 | 8-24 | 8-24 | 8-24 |
| Coverage (gals./square) | 0.75-1.5 | 0.75-1.5 | 0.75-1.5 | 0.75-1.5 | 0.75-1.5 | 0.75-1.5 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | X | X | X | X |
| Modified Bitumen Roofing | X | X | X | X | X | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | X | X | X | X | X |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | X | X | X | X | X | X |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | ROLLER, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1926 | 1926 | 1926 | 1926 | 1926 | 1926 |
| 9. SALES INFORMATION CONTACT: | | | | | | |
| 10. TECHNICAL INFORMATION CONTACT: | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives 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 | AMERICAN TAR COMPANY | ANDEK CORP. |
|--|-----------------------------|----------------------------|----------------------------|-------------------------------|----------------------------|------------------------------|--|--|----------------------------|
| #1897 FLAME BLOC | #1822 (A200) ATCOBOND | # 1823 ATCOMASTIC | #1326 ATCOSTOP | #1931 (A400) ATCO PRIME | #1340 (A710) | #1870 (A610) SILVRSEAL | #4200 ATCOWHITE | #5000 ATCOBRITE | BUILDCOAT |
| | | | X | X | | | | | |
| X | X | X | | | | X | | | X |
| | | | | | X | | | | |
| | | | | | | | ACRYLIC LATEX | ACRYLIC LATEX | |
| FIBRATED ALUMINUM | NONFIBRATED BLACK | FIBRATED BLACK | NONFIBRATED BLACK | NONFIBRATED BLACK | NOTFIBRATED BLACK | FIBRATED ALUMINUM | | | NONFIBRATED BLACK |
| 8.5 | 8.8 | 8 | 7.2 | 7.2 | 8-4 | 7.5 | 11.5 | 12 | 65 |
| 8-24 | 6 - 12 | 6-12 | 4-8 | 1 - 4 | 6-48 | 8-24 | 8-24 | 8-24 | 8.5 |
| 0.75-1.5 | | | 1-3 | 0.5-1 | 1.5-3 | 1.5-3 | 1.5-2 | 1.5-2 | 2-4 |
| | | | | | | | | | 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 |
| | | | X | X | | | | | X |
| | | | X | X | X | | | | |
| | | | X | X | X | | | | |
| | X | X | | | | | | | X |
| | X | X | | | | | | | X |
| | X | X | | | | | | | X |
| | X | X | | | | | | | X |
| X | | | X | X | X | X | X | X | X |
| X | | | | | | X | X | X | |
| X | | | | | | | | | X |
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| | | | | | | | | | |
| ROLLER, SPRAY | TROWEL | TROWEL | ROLLER, SPRAY | ROLLER, SPRAY | BRUSH, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY | BRUSH, ROLLER |
| SURFACING, FIELDS GLASS & POLYESTER | NA | NA | NA | NA | NA | NA | SURFACING, FIELDS GLASS & POLYESTER | SURFACING, FIELDS GLASS & POLYESTER | NA |
| SURFACING, FIELDS GLASS, SEBS & POLY | NA | NA | NA | NA | NA | NA | SURFACING, FIELDS GLASS, SEBS & POLY | SURFACING, FIELDS GLASS, SEBS & POLY | NA |
| NA | NA | NA | NA | NA | NA | NA | NA | NA | NO |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1926 | 1926 | 1926 | 1975 | 1975 | 1975 | 1975 | 1926 | 1926 | 1985 |
| | | | | | | | | | H. LISS 800/800-2844 |
| B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | N. SHEARER 800/800-2844 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|----------------------------|----------------------------|----------------------|---------------------|--------------------------------|-------------------|
| 1. COMPANY NAME | ANDEK CORP. | ANDEK CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. |
| 2. PRODUCT NAME | POLAROF AC | FLASHBAND PRIMER | FLINT PRIME | FLINT PRIME SA | FLINT BOND | FLINT PATCH |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | X | X | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | X | X |
| Elastomeric Coating or Cement (specify type) | ACRYLIC | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NA | NA | NA | NA |
| Color(s) Available | ANY | BLACK | BLACK | BLUE/DRIES CLEAR | BLACK | BLACK |
| Solids Content (% by volume) | 67 | 60 | 42 | 37 | 68 | 65 |
| Weight Per Gallon (lbs.) | 13.5 | 9.0 | 8.61 | 8.61 | 8.65 | 8.65 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 30 MINS. | 2 | 2-4 | 30 MIN. | 24-48 | 24-48 |
| Coverage (gals./square) | 3 | 1 | 3/4-1 | 0.5 | 1 | 8 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | | | | |
| Composite Roofing | X | X | | | | |
| Modified Bitumen Roofing | X | X | | | | |
| Single-Ply Roofing | X | | | | | |
| Other Roofing | X | X | | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | | | X | X |
| Composite Roofing | X | X | | | X | X |
| Metal Roofing | X | X | | | | |
| Other Roofing | X | X | | | MOD. BIT. | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | X | X | X | | |
| Concrete/Wood Decks | | X | X | X | | |
| Metal | | | X | X | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | X | | | X | |
| Composite Roofing | X | | | | X | |
| Metal Roofing | X | | | | | |
| Other Roofing | X | | | | MOD BIT | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | X | | | | | |
| Other Roofing | X | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | X | |
| Cold-Process Modified Roofing | | | | | X | |
| Roll Roofing (Coated Sheets) | | | | | X | |
| Shingles, Tiles Other Steep Products | | | | | X | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | | | | | |
| Reroofing/Maintenance | 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, SQUEEGEE, SPRAY | TROWEL, CAULK GUN |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | | | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | ACRYLIC | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1985 | 1973 | 2003 | 2003 | 2003 | 2003 |
| 9. SALES INFORMATION CONTACT: | H. LISS 800/800-2844 | H. LISS 800/800-2844 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 10. TECHNICAL INFORMATION CONTACT: | N. SHEARER 800/800-2844 | N. SHEARER 800/800-2844 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. |
|---------------------|----------------------|----------------------|----------------------|----------------------|-------------------|------------------------------|--------------------------------|---------------------------------|------------------------------|
| FLINT COAT - A PLUS | FLINT COAT - W | FLINT COAT A 300 | FLINT COAT A 150 | FLINT COAT A NF | FLINT COAT E | PRO FLASH FLASHING CEMENT | PRO FLASH XTRA FLASHING CEMENT | PRO WET / STICK FLASHING CEMENT | PRO COAT FIBER ROOF COATING |
| | | | | | | | | | |
| | | X | X | X | | | | | X |
| | | | | | X | X | | X | |
| X | | | | | | | X | | |
| | ACRYLIC | | | | | | | | |
| | | | | | | | | | |
| FIBRATED | NA | FIBRATED | FIBRATED | NON-FIBRATED | | FIBRATED | FIBRATED | FIBRATED | FIBRATED |
| SILVER | VARIUS | SILVER | SILVER | SILVER | | BLACK | BLACK | BLACK | BLACK |
| 65 | 50 | 40 | 40 | 40 | | 70.9 | 70.9 | 70.9 | 70.9 |
| 8.5 | 11 | 9.3 | 9.2 | 8.4 | | 9.0 | 9.0 | 9.0 | 8.2 |
| 24-48 | 24-48 | 24-48 | 24-48 | 24-48 | | 48-72 | 48-72 | 48-72 | 8 |
| 1-1/2 - 2 | 2-3 | 1 - 1-1/2 | 1 - 1-1/2 | 1 - 1-1/2 | | 0.7-1 | 0.7-1 | 0.7-1 | 5 |
| | | | | | | | | | |
| X | X | X | X | X | X | X | X | X | X |
| | | | | | | X | X | X | X |
| X | X | X | X | X | X | X | X | X | |
| METAL | | METAL | METAL | METAL | | X | | | X |
| | | | | | | | | | |
| | | | | | X | X | X | X | X |
| | | | | | | X | X | X | X |
| | | | | | | X | X | X | |
| | | | | | | 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, ROLLER SPRAY | BRUSH, ROLLER, SPRAY | BRUSH, ROLLER, SPRAY | BRUSH, ROLLER, SPRAY | BRUSH, ROLLER, SPRAY | BRUSH, SPRAY | TROWEL | TROWEL | TROWEL | SPRAY, BRUSH SQUEEGEE |
| | | | | | | NA | NA | NA | |
| | | | | | | | | | |
| | | | | | | NA | NA | NA | |
| | | | | | | | | | |
| | | | | | | NA | NA | NA | |
| | | | | | | | | | |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 2003 | 2003 | 2003 | 2003 | 2003 | 2003 | 1931 | 2001 | 1946 | 1931 |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | D. MCCLELLAN 800/962-8599 | D. MCCLELLAN 800/962-8599 | D. MCCLELLAN 800/962-8599 | D. MCCLELLAN 800/962-8599 |
| 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | 800/233-8990 | J. MCCLELLAN 800/962-8599 | J. MCCLELLAN 800/962-8599 | J. MCCLELLAN 800/962-8599 | J. MCCLELLAN 800/962-8599 |
| | | | | | | | | | |

Roof Cements, Adhesives 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. |
| 2. PRODUCT NAME | PRO PRIMER ASPHALT | PRO RESATURANT ASPHALT | PRO ASPHALT EMULSION (FIBRE) | PRO ASPHALT EMULSION (NO FIBRE) | PRO LAP CEMENT | PRO SBS ADHESIVE |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | X | X | | | | |
| Asphalt/Coal Tar Coating | | | | | X | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | X | X | | |
| Modified Bitumen Coating or Cement | | | | | | X |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | FIBRATED | FIBRATED | NONFIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 72.1 | 76.3 | 48.5 | 47.4 | 71.3 | 69.6 |
| Weight Per Gallon (lbs.) | 7.7 | 8.3 | 9.0 | 9.0 | 81.5 | 7.9 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 4 | 8 | 5 | 5 | | |
| Coverage (gals./square) | 10 | 2-3 | 2.5 | 2.5 | 5 | 5 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | X | X | X | X |
| Modified Bitumen Roofing | X | | X | X | | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | X | X | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | | | | | |
| Composite Roofing | X | | | | | |
| Metal Roofing | X | | | | | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | X | | | | | |
| Concrete/Wood Decks | X | | | | | |
| Metal | X | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | X | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | X | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | X | |
| Cold-Process Modified Roofing | | | | | | X |
| Roll Roofing (Coated Sheets) | | | | | X | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | | X | X | | |
| Reroofing/Maintenance | X | | X | X | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | SPRAY, ROLL SQUEEGEE | SPRAY, BRUSH SQUEEGEE | SPRAY, ROLL SQUEEGEE | SPRAY, ROLL SQUEEGEE | SPRAY, SQUEEGEE | SPRAY, SQUEEGEE |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | NA | NA | NA | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1931 | 1992 | 1991 | 1991 | 1991 | 1987 |
| 9. 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 |
| 10. 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 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | DEWITT PRODUCTS CO. | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
|---------------------------|--|--------------------------------------|--|--|-------------------------------------|----------------------------|-----------------------------|----------------------|----------------------|
| PRO SBS FLASHING CEMENT | PRO ROOFLOX 300 ALUMINUM FIBRE COATING | PRO BRITE 200 ALUMINUM FIBRE COATING | PRO SILVER SHIELD 300 ALUM COAT NO FIBRE | PRO SILVER SHIELD 200 ALUM COAT NO FIBRE | PRO NEO-SEAL NEOPRENE FLASHING CEM. | COOL-TOP WHITE ELASTOMERIC | COOL-TOP WHITE PATCH CEMENT | ERS 301 | ESR 300A |
| | | | | | | | | X | |
| | X | X | X | X | | | | | X |
| | | | | | | | | | |
| X | | | | | | | | | |
| | | | | | NEOPRENE | ACRYLIC | ACRYLIC | | |
| | | | | | | | | | |
| FIBRATED BLACK | FIBRATED ALUMINUM | FIBRATED ALUMINUM | NONFIBRATED ALUMINUM | NONFIBRATED ALUMINUM | NONFIBRATED BLACK | NONFIBRE WHITE | NONFIBRE WHITE | NONFIBRATED BLACK | FIBRATED BLACK |
| 70.9 | 54.5 | 54.8 | 30.5 | 30.5 | 06 | 66 | 66 | 68.2 | 75 |
| 9.0 | 9.5 | 8.7 | 8.2 | 8.2 | 10 | 12.4 | 13.3 | 9 | 9.5 |
| 48-72 | 8 | 8 | 8 | 8 | 48-72 | 2-4 | 2-5 | 4 | 48 - 72 |
| 07-1 | 5 | 5 | 15 | 15 | 07-1 | 08-1 | 08-1 | 1 | 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 | | | | | | | |
| | | | X | | | | | | |
| | | X | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | X | | | X | | X | X | | |
| | X | | | X | | X | X | | |
| TROWEL | SPRAY, SQUEEGEE | SPRAY, SQUEEGEE | SPRAY, SQUEEGEE | TROWEL | TROWEL | BRUSH, SPRAY, ROLLER | TROWEL | BRUSH, SPRAY ROLLER | TROWEL |
| 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 | USA | USA |
| 1987 | 1991 | 1931 | 1987 | 1987 | 1997 | 2003 | 2003 | 1988 | 1988 |
| 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 | E. NELSON | E. NELSON |
| 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 | B. PFIEFER | B. PFIEFER |
| | | | | | | | | | |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| 1. COMPANY NAME | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
|---|----------------------------|----------------------------|--|--|----------------------------|----------------------------|
| 2. PRODUCT NAME | ERS 300 T | ERS 304 | ERS 302 | ERS 309 | ERS 100 | ERS 200 |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | X | X | X | | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | X |
| Modified Bitumen Coating or Cement | | | | X | X | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | FIBRATED | FIBRATED | FIBRATED | BOTH | BOTH |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 78 | 75 | 60 | 60 | 45 | 45 |
| Weight Per Gallon (lbs.) | 9.8 | 9.5 | 9.2 | 9.2 | 9.0 | 9.0 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 48 - 72 | 48 - 72 | 48 - 72 | 48 - 72 | 24 - 48 | 24 - 48 |
| Coverage (gals./square) | 8 | 9 | 2 - 3 | 2 - 3 | 4 - 9 | 4 - 9 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | X | X | X | X |
| Composite Roofing | | | X | X | X | X |
| Modified Bitumen Roofing | | | X | X | X | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | | | X | X |
| Composite Roofing | X | X | | | X | X |
| Metal Roofing | X | X | | | X | X |
| Other Roofing | X | X | | | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | | | | X | X |
| Composite Roofing | X | | | | X | X |
| Metal Roofing | X | | | | X | X |
| Other Roofing | X | | | | X | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | X | X | | |
| Cold-Process Modified Roofing | | | X | X | | |
| Roll Roofing (Coated Sheets) | | | X | X | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | X | X |
| Reroofing/Maintenance | | | | | X | X |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | TROWEL | TROWEL | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | | | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | ERS 302 PLUS 2-3 PLIES ERS ROOFING | ERS 309 PLUS 2-3 PLIES ERS ROOFING | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1988 | 1988 | 1988 | 1988 | 1988 | 1988 |
| 9. SALES INFORMATION CONTACT: | E. NELSON | E. NELSON | E. NELSON | E. NELSON | E. NELSON | E. NELSON |
| 10. TECHNICAL INFORMATION CONTACT: | B. PFIEFER | B. PFIEFER | B. PFIEFER | B. PFIEFER | B. PFIEFER | B. PFIEFER |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. COMPANY NAME | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC |
| 2. PRODUCT NAME | C100 ROOF COAT | M100 RUBR COAT | F150 POWERSEAL | F110 POWRLAP | F400 POWRPRIME | F540, 500 ALUMINUM COATING |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | X | |
| Asphalt/Coalt Tar Coating | X | | X | X | | X |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | X | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | FIBRATED | FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | ALUMINUM |
| Solids Content (% by volume) | | | | | | |
| Weight Per Gallon (lbs.) | 7.3 | 7.6 | 7.8 | 8.0 | 7.0 | 7.5-8.0 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 24-144 | 24-144 | 24-144 | 24-144 | 4-8 | 8-24 |
| Coverage (gals./square) | 2-6 | 2-6 | 2-6 | 2-6 | 0.5-1 | 0.75-1.50 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | | X |
| Composite Roofing | | | | | | X |
| Modified Bitumen Roofing | | X | | | | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | | |
| Composite Roofing | | | | | | |
| Metal Roofing | X | X | X | X | | |
| Other Roofing | X | X | X | X | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | X | |
| Concrete/Wood Decks | | | | | X | |
| Metal | | | | | X | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | X | X | | | X |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | X | X | X | | | X |
| Other Roofing | X | X | X | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | X | X | X | X | | |
| Cold-Process Modified Roofing | X | X | X | X | | |
| Roll Roofing (Coated Sheets) | X | X | X | X | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY | ROLLER, SPRAY | ROLLER, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | ADHESIVE, FIELDS GLASS & POLYESTER | ADHESIVE, FIELDS GLASS & POLYESTER | ADHESIVE, FIELDS GLASS & POLYESTER | ADHESIVE, FIELDS GLASS & POLYESTER | NA | SURFACING, FIELDS GLASS & POLYESTER |
| See Built-Up Roofing Section If Checked | X | | X | X | | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | ADHESIVE, FIELDS GLASS, SEBS & POLY | ADHESIVE, FIELDS GLASS, SEBS & POLY | ADHESIVE, FIELDS GLASS, SEBS & POLY | ADHESIVE, FIELDS GLASS, SEBS & POLY | NA | SURFACING, FIELDS GLASS SEBS & POLY |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1975 | 1994 | 1975 | 1975 | 1975 | 1975 |
| 9. SALES INFORMATION CONTACT: | | | | | | |
| 10. TECHNICAL INFORMATION CONTACT: | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. COMPANY NAME | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC | FIELDS CO., LLC |
| 2. PRODUCT NAME | F200 POWRBOND | C200 ROOFBOND | C250 ROOFFLASH | F300 POWRMASTIC | M300 RUBRMASTIC | C240 TILEBOND |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | X | X | X | X | | X |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | X | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | FIBRATED | FIBRATED | FIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | | | | | | |
| Weight Per Gallon (lbs.) | 8.8 | 8.1 | 8.2 | 8.2 | 8.3 | 8.1 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 6-12 | 6-12 | 6-12 | 6-12 | 6-12 | 6-12 |
| Coverage (gals./square) | | | | | | |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Modified Bitumen Roofing | | | | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | X | X | X | X |
| Metal Roofing | X | X | X | X | X | X |
| Other Roofing | X | X | X | X | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | X | X | X | X |
| Metal Roofing | X | X | X | X | X | X |
| Other Roofing | X | X | X | X | X | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | TROWEL | TROWEL | TROWEL | TROWEL, CAULK | TROWEL, CAULK | TROWEL |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1975 | 1975 | 1975 | 1975 | 1975 | 1975 |
| | | | | | | |
| 10. TECHNICAL INFORMATION CONTACT: | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 | B. SHEIN 800/627-4098 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|------------------------------|---------------------------------|------------------------------|------------------------------|---------------------------------|------------------------------|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | MATRIX 531 WEATHERCOTE | MATRIX 101 SBS ADHESIVE | MATRIX 201 SBS CEMENT | MATRIX 203 ROOF CEMENT | MATRIX 102 SBS ADHESIVE | MATRIX 202 SBS CEMENT |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | | | X | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | X | X | | X | X |
| Elastomeric Coating or Cement (specify type) | X | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | GRAY | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 60 | | | | | |
| Weight Per Gallon (lbs.) | 11.2 | 9.3 | 9.1 | 9.0 | 9.3 | 9.0 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 5 | 24 | 6 | 6-9 | 24 | 6 |
| Coverage (gals./square) | 1.5-2.5 | 2 | 8.0 | 8.0 | 1.5 - 2.5 | 8 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | | | | | |
| Composite Roofing | X | | | | | |
| Modified Bitumen Roofing | X | | | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | | | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | X | X | | X |
| Composite Roofing | | | X | X | | X |
| Metal Roofing | | | X | X | | X |
| Other Roofing | | | X | X | | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | X | X | | X |
| Composite Roofing | | | X | X | | X |
| Metal Roofing | | | X | X | | X |
| Other Roofing | | | X | X | | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | X | | | X | |
| Cold-Process Modified Roofing | | X | | | X | |
| Roll Roofing (Coated Sheets) | | X | | | X | |
| Shingles, Tiles Other Steep Products | | X | | X | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH, SPRAY, SQUEEGEE | BRUSH, SPRAY, NOTCH SQUEEGEE | TROWEL, CAULK | TROWEL, CAULK | BRUSH, SPRAY, NOTCH SQUEEGEE | BRUSH, TROWEL |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| 9. SALES INFORMATION CONTACT: | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES |
| 10. TECHNICAL INFORMATION CONTACT: | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, 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. | GAF MATERIALS CORP. |
|------------------------------------|------------------------------------|-------------------------------------|-------------------------------|--------------------------------------|-----------------------------------|--|------------------------------------|------------------------------|------------------------------|
| MATRIX 303 FIBERED ALUM COAT | MATRIX 103 COLD LAP ADHESIVE | MATRIX 105 SURE GRIP ADHESIVE | MATRIX 157 MONSTER GRIP | MATRIX 204 WET/DRY ROOF CEMENT | MATRIX 205 SURE GRIP CEMENT | MATRIX 304 NON FIBERED ALUM COAT | MATRIX 232 WHITE ELASTOMERIC | MATRIX 602 SB COATING | MATRIX 715 MB COATING |
| | | | | | | | | | |
| X | | | | | | X | | | |
| | X | | | X | X | | | | |
| | | X | | | | | | | |
| | | | URETHANE | | | | COATING | COATING | COATING |
| | | | | | | | | | |
| FIBRATED ALUMINUM | NONFIBRATED BLACK | NONFIBRATED BLACK | NONFIBERED GREEN | NONFIBERED BLACK | NONFIBERED BLACK | NON FIBERED ALUMINUM | NON FIBERED WHITE | NON FIBERED WHITE | NON FIBERED WHITE |
| 40 | | | | | | 40 | | 64 | 60 |
| 78 | 8.1 | 8.7 | 10.6 | 9 | 8.5 | 7.4 | 8.8' | 11.2 | 10.1 |
| 8 | 8 | 8 | 0.6 - 1 | 8 | 8 | 8 | 12 | 12 | 12 |
| 1.5 - 2 | 1.5 - 2 | 1.5 - 2 | 0.5 - 1.5 | 8 | 8 | 1.5 - 2 | 3 - 4 | 1 - 2.5 | 1 - 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 | | | | |
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| | | | | | | | | | |
| X | | | | | | X | X | X | X |
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| X | | | | | | X | | | |
| X | | | | | | X | X | X | X |
| | | | | | | | | | |
| | | | | | X | | | | |
| | | X | | | X | | | | |
| | X | | | X | | | | | |
| | | | | X | | | | | |
| | | | | | | | | | |
| | | | | | | | X | X | X |
| BRUSH, SPRAY, ROLLER | SQUEEGEE, SPRAY | SQUEEGEE | CAULK, SQUEEGEE | TROWEL | TROWEL | ROLLER, BRUSH SPRAY | ROLLER, BRUSH SPRAY | ROLLER, BRUSH SPRAY | ROLLER, BRUSH 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 | USA | USA |
| | | | | | | | | | |
| REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES | REGIONAL SALES |
| TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 | TECH SERVICE 800/766-3411 |
| | | | | | | | | | |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC |
| 2. PRODUCT NAME | MATRIX 305 ASPHALT EMULSION | APOC 100 PLASTIC CEMENT | APOC 101 PLASTIC CEMENT | APOC 102 PLASTIC CEMENT | APOC 103 ASPHALT PRIMER | APOC 104 PLASTIC CEMENT |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | X | |
| Asphalt/Coal Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | X | X | X | | X |
| Asphalt Emulsion | X | | | | | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NON FIBERED | FIBRATED | FIBERED | FIBERED | NON-FIBERED | FIBERED |
| Color(s) Available | BLACK | BLACK | | | | |
| Solids Content (% by volume) | | 80 | 80 | 80 | 60 | 80 |
| Weight Per Gallon (lbs.) | 8.8 | 8.5 | 8.5 | 8.5 | | 8.5 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 12 | 4-8 | 4-8 | 4-8 | 2-8 | 4-8 |
| Coverage (gals./square) | 3 - 4 | 12 | 12 | 12 | 15 | 12 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | X | X | X | X |
| Modified Bitumen Roofing | X | | | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | X | X | X | | X |
| Composite Roofing | | X | X | X | | X |
| Metal Roofing | | X | X | X | | X |
| Other Roofing | | X | X | X | | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | X | |
| Concrete/Wood Decks | | | | | X | |
| Metal | | | | | X | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | X | X | X | | X |
| Composite Roofing | | X | X | X | | X |
| Metal Roofing | | X | X | X | | X |
| Other Roofing | | X | X | X | | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | ROLLER, BRUSH SPRAY | TROWEL | TROWEL | TROWEL | BRUSH, SPRAY | TROWEL |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | | | | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | | 1945 | 1945 | 1945 | 1945 | 1945 |
| 9. SALES INFORMATION CONTACT: | REGIONAL SALES | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 |
| 10. TECHNICAL INFORMATION CONTACT: | TECH SERVICE 800/766-3411 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC |
|-------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|------------------------------------|------------------------------|-------------------------------|---------------------------------|----------------------------------|
| APOC 107 FIBRE COLD-PLY | APOC 109 WET/DRY CEMENT | APOC 122 FLASHING CEMENT | APOC 124 WET/DRY CEMENT | APOC 128 FLASHING CEMENT | APOC 133 MBA FLASHING CEMENT | APOC 136 MBA ADHESIVE | APOC 211 ALUMINUM PAINT | APOC 212 ALUMINUM COATING | APOC 252 ELASTOMERIC WHITE |
| | | | | | | | | | |
| | | | | | | | X | X | |
| X | X | X | X | X | | | | | |
| | | | | | X | X | | | |
| | | | | | | | | | COATING |
| | | | | | | | | | |
| FIBERED | FIBERED | FIBERED | FIBERED | FIBERED | FIBERED | NON-FIBERED | NON-FIBERED | FIBERED | |
| 70 | 80 | 80 | 80 | 80 | 80 | 70 | 60 | 60 | 65 |
| 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 8.6 | 8.4 | 9 | 9.1 | 11.5 |
| 1/2 | 4 - 8 | 4-8 | 4-8 | 4-8 | 4-8 | 1/2 | 4-8 | 4-8 | 4-8 |
| | 12 | 12 | 12 | 12 | 12 | 100 | 125 | 100 | 50-100 |
| | | | | | | | | | |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X |
| | | | | | X | X | X | X | X |
| | | | | | | | X | X | X |
| | X | X | X | X | X | X | X | X | X |
| | | | | | | | | | |
| | X | X | X | X | X | X | | | |
| | X | X | X | X | X | X | | | |
| | X | X | X | X | X | X | | | |
| | X | X | X | X | X | X | | | |
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| | | | | | | | | | X |
| | | | | | | | | | X |
| BRUSH, SPRAY | TROWEL | TROWEL | TROWEL | TROWEL | TROWEL | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH SPRAY |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1945 | 1945 | 1945 | 1945 | 1945 | 1945 | 1945 | 1945 | 1945 | 1945 |
| BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 |
| ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|---------------------------------|---------------------------------|-------------------------------------|--------------------------------|------------------------------|----------------------------------|
| 1. COMPANY NAME | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC |
| 2. PRODUCT NAME | APOC 300 ASPHALT EMULSION | APOC 302 FIBERED EMULSION | APOC 337 ELASTOMERIC EMULSION | NEOPRENE FLASHING CEMENT | NEOPRENE COATING | NEOPRENE PITCH PAD SEALANT |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | X | X | | | | |
| Modified Bitumen Coating or Cement | | | X | | | |
| Elastomeric Coating or Cement (specify type) | | | | NEOPRENE | NEOPRENE | NEOPRENE |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NON-FIBERED | FIBERED | NON-FIBERED | FIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | | | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 45 | 45 | 47 | 75 | 65 | 65 |
| Weight Per Gallon (lbs.) | 8.6 | 8.6 | 8.5 | 9 | 9 | 9 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 4-8 | 4-8 | 4-8 | 4-8 | 4-8 | 4-8 |
| Coverage (gals./square) | 50-100 | 50-100 | 50 | 12 | 100 | 2 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | | X | X |
| Composite Roofing | X | X | X | | X | X |
| Modified Bitumen Roofing | X | X | X | | X | X |
| Single-Ply Roofing | X | X | | | X | X |
| Other Roofing | X | X | X | | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | | X |
| Composite Roofing | X | X | X | X | | X |
| Metal Roofing | X | X | X | X | | X |
| Other Roofing | X | X | X | X | | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | X | | X | | | |
| Concrete/Wood Decks | X | | X | | | |
| Metal | X | | X | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | X | | |
| Composite Roofing | | | | X | | |
| Metal Roofing | | | | X | | |
| Other Roofing | | | | X | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | X | X | | | |
| Coal Tar Built-Up Roofing | X | X | | | | |
| Metal Roofing | X | X | X | | | |
| Other Roofing | X | X | X | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | | | | |
| Reroofing/Maintenance | X | X | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH SPRAY | BRUSH SPRAY | SPRAY, BRUSH | TROWEL | BRUSH, SPRAY | POUR |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | X | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | X | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | X | X | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1945 | 1945 | 1945 | 1945 | 1945 | 1945 |
| 9. SALES INFORMATION CONTACT: | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 | BOB HYER 800/562-5669 |
| 10. TECHNICAL INFORMATION CONTACT: | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 | ROB STANNARD 800/237-1155 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. COMPANY NAME | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. |
| 2. PRODUCT NAME | WEATHERKING | MINERAL LAP COATING | EMERGENCY MASTIC | FLASHING BOND | GARLA-FLEX | GARLA-PRIME |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | X |
| Asphalt/Coalt Tar Coating | X | | | | | |
| Asphalt/Coal Tar Cement | | | X | X | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | X | |
| Elastomeric Coating or Cement (specify type) | | ACRYLIC | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | BLACK | WHITE/GRAY | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 70+ | 68+ | 75+ | 70+ | 75+ | 50+ |
| Weight Per Gallon (lbs.) | 7.9 | 11.6 | 10 | 8.3 | 8.5 | 7.8 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | | 4 | 36 | 36 | 36 | 2 |
| Coverage (gals./square) | 2.4 | 2 | | | | 0.5-1.0 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | | | | |
| Composite Roofing | X | X | | | | |
| Modified Bitumen Roofing | X | X | | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | | X | X | X | |
| Composite Roofing | X | | X | X | X | |
| Metal Roofing | | | | | X | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | X |
| Concrete/Wood Decks | | | | | | X |
| Metal | | | | | | X |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | X | X | |
| Composite Roofing | | | | X | X | |
| Metal Roofing | | | | | X | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | X | | | | | |
| Cold-Process Modified Roofing | X | | | | | |
| Roll Roofing (Coated Sheets) | X | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | SPRAY, SQUEEGEE | BRUSH, SPRAY, ROLLER | TROWEL | TROWEL | TROWEL, CAULK | BRUSH, ROLER, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1995 | 1999 | 1975 | 1990 | 1976 | 1974 |
| 9. SALES INFORMATION CONTACT: | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON |
| 10. TECHNICAL INFORMATION CONTACT: | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY | GMX, INC. | GMX, INC. | GMX, INC. | GMX, INC. | GMX, INC. |
|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------------------|
| BLACK KNIGHT COLD | GARLA-BRITE | SILVER-SHIELD | WHITE KNIGHT | INSUL-LOCK INSULATION ADHESIVE | ULTRA-SHIELD METAL RUSTPROOFING | 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 |
| | | | | | | | | | |
| | | | URETHANE | URETHANE | | | X | | |
| | | | | | | | | | |
| NONFIBRATED BLACK | NONFIBRATED ALUMINUM | FIBRATED ALUMINUM | NONFIBRATED WHITE | FIBRATED BLACK | | | | | |
| 89 | 45+ | 60+ | 83 | 100 | 48 | 48 | 58 | 40 | 52 |
| 9 | 7.9 | 8.2 | 10.5 | 8.4 | 8.2 | 8.2 | 9.2 | 7.8 | 8.4 |
| | 12 | 12 | | 1-2 | 24-36 | 24-36 | 2-3 | 1-2 | |
| 5-9 | 0.5 | 2 | 2-3 | 1 | 3-6 | 2-3 | 2 | 1 | 2 |
| | | | | | | | | | |
| | X | X | | | | X | | X | X |
| | X | X | | | | X | | X | X |
| | X | X | X | | | | | | |
| | | | | | | | X | | |
| | | | | | | X | | | |
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| | | | | | | | | | |
| | | | X | | | | | | |
| | | | | | | | | | |
| X | | | | | | X | | X | X |
| X | | | | | | | | | |
| | | | | | X | | X | X | X |
| | | | | | | | | | |
| | | | | | | X | | | |
| | | | | | | X | | | |
| | | | | | | X | | | |
| | | | | | | | | | |
| X | | | | | | | | | |
| X | | | X | | X | X | X | X | X |
| | | | | | | | | | |
| SPRAY, SQUEEGEE | BRUSH, ROLLER | BRUSH, ROLLER | ROLLER, SPRAY | POUR | BRUSH, ROLLER SPRAY | BRUSH, ROLLER SPRAY | BRUSH, ROLLER SPRAY | BRUSH, ROLLER SPRAY | BRUSH, ROLLER SPRAY |
| | | | | | | WITH POLYMAT | | | |
| | | | | | | | | | |
| | | | | | | WITH POLYMAT | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 2000 | 1974 | 1976 | 1999 | 2000 | 1989 | 1989 | 1989 | 1989 | 1989 |
| A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | 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 |
| A. SAMPSON | A. SAMPSON | A. SAMPSON | A. SAMPSON | 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, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|------------------------------|------------------------------|--------------------------------|--------------------------------|------------------------------------|------------------------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | #103 LOW PRIMER | #104 ASPHALT PRIMER | #203 COLD APPLIED CEMENT | #403 COLD APPLIED CEMENT | #302 PERMANENT BOND ADHESIVE | #303 MB HIGH SOLIDS ADHESIVE |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | X | X | | | | |
| Asphalt/Coalt Tar Coating | | | X | X | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | X | X |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | FIBRATED | FIBRATED | NONFIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 56 | 37 | 62 | 61 | 68 | 68 |
| Weight Per Gallon (lbs.) | 7.1 | 6.8 | 8.4 | 9.2 | 9.2 | 9.9 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 1.0 | 1.0 | | | | |
| Coverage (gals./square) | 0.3 | 0.3 | 1.5 - 2 | 1.5 - 2 | 1.5 - 2 | 1.5 - 2 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | X | | | |
| Composite Roofing | | | X | | | |
| Modified Bitumen Roofing | | | X | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | X | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | X | X | X | X |
| Composite Roofing | | | X | X | X | X |
| Metal Roofing | | | X | X | X | X |
| Other Roofing | | | X | X | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | X | X | | | | |
| Concrete/Wood Decks | X | X | | | | |
| Metal | X | X | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | X | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | X | | | |
| Other Roofing | | | X | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | X | X | X | X |
| Cold-Process Modified Roofing | | | | | X | X |
| Roll Roofing (Coated Sheets) | | | X | X | X | X |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | X | X | X | X |
| Reroofing/Maintenance | | | X | X | X | X |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | B, R, Sp | B, R, Sp | B, R, Sq | Sp | B, R, Sp, Sq | B, R, Sp, Sq |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | X | X | X | X | X | X |
| See Built-Up Roofing Section If Checked | X | X | X | X | X | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | X | X | | | X | X |
| See Modified Bitumen Roofing Section If Checked | X | X | | | X | X |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | X | X | X | X | X | X |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1997 | 1934 | 1985 | 1985 | 1995 | 1998 |
| 9. SALES INFORMATION CONTACT: | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 |
| 10. TECHNICAL INFORMATION CONTACT: | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 |
| 11. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

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Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|------------------------------------|---------------------------------------|------------------------------|--------------------------------------|------------------------------|------------------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | #120 PREMIUM ALUMINUM ROOF COATING | #220 PREMIUM ALUMINUM FIBERED COATING | #521 3# FIBRATED ALUMINUM | #869 ELASTOMER ALUMINUM ROOF COATING | #280 WHITE ELASTOMERIC | #295 METAL SEAM SEALER |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | X | X | X | X | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | X | | |
| Elastomeric Coating or Cement (specify type) | | | | | X | X |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | FIBRATED | FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | ALUMINUM | ALUMINUM | ALUMINUM | ALUMINUM | Wht, Tan/Gry/Rd | WHITE |
| Solids Content (% by volume) | 45 | 52 | 55 | 45 | 49 | 43.4 |
| Weight Per Gallon (lbs.) | 9.3 | 8.6 | 10.7 | 8.5 | 11.0 | 9.4 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | | | | | 2.0 | 2.0 |
| Coverage (gals./square) | 0.5 | 1.5 | 1.5 | 1.5 | 1.5 | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | |
| Composite Roofing | X | X | X | X | X | |
| Modified Bitumen Roofing | X | X | X | X | X | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | X | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | X |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | X |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | B, R, Sp | B, R, Sp | B, R, Sp | B, R, Sp | B, R, Sp | B, C, T |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | | X |
| See Built-Up Roofing Section If Checked | | | | | | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | X |
| See Modified Bitumen Roofing Section If Checked | | | | | | X |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | X |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | < 1940 | < 1950 | 1998 | 2000 | 1987 | 1999 |
| 9. SALES INFORMATION CONTACT: | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 |
| 10. TECHNICAL INFORMATION CONTACT: | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 |
| 11. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|--|-------------------------------------|---------------------------------------|-----------------------------------|-------------------------------|---|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | PRO GRADE #331 A/F COLD PROCESS ADHES. | PRO GRADE #333 A/F MOD BIT ADHESIVE | PRO GRADE #25 ALL WEATHER ROOF CEMENT | PRO GRADE #26 PLASTIC ROOF CEMENT | PRO GRADE #27 FLASHING CEMENT | PRO GRADE #225 A/F/ ALL WEATHER ROOF CEMENT |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coal Tar Coating | X | | | | | |
| Asphalt/Coal Tar Cement | | | X | X | X | X |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | X | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | FIBRATED | FIBRATED | FIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | 72 | 68 | 67 | 70 | 67 | 72 |
| Weight Per Gallon (lbs.) | 8.2 | 9.9 | 8.5 | 9.8 | 8.5 | 8.2 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | | | | | | |
| Coverage (gals./square) | 2 | 1.5 | 8 | 8 | 8 | 8 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Modified Bitumen Roofing | | | | | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | X | X | X | X |
| Composite Roofing | | | X | X | X | X |
| Metal Roofing | | | X | X | X | X |
| Other Roofing | | | X | X | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | X | X | X | X |
| Composite Roofing | | | X | X | X | X |
| Metal Roofing | | | X | X | X | X |
| Other Roofing | | | X | X | X | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | X | X | | | | |
| Cold-Process Modified Roofing | X | X | | | | |
| Roll Roofing (Coated Sheets) | X | X | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | | | | |
| Reroofing/Maintenance | X | X | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | B, R, Sp, Sq | B, R, Sp, Sq | C, T | C, T | C, T | C, T |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | X | X | X | X | X | X |
| See Built-Up Roofing Section If Checked | X | X | X | X | X | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | X | | | | |
| See Modified Bitumen Roofing Section If Checked | | X | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | X | X | X | X | X | X |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | <1970 | <1985 | <1960 | <1960 | <1960 | <1993 |
| 9. SALES INFORMATION CONTACT: | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 |
| 10. TECHNICAL INFORMATION CONTACT: | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 |
| 11. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|---|------------------------------|------------------------------|------------------------------|---------------------------------------|------------------------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | PRO GRADE #550 ELASTOMERIC WHITE ROOF CTG | #208R WET PATCH ROOF CEMENT | 5553 MBA MOD. BIT. ADHESIVE | #289 SOLARFLEX ELASTCAULK | #291 PREMIUM ELASTOMERIC BASE COATING | #299 PREMIUM WHITE ELASTOMERIC CTG |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | X | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | X | | | |
| Elastomeric Coating or Cement (specify type) | X | | | X | X | X |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | FIBRATED | FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | WHITE | BLACK | BLACK | WHITE | GRAY | WHITE |
| Solids Content (% by volume) | 44.7 | 74 | | 55 | 62 | 62 |
| Weight Per Gallon (lbs.) | 11.7 | 10.1 | 7.9-8.3 | 11.4-11.8 | | 11.0 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 2.0 | | | | | 2.0 |
| Coverage (gals./square) | 3.0 | 8.0 | 1.5 | 12.5 | | 1.0 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | | | X | X |
| Composite Roofing | | | | | X | X |
| Modified Bitumen Roofing | | | | | X | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | | | | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | X | | X | | |
| Composite Roofing | | X | | X | | |
| Metal Roofing | | X | | X | | |
| Other Roofing | | X | | X | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | X | | X | | |
| Composite Roofing | | X | | X | | |
| Metal Roofing | | X | | X | | |
| Other Roofing | | X | | X | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | B, R, Sp | C, T | B, Sp, Sq | B, C | B, R, Sp, | B, R, Sp |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | <1985 | 2002 | <1985 | 2002 | 2002 | 2002 |
| 9. SALES INFORMATION CONTACT: | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 | Gerry Chavez 800-598-7663 |
| 10. TECHNICAL INFORMATION CONTACT: | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1278 | Skip Leonard 800-486-1279 |
| 11. SEE APPENDIX IF CHECKED | X | X | X | X | X | X |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|----------------------------|-------------------------------------|----------------------------------|----------------------------|---|---------------------------------|
| 1. COMPANY NAME | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. |
| 2. PRODUCT NAME | #19 AF FLASHING CEMENT | #19 ULTRA RUBERIZED FLASHING CEMENT | #66 AF MODIFIED BITUMEN ADHESIVE | #71 AF ROOF COATING | #78 AF COLD ADHESIVE CEMENT | #81AF MODIFIED BITUMEN ADHESIVE |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | X | | |
| Asphalt/Coal Tar Cement | X | | | | X | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | X | | | X |
| Elastomeric Coating or Cement (specify type) | | CEMENT | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBERED | FIBERED | FIBERED | FIBERED | FIBERED | FIBERED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | | | | | | |
| Weight Per Gallon (lbs.) | | | 8.65 | | | 8.65 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | | | 24-48 | | | 24-48 |
| Coverage (gals./square) | 8 | 8 | 1-2 | 4 | 2-4 | 1-2 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | | X | X | |
| Composite Roofing | X | X | | X | X | |
| Modified Bitumen Roofing | | X | X | | | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | X | X | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | | X | X | |
| Metal Roofing | X | X | | | | |
| Other Roofing | X | X | X | | X | X |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | X | | | X | |
| Composite Roofing | X | X | | | X | |
| Metal Roofing | X | X | | | | |
| Other Roofing | X | X | X | | X | X |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | X | X | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | X | X | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | X | |
| Cold-Process Modified Roofing | | | X | | | X |
| Roll Roofing (Coated Sheets) | | | | X | X | |
| Shingles, Tiles Other Steep Products | X | X | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | X | | X | X |
| Reroofing/Maintenance | X | X | X | X | X | X |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | TROWEL | TROWEL | TROWEL, SPRAY, BRUSH, SQUEEGEE | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH, SPRAY, TROWEL, SQUEEGEE |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | COLD-PROCESS SYSTEM + POLY-MAT + ALUMINUM | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1982 | 1998 | 1989 | 1948 | 1977 | 1981 |
| 9. 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 |
| 10. 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 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. |
|-----------------------------|-------------------------------|-------------------------------------|------------------------------------|----------------------------------|-------------------------------------|----------------------------|----------------------------|--------------------------------|--------------------------------|
| # 97 FIBERED ALUMINUM | # 97AF FIBERED ALUMINUM | #100 AF NONFIBERATED EMULSION | # 107 AF VELVET ROOF COATING | #155 AMPHIBOKOTE WET / DRY | #155 AF AMPHIBIKOTE WET / DRY | #169AF NF ALUMINUM | #170 AF TAR CEMENT | #220 AF FIBERED EMULSION | #229 AF AR ELASTOMERIC |
| | | | | | | | | | |
| X | X | | X | | | X | | | |
| | | X | | X | X | | X | | |
| X | X | X | | | | X | | X | |
| | | | | | | | | | CEMENT/COATING |
| FIBERED ALUMINUM | FIBERED ALUMINUM | NONFIBERED BLACK | NONFIBERED BLACK | FIBERED BLACK | FIBERED BLACK | NONFIBERED ALUMINUM | FIBERED BLACK | FIBERED BLACK | FIBERED BLACK |
| | | 58 | | | | | 66 | | 65 |
| | | 8.5 | | | | | 9.59 | | 8.6 |
| 24 | 24 | 4-6 | 24 | | | 24-48 | | 24-48 | |
| 1-1.5 | 1-1.5 | 4 | 1-2 | 8 | 8 | 1-1.5 | 4 | 4 | 4-15 |
| | | | | | | | | | |
| X | X | X | X | X | X | X | X | X | X |
| X | X | X | | X | X | X | X | X | X |
| X | X | X | | | | X | | X | X |
| X | X | X | | | | X | | X | X |
| | | | | | | | | | |
| | | | | X | X | | X | X | X |
| | | | | X | X | | X | X | X |
| | | | | X | X | | | X | X |
| | | | | X | X | | | | X |
| | | | | | | | | | |
| | | X | X | | | | | | |
| | | X | X | | | | | X | |
| | | | | | | | | | |
| | | | | X | X | | | | X |
| | | | | X | X | | | | X |
| | | | | X | X | | | | X |
| | | | | X | X | | | | X |
| X | X | X | X | | | X | | X | X |
| X | X | X | | | | X | | X | X |
| X | 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 | BRUSH, SPRAY | TROWEL | TROWEL | BRUSH, SPRAY, ROLLER | TROWEL | BRUSH, SPRAY | BRUSH, ROLLER TROWEL, SPRAY |
| | | | | NA | NA | NA | NA | COLD PROCESS SYSTEM | NA |
| | | | | NA | NA | NA | NA | NA | NA |
| | | | | NA | NA | SURFACING | NA | COLD PROCESS SYSTEM | COLD PROCESS SYSTEM |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1948 | 1984 | 1954 | 1947 | 1952 | 1952 | 1947 | 1958 | 1954 | 1973 |
| 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 | SALES DEPT 800/526-4236 | SALES DEPT 800/526-4236 | SALES 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 | TECH DEPT 800/526-4236 | TECH DEPT 800/526-4236 | TECH DEPT 800/526-4236 | TECH DEPT 800/526-4236 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|------------------------------------|---|------------------------------|----------------------------------|----------------------------|----------------------------|
| 1. COMPANY NAME | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. | KARNAK CORP. |
| 2. PRODUCT NAME | #297 AF AQUA-LUM EMULSION ALUMINUM | #298 AF ALUMIN - R ELASTOMERIC ALUMINUM | #501 ELASTO-BRITE | #505 AF ELASTO-BRITE M | #108 ASPHALT PRIMER | #98 AF FIBERED ALUMINUM |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | X | |
| Asphalt/Coal Tar Coating | X | | | | | X |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | X | | | | | X |
| Elastomeric Coating or Cement (specify type) | | COATING | COATING | COATING | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBERED | NONFIBERED | NONFIBERED | NONFIBERED | NONFIBERED | FIBERED |
| Color(s) Available | ALUMINUM | ALUMINUM | VARIOUS | VARIOUS | BLACK | ALUMINUM |
| Solids Content (% by volume) | | | | 50 | | |
| Weight Per Gallon (lbs.) | | 8.5 | | 12.5 | | |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 24-48 | 24-48 | 24-48 | 48 | 8 | 24 |
| Coverage (gals./square) | 1-1.5 | 1.5-2.0 | 2 | 2 | 0.5-0.75 | 1-1.5 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | | X | X |
| Composite Roofing | X | X | | | | X |
| Modified Bitumen Roofing | X | X | | | | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | X | X | X | X | | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | X | |
| Concrete/Wood Decks | | | | | X | |
| Metal | | | | | X | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | X | X | | | X |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | X | X | | X | | X |
| Other Roofing | | X | | X | | X |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | X | X | | X |
| 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, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | | | | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | | | | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | ELASTOMERIC SYSTEM / METAL ROOFING | ARCHITECTURAL COATING SYSTEM | METAL ROOFING MAINTENANCE SYSTEM | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1982 | 1979 | 1978 | 1978 | 1945 | 1998 |
| 9. 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 |
| 10. 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 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| KARNAK CORP. | KOKEM PRODUCTS INC. | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS |
|----------------------------------|----------------------|--------------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------------|--------------------------------|--------------------------------------|
| #502 RC-W ELASTO-KOTE | SUNGUARD-R | ACRYLIC PRIMER | ACRYLIC GEL | ACRYLIC BASE | ACRYLIC WHITE | ACRYLIC GRAY | ACRYLIC STORM CLOUD | ACRYLIC BEIGE | ACRYLIC DESERT SAND |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| X | ELAS. COATING | ADHESIVE | ACRYLIC MASTIC | | COATING | COATING | COATING | COATING | COATING |
| | | | | | | | | | |
| NONFIBERED VARIOUS | VARIOUS | NONFIBRATED BLACK, CLEAR | NONFIBRATED WHITE | NONFIBRATED GRAY | NONFIBRATED WHITE | NONFIBRATED GRAY | NONFIBRATED STORM CLOUD | NONFIBRATED BEIGE | NONFIBRATED DESERT SAND |
| | 65 | 26 | 67 | 65 | 67 | 67 | 67 | 67 | 67 |
| | 12.5 | 8.5 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| 24 | 24 MIN. | 1-24 | 24 | 24-48 | 24-48 | 24-48 | 24-48 | 24-48 | 24-48 |
| | 1.0 MIN. | 0.33-1.5 | 9 | 5-7 | 1-4 | 1-4 | 1-4 | 1-4 | 1-4 |
| | | | | | | | | | |
| | | 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 | | | | | | | |
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| | | X | X | | X | X | | X | |
| | | X | X | | X | X | | X | |
| | | X | X | | X | X | | X | |
| | | X | X | | X | X | | X | |
| | | | | | | | | | |
| | | X | X | X | X | X | X | X | X |
| | | X | X | X | X | X | X | X | X |
| X | | X | X | | X | X | X | X | X |
| X | | X | X | X | X | X | X | X | X |
| | | | | | | | | | |
| | | 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, ROLLER, SPRAY | BRUSH, SPRAY ROLLER | BRUSH, TROWEL, RUBBER GLOVE | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ARCH COAT SYSTEM / METAL ROOFING | | PRIMER + BASE + WHITE + FABRIC | | PRIMER + BASE + WHITE + FABRIC | PRIMER + BASE + WHITE + FABRIC | PRIMER + BASE + GRAY + FABRIC | PRIMER + BASE + STORMCLOUD + FABRIC | PRIMER + BASE + BEIGE + FABRIC | PRIMER + BASE + DESERT SAND + FABRIC |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1975 | 1979 | 1972 | 1981 | 1981 | 1981 | 1981 | 1981 | 1981 | 1981 |
| SALES DEPT 800/526-4236 | 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 | M. ANTHENIEN 408/280-7733 | M. ANTHENIEN 408/280-7733 | M. ANTHENIEN 408/280-7733 |
| TECH DEPT 800/526-4236 | 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 | M. ANTHENIEN 408/280-7733 | M. ANTHENIEN 408/280-7733 | M. ANTHENIEN 408/280-7733 |
| | | | | | | | | | |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|--|---------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1. COMPANY NAME | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS |
| 2. PRODUCT NAME | ACRYLIC BRICK RED | ACRYLIC CUSTOM COLORS | ACRYLIC PRIMER | ACRYLIC BASE | ACRYLIC WHITE | BLACK PRIMER |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | X | | | X |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | COATING | COATING | | COATING | COATING | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED |
| Color(s) Available | BRICK RED | CUSTOM | BLK, WHT, CLR | GRAY | WHITE | BLACK |
| Solids Content (% by volume) | 67 | 67 | 25 | 65 | 67 | 33 |
| Weight Per Gallon (lbs.) | 12 | 12 | 8.5 | 12.1 | 12.1 | 8.3 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 24-48 | 24-48 | 4 | 24 | 12 | 12 |
| Coverage (gals./square) | 1-4 | 1-4 | 1 | 5 | 4 | 1 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | |
| Composite Roofing | X | X | X | X | X | |
| Modified Bitumen Roofing | X | X | X | X | X | |
| Single-Ply Roofing | X | X | X | X | X | |
| Other Roofing | X | X | X | X | X | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | X | X | X | X | |
| Composite Roofing | | X | X | X | X | |
| Metal Roofing | | X | X | X | X | |
| Other Roofing | | X | X | X | X | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | X |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | X |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | X | X | X | X | |
| Coal Tar Built-Up Roofing | X | X | X | X | X | |
| Metal Roofing | X | X | X | X | X | |
| Other Roofing | X | X | X | X | X | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | X | X | | | | |
| Cold-Process Modified Roofing | | X | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | X | X | X | |
| 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, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, ROLLER, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | NA | NA | NA | |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | NA | NA | NA | |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | PRIMER + BASE + BRICK RED + FABRIC | PRIMER + BASE + CUSTOM + FABRIC | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1981 | 1981 | 1974 | 1974 | 1974 | 1974 |
| 9. SALES INFORMATION CONTACT: | 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 | M. ANTHENIEN 408/280-7733 |
| 10. TECHNICAL INFORMATION CONTACT: | 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 | M. ANTHENIEN 408/280-7733 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-------------------------|-------------------------|----------------------------|
| CLEAR PRIMER | ACRYLIC BASE | ACRYLIC WHITE | ACRYLIC GEL | ACRYLIC COLOR | ACRYLIC COLORS | 70611 POLYURETHANE COATING | 7261 QUICK-SET ACRYLIC | 7027 HIGH BUILD PRIMER | ACRYLIC GEL |
| X | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | COATING | COATING | CEMENT | COATING | COATING | COATING | COATING | COATING | MASTIC |
| NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED |
| CLEAR | GRAY | WHITE | WHITE/GRAY | ALL | ANY COLOR | WHITE/TAN/GRAY | WHITE/TAN/GRAY | YES | WHITE, GRAY |
| 33 | 68 | 68 | 68 | 68 | 67 | 76 | 510 | 42 | 66 |
| 8.3 | 12 | 12 | 12 | 12 | 12.1 | 10.5 | 11.5 | 8.63 | 12.1 |
| 12 | 24 | 24 | 24 | 24 | 12 | 24 | 4 | 8 | 24 |
| 1 | 2 - 5 | 2 - 4 | 9 | 2 - 4 | 4 | 1 - 2 | 1 - 3 | 1 | 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 |
| BRUSH, ROLLER, SPRAY | BRUSH, ROLLER, SPRAY | BRUSH, ROLLER, SPRAY | CAULK TROWEL | BRUSH, ROLLER, SPRAY | BRUSH, SPRAY, ROLLER | SPRAY, ROLLER, SQUEEGEE | SPRAY, ROLLER, SQUEEGEE | SPRAY, ROLLER, SQUEEGEE | BRUSH, TROWEL RUBBER GLOVE |
| | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | |
| | | | | | NA | NA | NA | NA | NA |
| | | | | | | | | | |
| | | | | | | 7027, 70611 | 7261 | PRIMER 70611 | |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1980 | 1980 | 1976 | 1980 | 1976 | 1974 | 1984 | 1990 | 2003 | 1974 |
| 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 | M. ANTHENIEN 408/280-7733 | M. PAVIC 440/984-3762 | M. PAVIC 440/984-3762 | M. PAVIC 440/984-3762 | 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 | M. ANTHENIEN 408/280-7733 | M. ANTHENIEN 408/280-7733 | TECH. DEPT 800/321-6588 | TECH. DEPT 800/321-6588 | TECH. DEPT 800/321-6588 | M. ANTHENIEN 408/280-7733 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|------------------------------------|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1. COMPANY NAME | NEOGARD | NEOGARD | REPUBLIC POWDERED METALS, INC. | REPUBLIC POWDERED METALS, INC. | REPUBLIC POWDERED METALS, INC. | REPUBLIC POWDERED METALS, INC. |
| 2. PRODUCT NAME | PERMA-GARD FR 7419 BASE COAT | URETHANE 7441 SERIES TOP COAT | SOLARGARD | SOLARGARD HY-BUILD | PERMAFLEX | ALUMANATION 301 |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | X |
| Asphalt/Coal Tar Cement | | | | | | |
| Asphalt Emulsion | | | | | X | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | URETHANE | URETHANE | ACRYLIC | ACRYLIC | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED | FIBRATED | FIBRATED |
| Color(s) Available | BLACK | WHITE/GRAY/TAN | VARIOUS | VARIOUS | BLACK | ALUMINUM |
| Solids Content (% by volume) | 90 | 80 | 51 | 51 | 60 | 47 |
| Weight Per Gallon (lbs.) | 11.5 | 10 | 11.5 | 11.1 | 8.7 | 8.8 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 24 | 24 | 4-6 | 1 | 24 | 24 |
| Coverage (gals./square) | 0.33 | 0.67 | 2-3 | 2-3 | 2-6 | 2-4 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | X |
| Composite Roofing | X | X | | | | |
| Modified Bitumen Roofing | X | X | X | X | | X |
| Single-Ply Roofing | X | X | | | | |
| Other Roofing | X | X | X | X | X | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | | | X | |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | X | X | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | X | | | | |
| Composite Roofing | X | X | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | X | X | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | X |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | X |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | X | X | X | X | | X |
| Reroofing/Maintenance | X | X | X | X | X | X |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | SPRAY, ROLLER, SQUEEGEE | SPRAY, ROLLER, SQUEEGEE | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY ROLLER | BRUSH, SPRAY ROLLER | BRUSH, SPRAY ROLLER |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | PRIMER 7419, 7441 | PRIMER 7419, 7441 | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1972 | 1972 | 1975 | 1967 | 1984 | 1947 |
| 9. SALES INFORMATION CONTACT: | M. PAVIC 440/984-3762 | M. PAVIC 440/984-3762 | J. MILLIKEN 800/551-7081 | J. MILLIKEN 800/551-7081 | J. MILLIKEN 800/551-7081 | J. MILLIKEN 800/551-7081 |
| 10. TECHNICAL INFORMATION CONTACT: | TECH. DEPT 800/321-6588 | TECH. DEPT 800/321-6588 | M. LISY 800/551-7081 | M. LISY 800/551-7081 | M. LISY 800/551-7081 | M. LISY 800/551-7081 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| REPUBLIC POWDERED METALS, INC. | REPUBLIC POWDERED METALS, INC. | SOMAY PRODUCTS | SOMAY PRODUCTS | SOMAY PRODUCTS | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. |
|--------------------------------------|--------------------------------------|--|--|-----------------------------------|------------------------------------|--|------------------------------------|---------------------------------------|---|
| GEOGARD | SOLARGARD ULTRA | PRODUCT NO. 842 ROOF MASTIC WATERPROOFER | PRODUCT NO. 992 PATCH & SEAL CAULK | PRIME & SEAL PRIMER | FLEX-SHIELD PRIMER | FLEX-SHIELD EM PATCHING COMPOUND | GUARDIAN EPDM PRIMER | GUARDIAN GENERAL PURPOSE PRIMER | GUARDIAN SEAMLESS ROOF COATING |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | X | | | | |
| | | ACRYLIC | ACRYLIC | | | | | | COATING |
| URETHANE | ELASTOMERIC | ELASTOMERIC | ELASTOMERIC | ACRYLIC RESIN | | CEMENT | ACRYLIC PRIMER | ACRYLIC PRIMER | |
| | | | | | | | | | |
| NONFIBRATED | NONFIBRATED | NONFIBRATED | | | NONFIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED |
| GRAY | WHITE | VARIOUS | WHITE | CLEAR, WHITE | BLACK | BLACK | CLEAR | CLEAR | BLACK |
| 65 | 70 | 51.5 | 69.65 | 11.02 | | | | | |
| 11.0 | 6.8 | 11.9 | 9.1 | 6.9 | 8.41 | 8.8 | 8.43 | 8.46 | 8.0 |
| 24 | 4-6 | 1 | 1 | 1/2 - 2 | 4 | 4 | 1 | 2 | |
| 3-5 | 2-4 | 4 | | | 0.25-1.5 | 11.36 | 0.25 | 0.5-1.5 | 1.0 |
| | | | | | | | | | |
| 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 | X |
| | | | | | | | | | |
| X | | X | X | X | X | X | | X | X |
| | | X | X | X | X | X | | X | X |
| | | X | X | X | X | X | | X | X |
| | | | | | | | | | |
| | | | | X | X | | | X | |
| | | | | X | X | | | | |
| | | | | X | | | | X | |
| | | | | | | | | | |
| X | | X | X | | X | 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 | | | | | |
| | | | | | | | | | |
| X | | X | X | X | | | | | |
| X | | YES | YES | YES | | | | | X |
| BRUSH, SPRAY ROLL, SQUEEGEE | ROLLER, BRUSH SPRAY | BRUSH, ROLLER, SPRAY, SQUEEGEE | BRUSH, CAULK, TROWEL | BRUSH, ROLLER, SPRAY, SQUEEGEE | BRUSH, ROLLER, SPRAY | TROWEL | BRUSH, ROLLER | BRUSH, ROLLER, SPRAY | SQUEEGEE, ROLLER |
| NA | NA | NA | NA | NA | | | | | |
| | | | | | | | | | |
| NA | NA | NA | NA | NA | | | | | |
| | | | | | | | | | |
| NA | NA | YES | YES | YES | | | | | GENERAL, EPDM PRIMER / H D POLYMASTIC ALUM. |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1983 | 1998 | 1966 | 1966 | 1986 | 1970 | 1994 | 1997 | 1997 | 1997 |
| J. MILLIKEN 800/551-7081 | J. MILLIKEN 800/551-7081 | SALES DEPT. 305/633-6333 | SALES DEPT. 305/633-6333 | SALES DEPT. 305/633-6333 | SALES DEPT. 877/585-5588 | SALES DEPT. 877/585-5588 | SALES DEPT. 877/585-5588 | SALES DEPT. 877/585-5588 | SALES DEPT. 877/585-5588 |
| M. LISY 800/551-7081 | M. LISY 800/551-7081 | TECHNICAL DEPT. 305/633-6333 | TECHNICAL DEPT. 305/633-6333 | TECHNICAL DEPT. 305/633-6333 | TECH. DEPT. 877/585-5588 | TECH. DEPT. 877/585-5588 | TECH. DEPT. 877/585-5588 | TECH. DEPT. 877/585-5588 | TECH. DEPT. 877/585-5588 |
| | | | | | | | | | |

Roof Cements, Adhesives 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. |
|---|------------------------------------|------------------------------------|------------------------------------|---|--|------------------------------------|
| 2. PRODUCT NAME | HEAVY DUTY ROOF COATING | HEAVY DUTY PRIMER | HEAVY DUTY PATCHING COMPOUND | H.D. GRAVEL ROOF PRESERV. (ASPHALT) | H.D. GRAVEL ROOF PRESERV. (COAL TAR) | FLEX-SHIELD ROOF COATING |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | X | | | | |
| Asphalt/Coalt Tar Coating | X | | | X | X | |
| Asphalt/Coal Tar Cement | | | X | | | |
| Asphalt Emulsion | | | | | | X |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | FIBRATED | NON-FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | BLACK |
| Solids Content (% by volume) | | | | | | |
| Weight Per Gallon (lbs.) | 8.3 | 7.2 | 9.24 | 8.09 | 9.75 | 8.5 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 1-2 | 1-2 | 1-2 | | | 2-4 |
| Coverage (gals./square) | 2.0-5.0 | 0.5-2.0 | 10 | 7 | 7 | 1.75-9.0 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | X | | | | | X |
| Composite Roofing | | | | | | X |
| Modified Bitumen Roofing | X | | | | | X |
| Single-Ply Roofing | X | | | | | X |
| Other Roofing | | | | | | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | X | | | |
| Composite Roofing | | | X | | | |
| Metal Roofing | | | X | | | |
| Other Roofing | | | X | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | X | | | | |
| Concrete/Wood Decks | | X | | | | |
| Metal | | X | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | X | | | |
| Composite Roofing | | | X | | | |
| Metal Roofing | | | X | | | |
| Other Roofing | | | X | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | X | | | X | | X |
| Coal Tar Built-Up Roofing | | | | | X | |
| Metal Roofing | X | | | | | X |
| Other Roofing | X | | | | | X |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | TROWEL, CAULK | BRUSH, SPRAY | BRUSH, SPRAY | BRUSH, SPRAY, ROLLER |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | | | | | | |
| See Built-Up Roofing Section If Checked | X | X | X | | | X |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | | | | | | |
| See Modified Bitumen Roofing Section If Checked | X | X | X | | | X |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | | | | | | |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1933 | 1933 | 1933 | 1980 | 1980 | 1970 |
| 9. 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 |
| 10. TECHNICAL INFORMATION CONTACT: | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS |
|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|---|---|---|---|---|---|
| FLEX-SHIELD "EM" ROOF COATING | ALUMINUM ROOF COATING | ADHESIVE #9 | ALUMINUM ROOF SHIELD | TOPCOAT SOLO | TOPCOAT CRT | TOPCOTE MB PLUS | LIQUID FABRIC FLASHING GRADE | ONE STEP | FASTENER GRADE |
| | | | | | | | | | |
| | X | | X | | | | | | |
| | | X | | | | | | | |
| | | | | | | | | | |
| X | | | | SYNTHETIC RBR | SYNTHETIC RBR | SYNTHETIC RBR | SYNTHETIC RBR | | |
| | | | | | | | | | |
| FIBRATED | FIBRATED | | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED |
| BLACK | SILVER-GREEN | BLACK | SILVER | UNLIMITED | UNLIMITED | WHITE | WHITE | WHITE | WHITE |
| 8.7 | 9.69 | 8.4 | 8.6 | 46 | 71 ±3 | 65 ± 0.5 | 71.7 | 49 | 69 ±1 |
| 2-4 | 1-2 | 1-2 | 1-2 | 11.4 | 12.3 ±0.5 | 11 ± 0.5 | | 10.2 | 12.2 |
| 2.5-6.0 | 1.0-1.5 | 1.5-4.0 | 0.3-0.67 | 24 | 24 | 24 | 24 | 3 | 24 |
| | | | | 1 | 1.25 | 1.5 | | 1.5 | |
| | | | | | | | | | |
| 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 | |
| BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLL, SQUEEGEE | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | SPRAY | BRUSH, SPRAY, ROLLER | BRUSH, CAULK, TROWEL | SPRAY | CAULK |
| | | | | NA | NA | NA | NA | NA | NA |
| X | X | X | X | | | | | | |
| | | | | NA | NA | NA | NA | NA | NA |
| X | X | X | X | | | | | | |
| | | | | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1994 | 1933 | 1933 | 1933 | | | | | | |
| SALES DEPT. 800/877-9372 | SALES DEPT. 800/877-9372 | SALES DEPT. 800/877-9372 | SALES DEPT. 800/877-9372 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 |
| TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | TECH. DEPT. | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|---|---|---|---|---|-------------------------|
| 1. COMPANY NAME | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TOPCOAT DIVISION OF GAF MATERIALS | TREMCO, INC. |
| 2. PRODUCT NAME | TOPCOAT XR-2000 | FLASHING GRADE SPRAY FORMULA | SURFACE SEAL SB | WALLCOTE SYSTEM | TOPCOAT MEMBRANE | ELS |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | |
| Asphalt/Coal Tar Cement | | | | | | X |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | | | SYNTHETIC RBR | | SYN. RUBBER | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED |
| Color(s) Available | WHITE | WHITE | WHITE | UNLIMITED | UNLIMITED | BLACK |
| Solids Content (% by volume) | 52.5 | 68 | 64 | 23 | 58 | 78 |
| Weight Per Gallon (lbs.) | 10.2 | 12 | 10.1 | 11.41 | 12.5 | 9.3 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 6 | 24 | 24 | 1 - 2 | 24 | 12-24 |
| Coverage (gals./square) | 0.75 | | 1.5 | 1 | 1.5-3.25 | 8 |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | X | | | |
| Composite Roofing | | | | | | |
| Modified Bitumen Roofing | | | X | | | |
| Single-Ply Roofing | | | X | | | |
| Other Roofing | | | X | | X | |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | | | | X |
| Composite Roofing | | | | | | |
| Metal Roofing | | | | | X | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | X | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | X | | | X |
| Composite Roofing | | | | | | |
| Metal Roofing | | X | X | | | |
| Other Roofing | | X | X | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | X | X | X | |
| Other Roofing | | | X | X | X | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | X | | X | |
| Reroofing/Maintenance | | | X | | X | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | SPRAY, ROLLER | SPRAY, BRUSH, CAULK | SPRAY | SPRAY, ROLLER | SPRAY | TROWEL |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | BUR MESH |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | BUR MESH |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | PRIMER COMPONENT OF ROOF SYSTEM | FLASHING COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT OF ROOF SYSTEM | MEMBRANE COMPONENT | MEMBRANE COMPONENT OF ROOF SYSTEM | NA |
| 7. COUNTRY OF MANUFACTURE | USA | UES | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | | | | | 1979 | |
| 9. SALES INFORMATION CONTACT: | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | T. RUFFINE 800/365-7353 | SALES OFFICE |
| 10. TECHNICAL INFORMATION CONTACT: | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | S. HECHT 800/766-3411 | TECHNICAL DEPARTMENT |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1. COMPANY NAME | TREMCO, INC. | TREMCO, INC. | TREMCO, INC. | TREMCO, INC. | TREMCO, INC. | TREMCO, INC. |
| 2. PRODUCT NAME | TREMLITE METAL PRIMER WB | TREMLITE MASTIC | TREMLITE COATING | TREMLASTIC S | POLYROOF SF | ONE COAT ALUMINUM |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | X |
| Asphalt/Coal Tar Cement | | | | | X | |
| Asphalt Emulsion | | | | X | | |
| Modified Bitumen Coating or Cement | | | | | | |
| Elastomeric Coating or Cement (specify type) | ACRYLIC | ACRYLIC | ACRYLIC | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED |
| Color(s) Available | GRAY | WHITE | WHITE | BLACK | BLACK | ALUMINUM |
| Solids Content (% by volume) | 46 | 69 | 64 | 50 | 100 | 61 |
| Weight Per Gallon (lbs.) | 9.9 | 10.3 | 11.5 | 8.4 | 8.6 | 8.8 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 1 | 6-8 | 4 | 4 | 1-2 | 4-8 |
| Coverage (gals./square) | 0.2 | 6 | 0.75 | 4 | 4 | 2 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | | X | | X |
| Composite Roofing | | | | | | |
| Modified Bitumen Roofing | | | | X | | |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | X | | | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | | | | | X | |
| Composite Roofing | | | | | | |
| Metal Roofing | X | X | | | | |
| Other Roofing | | | | | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | X | | X | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | | | | | X | |
| Composite Roofing | | | | | | |
| Metal Roofing | X | | X | | | |
| Other Roofing | | | | | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | |
| Other Roofing | | | | | | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | | |
| Cold-Process Modified Roofing | | | | | | |
| Roll Roofing (Coated Sheets) | | | | | | |
| Shingles, Tiles Other Steep Products | | | | | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH, SPRAY, ROLLER | TROWEL | BRUSH, SPRAY, ROLLER | BRUSH, SPRAY, ROLLER | TROWEL | ROLLER, BRUSH, SPRAY |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | POLYESTER MAT CP | BUR MESH | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | POLYESTER MAT CP | BUR MESH | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | CANADA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | | | | 1995 | 1997 | 1996 |
| 9. SALES INFORMATION CONTACT: | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE |
| 10. TECHNICAL INFORMATION CONTACT: | TECHNICAL DEPARTMENT | TECHNICAL DEPARTMENT | TECHNICAL DEPARTMENT | TECHNICAL DEPARTMENT | TECHNICAL DEPARTMENT | TECHNICAL DEPARTMENT |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, Part 1 - General Information

[illegible]

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | | | | | | |
|---|--|------------------------------------|--|---|--------------------------------------|--|
| 1. COMPANY NAME | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC | U.S. INTEC |
| 2. PRODUCT NAME | MATRIX 201 SYSTEM PRO SBS CEMENT | MATRIX 202 SELECT SBS CEMENT | MATRIX 203 STANDARD PLASTIC CEMENT | MATRIX 204 STANDARD WET/ DRY CEMENT | MATRIX 205 SURE GRIP FLASH CEM | MATRIX 301 SYS PRO FIBERED ALUM RF CTG |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | | | | | | |
| Asphalt Primer | | | | | | |
| Asphalt/Coalt Tar Coating | | | | | | X |
| Asphalt/Coal Tar Cement | | | X | X | X | |
| Asphalt Emulsion | | | | | | |
| Modified Bitumen Coating or Cement | X | X | | | | |
| Elastomeric Coating or Cement (specify type) | | | | | | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | | | | | | |
| Fibrated/Nonfibrated | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED |
| Color(s) Available | BLACK | BLACK | BLACK | BLACK | BLACK | ALUMINUM |
| Solids Content (% by volume) | | | | | | 50 |
| Weight Per Gallon (lbs.) | 9.1 | 9.3 | 9.3 | 9.3 | 8.5 | 8.6 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 6 | 6 | 6 - 8 | 6 - 8 | 8 | 8 |
| Coverage (gals./square) | 8 | 8 | 8 | 8 | 8 | 1 - 2 |
| USES | | | | | | |
| 4A. SURFACING | | | | | | |
| Built-Up Roofing | | | | | | X |
| Composite Roofing | | | | | | X |
| Modified Bitumen Roofing | | | | | | X |
| Single-Ply Roofing | | | | | | |
| Other Roofing | | | | | | X |
| 4B. PATCHING/REPAIRING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | |
| Composite Roofing | X | X | X | X | X | |
| Metal Roofing | X | X | X | X | | |
| Other Roofing | X | X | X | X | | |
| 4C. PRIMING | | | | | | |
| Built-Up Roofing | | | | | | |
| Concrete/Wood Decks | | | | | | |
| Metal | | | | | | |
| 4D. FLASHING | | | | | | |
| Built-Up Roofing | X | X | X | X | X | |
| Composite Roofing | X | X | X | X | X | |
| Metal Roofing | X | X | X | X | | |
| Other Roofing | X | X | X | X | | |
| 4E. RESATURATION/RESURFACING | | | | | | |
| Asphalt Built-Up Roofing | | | | | | X |
| Coal Tar Built-Up Roofing | | | | | | |
| Metal Roofing | | | | | | X |
| Other Roofing | | | | | | X |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | | | | | | |
| Cold-Process Built-Up Roofing | | | | | X | |
| Cold-Process Modified Roofing | | | | | X | |
| Roll Roofing (Coated Sheets) | | | | X | | |
| Shingles, Tiles Other Steep Products | | | X | X | | |
| 4G. LIQUID-APPLIED MEMBRANE | | | | | | |
| New Roofing | | | | | | |
| Reroofing/Maintenance | | | | | | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | TROWEL, CAULK | BRUSH, TROWEL, CAULK | TROWEL, CAULK | TROWEL, CAULK | TROWEL, CAULK | BRUSH, SPRAY, ROLLER |
| ROOF SYSTEM DESCRIPTION (or NA) | | | | | | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Built-Up Roofing Section If Checked | | | | | | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | NA | NA | NA | NA | NA | NA |
| See Modified Bitumen Roofing Section If Checked | | | | | | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | NA | NA | NA | NA | NA | NA |
| 7. COUNTRY OF MANUFACTURE | USA | USA | USA | USA | USA | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | | | | | | |
| 9. SALES INFORMATION CONTACT: | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE | REGIONAL OFFICE |
| 10. TECHNICAL INFORMATION CONTACT: | TECH SERVICE 800/624-6832 | TECH SERVICE 800/624-6832 | TECH SERVICE 800/624-6832 | TECH SERVICE 800/624-6832 | TECH SERVICE 800/624-6832 | TECH SERVICE 800/624-6832 |
| 11. SEE APPENDIX IF CHECKED | | | | | | |

NA=not applicable

Roof Cements, Adhesives and Coatings, 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. |
|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| MULTI-PLY ADHESIVE | HK RECOAT | ELASTOSHIELD | HK ALUMINUM SHIELD | HK ALUMINUM SHIELD FIBR. | WEATHERIZER KV | TARSHIELD | TARSHIELD WB | WHITE ROOF COATING | HK ARM |
| | | | | | | | | | |
| X | | | | | X | X | X | | X |
| | X | X | | | | | | | |
| | | | X | X | | | | X | |
| | | | | | | | | | |
| | | | | | | | | | |
| FIBRATED | NONFIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED | FIBRATED | FIBRATED | NONFIBRATED | NONFIBRATED | FIBRATED |
| BLACK | BROWN | BROWN | SILVER | SILVER | BLACK | BLACK | BLACK | WHITE | BLACK |
| 67 | | | | | | 69 | | | 66.5 |
| 8.5 | 8.5 | 8.5 | | | 9.8 | 9.5 | 9.6 | | 9.7 |
| | | 4 - 5 | | 2 - 2.5 | | | | 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 | X | | X | X | | |
| | | | X | X | | | | | |
| | | | | | | | | | |
| X | | | | | | | | | |
| X | | | | | | | | | |
| X | | | | | | | | | |
| | | | | | | | | | |
| | X | X | | | X | X | X | | |
| | X | X | | | X | X | X | | |
| 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 | BRUSH, SPRAY, ROLLER | TROWEL |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| USA | USA | USA | USA | USA | USA | USA | USA | USA | USA |
| 1986 | 1985 | 1985 | 1985 | 1985 | 2002 | 2002 | 2002 | 1985 | 1985 |
| SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE | SALES OFFICE |
| K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 | K. BRZOWSKI 440/248-7660 |

Roof Cements, Adhesives and Coatings, Part 1 - General Information

| | |
|---|-------------------------------|
| 1. COMPANY NAME | W.P. HICKMAN SYSTEMS, INC. |
| 2. PRODUCT NAME | HK RAPID DRY PRIMER SP |
| 3.1 PRODUCT DESCRIPTION, GENERAL CATEGORY | |
| Asphalt Primer | X |
| Asphalt/Coal Tar Coating | |
| Asphalt/Coal Tar Cement | |
| Asphalt Emulsion | |
| Modified Bitumen Coating or Cement | |
| Elastomeric Coating or Cement (specify type) | |
| 3.2 PRODUCT DESCRIPTION, GENERAL FEATURES | |
| Fibrated/Nonfibrated | NONFIBRATED |
| Color(s) Available | BLACK |
| Solids Content (% by volume) | 38.2 |
| Weight Per Gallon (lbs.) | 7.2 |
| Drying Time (hours, 50% R.H. at 70° F, touch dry) | 1 - 4 |
| Coverage (gals./square) | 125-150 SQ FT/GAL |
| USES | |
| 4A. SURFACING | |
| Built-Up Roofing | |
| Composite Roofing | |
| Modified Bitumen Roofing | |
| Single-Ply Roofing | |
| Other Roofing | |
| 4B. PATCHING/REPAIRING | |
| Built-Up Roofing | X |
| Composite Roofing | X |
| Metal Roofing | X |
| Other Roofing | |
| 4C. PRIMING | |
| Built-Up Roofing | X |
| Concrete/Wood Decks | X |
| Metal | X |
| 4D. FLASHING | |
| Built-Up Roofing | X |
| Composite Roofing | X |
| Metal Roofing | X |
| Other Roofing | |
| 4E. RESATURATION/RESURFACING | |
| Asphalt Built-Up Roofing | |
| Coal Tar Built-Up Roofing | |
| Metal Roofing | |
| Other Roofing | |
| 4F. COLD-PROCESS ADHESIVE/LAP CEMENT | |
| Cold-Process Built-Up Roofing | |
| Cold-Process Modified Roofing | |
| Roll Roofing (Coated Sheets) | |
| Shingles, Tiles Other Steep Products | |
| 4G. LIQUID-APPLIED MEMBRANE | |
| New Roofing | |
| Reroofing/Maintenance | |
| 5. APPLICATION METHOD(S) (Brush, Caulk, Roller, Spray, Squeegee, Trowel) | BRUSH, SPRAY, ROLLER |
| ROOF SYSTEM DESCRIPTION (or NA) | |
| 6A. ASPHALT BUILT-UP ROOF MEMBRANE COMPONENTS | |
| See Built-Up Roofing Section If Checked | |
| 6B. MODIFIED BITUMEN ROOF MEMBRANE COMPONENTS | |
| See Modified Bitumen Roofing Section If Checked | |
| 6C. LIQUID-APPLIED MEMBRANE ROOF COMPONENTS | |
| 7. COUNTRY OF MANUFACTURE | USA |
| 8. YEAR OF FIRST COMMERCIAL USE | 1985 |
| 9. SALES INFORMATION CONTACT: | SALES OFFICE |
| 10. TECHNICAL INFORMATION CONTACT: | K. BRZOZOWSKI 440/248-7660 |
| 11. SEE APPENDIX IF CHECKED | |

NA=not applicable

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Roof Cements and Adhesives, Part 2 - Technical Data

| | | | |
|-----|---|-------------------------------|----------------------------|
| 1. | COMPANY NAME | ALCO-NVC, INC. | ALCO-NVC INC. |
| 2. | PRODUCT NAME | #216 AF FLASHING CEMENT | 24/7 FLASHING CEMENT |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| | TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| | TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| | TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| | TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. | ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| | TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| | TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| | TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| | TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. | ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| | Type I -- Above 40° F | | |
| | Type II -- Above 20° F | | |
| 3D. | ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| | Type I -- Low softening point | X | X |
| | Type II -- High softening point | | |
| 3F. | Other standard (indicate standard) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION | | |
| 4A. | UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | | NO |
| 4C. | FM Class I as part of any roof system (indicate yes or no) | | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | | NO |
| 5. | SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| ALCO-NVC INC. | ALCO-NVC, INC. | ALCO-NVC, INC. | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
|-----------------------------------|--------------------------------|---------------------------------|-----------------------------|-----------------------------|------------------------------|
| #218C WHITE PATCHING CEMENT | #269 AF SBS TROWEL GRADE | #269 AF SBS PLUS ADHESIVE | #1825 (A110) ATCO LAP | #1826 (A470) RAINSTOP | #1822 (A200) ATCO BOND |
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| | | A | A, B | NONE | NONE |
| NO | | | YES | NO | NO |
| NO | | | NO | NO | NO |
| NO | | | NO | NO | NO |
| | | | | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|--------------------------------|------------------------------|
| 1. COMPANY NAME | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
| 2. PRODUCT NAME | #1823 (A300) ATCO MASTIC | #1326 (A460) ATCO STOP |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | X |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | X | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. FM Class I as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| ANDEK CORP. | CERTAINTEED CORP. | CERTAINTEED CORP. | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY |
|--------------------|----------------------|----------------------|---------------------------------|--------------------------------------|--------------------------------------|
| ANDEK BUILDCOAT | FLINT BOND | FLINT PATCH | PRO FLASH FLASHING CEMENT | PRO WET- STICK FLASHING CEMENT | PRO FLASH XTRA FLASHING CEMENT |
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| NONE | A, B, C | | NONE | NONE | NONE |
| NO | YES | | NO | NO | NO |
| NO | YES | | NO | NO | NO |
| NO | YES | | NO | NO | NO |
| | | | | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|-------------------------------|-------------------------------|
| 1. COMPANY NAME | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY |
| 2. PRODUCT NAME | PRO LAP CEMENT | PRO SBS FLASHING CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | X | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | X | X |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. FM Class I as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS | FIELDS COMPANY, LLC |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|
| ERS 302 | ERS 309 | ERS 300-A | ERS 300-T | ERS-304 | F 110 POWRLAP |
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| X | X | X | X | X | X |
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| | | X | X | X | |
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| A | A | NONE | NONE | NONE | A, B |
| | | NO | NO | NO | YES |
| | | NO | NO | NO | NO |
| | | NO | NO | NO | NO |
| | | | | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|---------------------------|---------------------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. PRODUCT NAME | F 200 POWRBOND | C 250 ROOF FLASH |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | X |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | X | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. FM Class I as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| F 300 POWRMASTIC | M 300 RUBRMASTIC | C 240 TILE BOND | M 200 RUBR BOND | C 300 ROOF MASTIC | C 200 ROOF BOND |
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| X | X | | X | | |
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| NONE | NONE | NONE | NONE | NONE | NONE |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| | | | | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|---------------------------|---------------------------|
| 1. COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. PRODUCT NAME | F 460 WATRSTOP | M 620 SILVRMASTIC |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | X | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. FM Class I as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| FIELDS COMPANY, LLC | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
|---------------------------|----------------------------|--------------------------------------|----------------------------------|-------------------------------|--|
| C 100 ROOF COAT | MATRIX 101 SBS ADHESIVE | MATRIX 201 SBS FLASHING CEMENT | MATRIX 203 FLASHING CEMENT | MATRIX 102 SBS ADHESIVE | MATRIX 202 MOD BIT FLASHING CEMENT |
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| A, B | | | | | |
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| NO | | | | | |
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Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|---|---|
| 1. COMPANY NAME | GAF MATERIALS CORP. | GAF MATERIALS CORP. |
| 2. PRODUCT NAME | MATRIX 103 STD. COLD LAP ADHESIVE | MATRIX 105 SURE GRIP SBS ADHESIVE |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | X | X |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

[illegible]

Roof Cements and Adhesives, Part 2 - Technical Data

| | | | |
|-----|---|--------------------------------|--------------------------------|
| 1. | COMPANY NAME | GARDNER / APOC | GARDNER / APOC |
| 2. | PRODUCT NAME | APOC 128 FLASHING CEMENT | APOC 122 FLASHING CEMENT |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| | TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | X | |
| | TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| | TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| | TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. | ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| | TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| | TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| | TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| | TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. | ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| | Type I -- Above 40° F | | |
| | Type II -- Above 20° F | | |
| 3D. | ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | X |
| | Type II -- High softening point | | |
| 3F. | Other standard (indicate standard) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION | | |
| 4A. | UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC |
|---------------------------------|------------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------|
| APOC 124 WET / DRY CEMENT | APOC 133 MBA FLASHING CEMENT | APOC 136 MBA ADHESIVE | APOC 102 PLASTIC CEMENT | APOC 100 PLASTIC CEMENT | STA-KOOL #770 |
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| | X | | | X | |
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| | | | | | ASTM 6083 |
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| | | A, B, C | | | A, B, OR C |
| | | YES | | | YES |
| | | | | | NO |
| | | | | | NO |
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Roof Cements and Adhesives, Part 2 - Technical Data

| | | | |
|-----|---|--------------------------------------|--------------------|
| 1. | COMPANY NAME | GARLAND COMPANY, INC. | GARLAND COMPANY |
| 2. | PRODUCT NAME | INSUL-LOCK INSULATION ADHESIVE | WEATHERKING |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| | TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| | TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| | TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| | TYPE II, CLASS II -- High softening point asphalt for damp or wet surfaces | | |
| 3B. | ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| | TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| | TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| | TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| | TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | X |
| 3C. | ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| | Type I -- Above 40° F | | |
| | Type II -- Above 20° F | | |
| 3D. | ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3F. | Other standard (indicate standard) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION | | |
| 4A. | UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | A |
| 4B. | UL labeling on packaging (indicate yes or no) | | YES |
| 4C. | FM Class I as part of any roof system (indicate yes or no) | YES | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | YES |
| 5. | SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | | | | |
|---------------------|--------------------|--------------------|-------------------------------------|--------------------------------|------------------------------------|
| GARLAND COMPANY | GARLAND COMPANY | GARLAND COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
| EMERGENCY MASTIC | FLASHING BOND | GARLA- FLEX | #203 COLD APPLIED ROOF CEMENT | #403 COLD APPLIED CEMENT | #302 PERMANENT BOND ADHESIVE |
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| ASTM D5643-94 | | | | | |
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| | | | A | A | A |
| NO | YES | YES | X | X | X |
| NO | NO | NO | | X | X |
| NO | NO | NO | | X | X |
| | | | X | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|------------------------------------|--------------------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | #303 MB HIGH SOLIDS ADHESIVE | #204 PLASTIC ROOF CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | X |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | X | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | A | |
| 4B. UL labeling on packaging (indicate yes or no) | X | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | X | |
| 4D. FM labeling on packaging (indicate yes or no) | X | |
| 5. SEE APPENDIX IF CHECKED | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|-------------------------------|---------------------|-----------------------------|-------------------|---|--|
| #209 ELASTOMERIC CEMENT | #505 FLASHMASTER | #206 FLASHMASTER PLUS | #111 INSULBOND | PRO GRADE #31 COLD PROCESS ADHESIVE | PRO GRADE #331 A/F COLD PROCESS ADHESIVE |
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| X | X | X | X | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|--|---|---|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | PRO GRADE #333 A/F MOD BIT ADHESIVE | PRO GRADE #25 ALL WEATHER ROOF CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point asphalt for damp or wet surfaces | | X |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fiberglass, Asbestos Fiberglass, and Non-Asbestos Fiberglass</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fiberglass asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | X | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | A | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|---|-------------------------------------|--|--|--|---|
| PRO GRADE #26 PLASTIC ROOF CEMENT | PRO GRADE #27 FLASHING CEMENT | PRO GRADE #225 A/F ALL WEATHER ROOF CEMENT | PRO GRADE #226 A/F PLASTIC ROOF CEMENT | PRO GRADE #31 COLD PROCESS AHDES | PRO GRADE #331 A/F COAT PROCESS ADHES |
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| X | X | X | X | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|---|--|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | PRO GRADE #333 A/F MOD BIT ADHESIVE | PRO GRADE #26 ALLWEATHER ROOF CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point asphalt for damp or wet surfaces | | X |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | A | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|---|--------------------------------------|---|--|--|---|
| PRO GRADE #26 PLASTIC ROOF CEMENT | PRO GRADE #427 FLASHING CEMENT | PRO GRADE #225 A/F ALL WEATHER ROOF CEM | PRO GRADE #226 A/F PLASTIC ROOF CEMENT | PRO GRADE #227 A/F FLASHING CEMENT | PRO GRADE #229 MB FLASHING CEMENT |
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| X | X | X | X | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|------------------------|------------------|
| 1. COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. PRODUCT NAME | 208R ROOF CEMENT | #553 ADHESIVE |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | X |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | X | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | X | X |

Roof Cements and Adhesives, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|--------------------------------|------------------|---------------------------------------|-----------------------------|--------------------------------|--------------------|
| #239 SOLARFLEX ELASCAULK | #545 AQUATAC | #514 METALSHIELD FLASHING COMP. | #208 WET PATCH CEMENT | #552 ELASTIC ROOF SEALER | #570 POLYBITUME |
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Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|---------------------|------------------------|
| 1. COMPANY NAME | KARNAK CORPORATION | KARNAK CORPORATION |
| 2. PRODUCT NAME | #19 FLASHING CEMENT | #19 AF FLASHING CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | X | X |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| KARNAK CORPORATION | KARNAK CORPORATION | KARNAK CORPORATION | KARNAK CORPORATION | KARNAK CORPORATION | KARNAK CORPORATION |
|-------------------------------|-----------------------------------|----------------------------------|-------------------------------------|-------------------------------|--------------------------|
| #66 AF MOD BIT ADHESIVE | #78 AF COLD ADHESIVE CEMENT | #155 AMPHIBIKOTE WET / DRY | #155 AF AMPHIBIKOTE WET / DRY | #81 AF MOD BIT ADHESIVE | #170 AF TAR CEMENT |
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| YES | | | | YES | |
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Roof Cements and Adhesives, Part 2 - Technical Data

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|---|-----------------|-----------------|
| 1. COMPANY NAME | METACRYLICS | METACRYLICS |
| 2. PRODUCT NAME | BLACK PRIMER | CLEAR PRIMER |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. FM Class I as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

Roof Cements and Adhesives, Part 2 - Technical Data

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|-----|---|-----------------|--------------------------|
| 1. | COMPANY NAME | TREMCO, INC. | TREMCO, INC. |
| 2. | PRODUCT NAME | TREMFIX | SHEETING BOND - BLACK |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| | TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| | TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| | TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| | TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. | ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| | TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| | TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| | TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| | TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | | |
| 3C. | ASTM D 3747-79 <i>Standard Specification for Emulsified Asfalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| | Type I -- Above 40° F | | |
| | Type II -- Above 20° F | | |
| 3D. | ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | X |
| 3F. | Other standard (indicate standard) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION | | |
| 4A. | UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class I as part of any roof system (indicate yes or no) | YES | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | YES |
| 5. | SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

| | | | | |
|--------------------------|--------------------|---|--------------------------------------|------------------------------------|
| TREMCO, INC. | TREMCO, INC. | U.S. INTEC | U.S. INTEC | U.S. INTEC |
| SHEETING BOND - WHITE | TREMLITE MASTIC | MATRIX 101 SYSEM PRO SBS ADHESIVE | MATRIX 102 SELECT SBS ADHESIVE | MATRIX 103 COLD LAP ADHESIVE |
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| A | A | | | |
| YES | YES | | | |
| YES | YES | | | |
| YES | YES | | | |
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Roof Cements and Adhesives, Part 2 - Technical Data

| | | |
|---|-------------------------------------|--|
| 1. COMPANY NAME | U.S. INTEC | U.S. INTEC |
| 2. PRODUCT NAME | MATRIX 105 SURE GRIP ADHESIVE | MATRIX 201 SYSTEM PRO SBS CEMENT |
| 3. COMPLIES WITH: | | |
| 3A. ASTM D 2822-91 <i>Standard Specification for Asphalt Roof Cement</i> (indicate Type and Class) | | |
| TYPE I, CLASS I -- Low softening point asphalt for essentially dry surfaces | | |
| TYPE I, CLASS II -- Low softening point asphalt for damp or wet surfaces | | |
| TYPE II, CLASS I -- High softening point asphalt for essentially dry surfaces | | |
| TYPE II, CLASS II -- High softening point point asphalt for dam or wet surfaces | | |
| 3B. ASTM D 3019-94 <i>Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered, and Non-Asbestos Fibered</i> (indicate Type and, if applicable, Grade) | | |
| TYPE I, GRADE 1 -- Brush consistency lap cement made with an air-blown asphalt | | |
| TYPE I, GRADE 2 -- Brush consistency lap cement made with a vacuum-reduced or steam-refined asphalt | | |
| TYPE II -- Heavy brushing or light troweling consistency containing a quantity of short-fibered asbestos | | |
| TYPE III -- Heavy brushing or light troweling consistency containing mineral and/or other stabilizers but no asbestos | X | |
| 3C. ASTM D 3747-79 <i>Standard Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation</i> (indicate Type) | | |
| Type I -- Above 40° F | | |
| Type II -- Above 20° F | | |
| 3D. ASTM D 4022-94 <i>Standard Specification for Coal Tar Roof Cement, Asbestos Containing</i> (no response or indicate yes) | | |
| 3E. ASTM D 4586-93 <i>Standard Specification for Asphalt Roof Cement, Asbestos-Free</i> (indicate Type) | | |
| Type I -- Low softening point | | X |
| Type II -- High softening point | | |
| 3F. Other standard (indicate standard) | | |
| 4. FIRE RESISTANCE CLASSIFICATION | | |
| 4A. UL Classification per ANSI/UL 790 as a part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. UL labeling on packaging (indicate yes or no) | | |
| 4C. FM Class I as part of any roof system (indicate yes or no) | | |
| 4D. FM labeling on packaging (indicate yes or no) | | |
| 5. SEE APPENDIX IF CHECKED | | |

Roof Cements and Adhesives, Part 2 - Technical Data

[illegible]

Roof Coatings, Part 2 - Technical Data

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|-----|--|-------------------------------------|---------------------------------|
| 1. | COMPANY NAME | ALCO-NVC, INC. | ALCO-NVC, INC. |
| 2. | PRODUCT NAME | #214 AF ALUMAGARD NON-FIBERED | #215 AF ALUMAGARD FIBERED |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | X | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 11 | 9 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | A, B |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
| 2. | PRODUCT NAME | #1850 (A750) ATCOGARD 2 | #1857 (A690) ATCOSCREEN |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | X | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | NONE |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRR) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
|----------------------------|-------------------------------|----------------------------|---------------------------------|----------------------------------|-------------------------------|
| #1858 SUN SHIELD | #1859 (A650) ATCOSHIELD | #1860 SUN SHIELD 2 | #1864 (A640) ATCOSHIELD 2 | #1866 PREMIUM FIBERED ALUM | #1870 (A610) SILVR SEAL |
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| A, B | A, B | A, B | A, B | A, B | NONE |
| YES | YES | YES | YES | YES | NO |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
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| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|----------------------------|-------------------------------|
| 1. | COMPANY NAME | AMERICAN TAR COMPANY | AMERICAN TAR COMPANY |
| 2. | PRODUCT NAME | #1897 FLAMEBLOC | #1931 (A400) ATCO PRIME |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | YES |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | X | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 9 | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | NONE |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRR) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|----------------------|----------------------|
| 1. | COMPANY NAME | CERTAINTEED CORP. | CERTAINTEED CORP. |
| 2. | PRODUCT NAME | FLINT COAT W | FLINT COAT A 300 |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | 13 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B, C | A, B, C |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | PENDING | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | YES | YES |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | YES | YES |
| | Energy Star Label (indicate yes/no) | YES | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | YES |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| CERTAINT EED CORP. | CERTAINT EED CORP. | CERTAINT EED CORP. | CERTAINT EED CORP. | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY |
|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------|-------------------------------|
| FLINT COAT A 150 | FLINT COAT A NF | FLINT COAT E | FLINT PRIME | PRO PRIMER | PRO PRIMER 400 |
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| A, B, C | A, B, C | A, B, C | NA | NO | NO |
| YES | YES | YES | NA | NO | NO |
| YES | YES | YES | NA | NO | NO |
| YES | YES | YES | NA | NO | NO |
| | | | | | |
| YES | YES | YES | NA | | |
| YES | YES | YES | NA | | |
| YES | YES | YES | NA | | NO |
| YES | YES | YES | NA | | NO |
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Roof Coatings, Part 2 - Technical Data

| 1. COMPANY NAME | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY |
|--|----------------------------------|-------------------------------------|
| 2. PRODUCT NAME | PRO ASPHALT EMULSION FIBRE | PRO ASPHALT EMULSION NO FIBRE |
| 3. COMPLIES WITH: | | |
| 3A. ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| Type I -- Quick-setting | | |
| Type II -- Conventional application | | |
| 3F. ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | X | |
| Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | X |
| 3G. ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| Type I -- Non-fibered | | |
| Type II -- Fibered, containing asbestos fibers | | |
| Type III -- Fibered, containing no asbestos fibers | | |
| Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| Type I, Grade 1 -- Neoprene | | |
| Type I, Grade 2 -- Fiber-modified neoprene | | |
| Type II -- CSPE | | |
| 3J. ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| Type I -- Low softening point | | |
| Type II -- High softening point | | |
| 3K. ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | NO | NO |
| 4B. UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. REFLECTIVITY | | |
| Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| Energy Star Label (indicate yes/no) | NO | NO |
| Cool Roof Rating Council (CRRRC) (indicate yes/no) | NO | NO |
| 6. SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY | DEWITT PRODUCTS COMPANY |
|-------------------------------|--|---|--|--|-----------------------------------|
| PRO COAT FIBRE COATING | PRO ROOFLOX 300 ALUMINUM FIBRE COATING | PRO BRITE 200 ALUMINUM COAT - FIBRE | PRO SILVER SHIELD 200 ALUM COAT NO FIBRE | PRO SILVER SHEILD 300 ALUM COAT - NO FIBRE | COOL-TOP WHITE ACRYLIC COAT |
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| YES | | | | | |
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| X | X | X | | | |
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| | | | | | YES |
| NO | NO | NO | NO | NO | |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| | YES | YES | YES | YES | YES |
| | YES | YES | YES | YES | YES |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| | | | | | |

Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|----------------------------|----------------------------|
| 1. | COMPANY NAME | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
| 2. | PRODUCT NAME | ERS 301 | ERS 302 |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | YES | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | NO | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | A, B, C |
| 4B. | UL labeling on packaging (indicate yes or no) | | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | NA | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | NA | |
| | Energy Star Label (indicate yes/no) | NA | |
| | Cool Roof Rating Council (CRRR) (indicate yes/no) | NA | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|----------------------------|----------------------------|
| 1. | COMPANY NAME | ECOLOGY ROOF SYSTEMS | ECOLOGY ROOF SYSTEMS |
| 2. | PRODUCT NAME | ERS RAINCOAST | ERS WHITE TOP |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | NONE | A |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | YES |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | YES |
| | Energy Star Label (indicate yes/no) | | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | YES |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

Roof Coatings, Part 2 - Technical Data

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|-----|--|---------------------------|------------------------|
| 1. | COMPANY NAME | FIELDS COMPANY, LLC | FIELDS COMPANY, LLC |
| 2. | PRODUCT NAME | F 540, F 550 SUNSHIELD | F 670 MOBL SHIELD |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | X | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 11 | 9 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | A, B |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

Roof Coatings, Part 2 - Technical Data

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|-----|--|----------------------------|-------------------------|
| 1. | COMPANY NAME | FIELDS COMPANY, LLC. | FIELDS COMPANY, LLC. |
| 2. | PRODUCT NAME | F 640 SOLAR SHIELD 2 | F 650 SOLAR SHIELD |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | X | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 9 | 9 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | A, B |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| FIELDS COMPANY, LLC | FIELDS COMPANY, LLC. | FIELDS COMPANY, LLC. | FIELDS COMPANY, LLC. | FIELDS COMPANY, LLC. | FIELDS COMPANY, LLC. |
|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| F 600 FLAMEBLOC | M 700 RUBR GARD | F 750 POWR GARD 2 | M 800 RUBR STAR | M 400 RUBR PRIME | M 600 SILVR BLOC |
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| A, B | A, B | A, B | A, B | NONE | A, B |
| YES | YES | YES | YES | NO | YES |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|----------------------------|--|
| 1. | COMPANY NAME | FIELDS COMPANY, LLC. | GAF MATERIALS CORP. |
| 2. | PRODUCT NAME | M 630 SILVR SHIELD 3 | MATRIX 301 FIBERED ALUM ROOF COATING |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | X | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 9 | 9 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GAF MATERIALS CORP. | GARDNER / APOC |
|--|--|--|--|--|---------------------------------|
| MATRIX 302 NON FIBER ALUM ROOF PAINT | MATRIX 307 ASPHALT CONCRETE PRIMER | MATRIX 304 FIBERED ALUM ROOF COATING | MATRIX 304 NONFIBERED ALUM ROOF COAT | MATRIX 305 ASPHALT EMULSION COAT | APOC 300 ASPHALT EMULSION |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|---------------------------------|----------------------------------|
| 1. | COMPANY NAME | GARDNER / APOC | GARDNER / APOC |
| 2. | PRODUCT NAME | APOC 302 FIBERED EMULSION | APOC 252 WHITE ELASTOMERIC |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | X | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | YES |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A, B, C | A, B, C |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | NA | 0.90 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | 0.87 |
| | Energy Star Label (indicate yes/no) | | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | YES |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARDNER / APOC | GARLAND COMPANY, INC. |
|----------------------------------|-----------------------------|---------------------------------------|-------------------------------------|-------------------|-----------------------------|
| APOC 337 MODIFIED EMULSION | APOC NEOPRENE COATING | APOC NEOPRENE PITCH PAN SEALANT | APOC NEOPRENE FLASHING CEMENT | STA-KOOL #770 | VITAPLY |
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| YES | | | | YES | NO |
| | | | | NO | NO |
| | | | | NO | NO |
| | | | | | |
| NA | 0.89 | NA | NA | 0.87 | |
| | 0.89 | | | 0.88 | |
| | NO | | | YES | |
| | NO | | | YES | |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|-----------------------------|-----------------------------|
| 1. | COMPANY NAME | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. |
| 2. | PRODUCT NAME | GRAVITOP | GRIP MASTIC |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | X |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | X | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. |
|--------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|
| GARLA-SHIELD | ENERGIZER K PLUS FR | WEATHERSCREEN | WHITE KNIGHT | GARLA-PRIME | GARLA-BRITE |
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| A | A | A | NONE | NONE | A |
| NO | NO | NO | NO | NO | NO |
| YES | YES | YES | NO | NO | YES |
| YES | YES | YES | NO | NO | YES |
| | | | | | |
| | | | 0.813 | | 0.7 |
| | | | 0.95 | | |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|-----------------------------|-----------------------------|
| 1. | COMPANY NAME | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. |
| 2. | PRODUCT NAME | SILVER- SHIELD | RUST-GO |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | X | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 9 | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | YES | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.651 | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GARLAND COMPANY, INC. | GMX, INC. | GMX, INC. |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------------|---------------------------------------|
| PYRAMIC | ENERGIZER FR | MINERAL LAP COATING | BLACK KNIGHT COLD | ULTRA-SHIELD BUILT-UP MASTIC | ULTRA-SHIELD METAL RUSTPROOFING |
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| A | A | NONE | NONE | | |
| NO | NO | NO | NO | | |
| YES | YES | NO | NO | | |
| YES | YES | NO | NO | | |
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| 0.85 | | | | NA | NA |
| 0.94 | | | | NA | NA |
| YES | | | | NO | NO |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|--|-------------------------------------|
| 1. | COMPANY NAME | GMX, INC. | GMX, INC. |
| 2. | PRODUCT NAME | ULTRA-SHIELD WHITE ROOF COATING FR | ULTRA-SHIELD FIBERED ALUMINUM |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | 9 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | X | |
| 4D. | FM labeling on packaging (indicate yes or no) | X | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.86 | 0.588 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.95 | |
| | Energy Star Label (indicate yes/no) | YES | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| GMX, INC. | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|---|---------------------------------|---------------------------------------|--------------------------------|-----------------------------|------------------------------|
| ULTRA-SHIELD NON FIBERED ALUMINUM | HENRY #104 ASPHALT PRIMER | HENRY #201 FIBERED ROOF COATING | HENRY #100 ELASTOMULSION | #107 ASPHALT EMULSION | #229 ALUMINUM EMULSION |
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| 0.715 | | | | | 59 |
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| NO | | | | | No |
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| | X | X | X | X | X |

Roof Coatings, Part 2 - Technical Data

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|-----|--|-------------------------------------|---|
| 1. | COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. | PRODUCT NAME | #307 FIBERED ASPHALT EMULSION | #120 PREMIUM ALUMINUM ROOFING COATING |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | X | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | X |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | >11 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | X | X |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 59 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | 49 |
| | Energy Star Label (indicate yes/no) | | No |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | Yes |
| 6. | SEE APPENDIX IF CHECKED | X | X |

Roof Coatings, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|---|---------------------------------|---|------------------------------|-------------------------------------|--|
| #220 PREMIUM ALUMINUM FIBERED COATING | #521 3# FIBRATED ALUMINUM | #869 ELASTOMERIC ALUMINUM ROOFING COATING | #280 WHITE ELASTOMERIC | PRO GRADE #113 ASPHALT PRIMER | PRO GRADE #41 FIBERED ROOF COATING |
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| X | X | | X | | |
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| 57 | | 69 | 84 | | |
| 49 | | 40 | 89 | | |
| No | No | Yes | Yes | | |
| Yes | No | Yes | Yes | | |
| X | X | X | X | X | X |

Roof Coatings, Part 2 - Technical Data

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|-----|--|---|---|
| 1. | COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. | PRODUCT NAME | PRO GRADE #441 A/F FIBERED ROOF COATING | PRO GRADE #160 UNFIBERED ASPHALT EMULSION |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | X |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | X | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | X | X |

Roof Coatings, Part 2 - Technical Data

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Roof Coatings, Part 2 - Technical Data

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|-----|--|---|--|
| 1. | COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. | PRODUCT NAME | #291 PREMIUM ELASTOMERIC BASE COATING | #299 PREMIUM WHITE ELASTOMERIC CTG |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | 87 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | 88 |
| | Energy Star Label (indicate yes/no) | | No |
| | Cool Roof Rating Council (CRRRC) (indicate yes/no) | | Yes |
| 6. | SEE APPENDIX IF CHECKED | X | X |

Roof Coatings, Part 2 - Technical Data

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Roof Coatings, Part 2 - Technical Data

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| 1. | COMPANY NAME | HENRY COMPANY | HENRY COMPANY |
| 2. | PRODUCT NAME | PRO GRADE #550 WHITE ROOF COATING | #825 RUBBERKOTE PRIMER |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 75 | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 88 | |
| | Energy Star Label (indicate yes/no) | Yes | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | Yes | |
| 6. | SEE APPENDIX IF CHECKED | X | X |

Roof Coatings, Part 2 - Technical Data

| HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY | HENRY COMPANY |
|----------------------------------|------------------------------------|---------------------------|---------------------|------------------------------|--|
| #517/518 METAL ROOF SYSTEM | #826/827 BASE COAT/ TOP COAT | #103 LOW VOC PRIMER | #112 METALSHIELD | #295 METAL SEAM SEALER | #275/276 ACRYLIC METAL ROOFING COATING |
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| 88 | 88 | | | | 89 |
| No | Yes | | | | Yes |
| Yes | Yes | | | | Yes |
| X | X | X | X | X | X |

Roof Coatings, Part 2 - Technical Data

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|-----|--|---------------------|--------------------------------|
| 1. | COMPANY NAME | KARNAK CORPORATION | KARNAK CORPORATION |
| 2. | PRODUCT NAME | #71 AF ROOF COATING | #297 AF AQUA-LUM EMUL ALUMINUM |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | X | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | PENDING |
| 4B. | UL labeling on packaging (indicate yes or no) | | |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.06 | 0.57 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.86 | 0.44 |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

[illegible]

Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|------------------------------------|--------------------------------------|
| 1. | COMPANY NAME | KARNAK CORPORATION | KARNAK CORPORATION |
| 2. | PRODUCT NAME | #169 AF NON FIBERED ALUMINUM | #220 AF FIBERED BRUSH EMULSION |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | X |
| | Type II -- Conventional application | | X |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | X |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | X | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 11 | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | YES | |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.64 | 0.06 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.40 | 0.86 |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| KARNAK CORPORATION | KOKEM PRODUCTS, INC | METACRYLICS | METACRYLICS | METACRYLICS | METACRYLICS |
|------------------------------|---------------------------|-----------------|-----------------|-----------------|------------------|
| #108 AF ASPHALT PRIMER | SUNGUARD | BLACK PRIMER | CLEAR PRIMER | ACRYLIC BASE | ACRYLIC WHITE |
| | NO | YES | YES | YES | YES |
| | | YES | YES | YES | YES |
| YES | | YES | YES | YES | YES |
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| | | YES | YES | YES | YES |
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| | YES | YES | YES | YES | YES |
| | A | A | A | A | A |
| | YES | YES | YES | YES | YES |
| | | NO | NO | NO | NO |
| | | NO | NO | NO | NO |
| | | | | | |
| | | NO | NO | NO | 0.87 |
| | 0.90 MIN. | NO | NO | NO | 0.9 |
| | YES | NO | NO | NO | YES |
| | | NO | NO | NO | YES |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|-------------|----------------|
| 1. | COMPANY NAME | METACRYLICS | METACRYLICS |
| 2. | PRODUCT NAME | ACRYLIC GEL | ACRYLIC COLORS |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | YES | YES |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | YES | YES |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | YES | YES |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | YES | YES |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | YES | YES |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | ACRYLIC |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.87 | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.90 | |
| | Energy Star Label (indicate yes/no) | YES | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| METALACRYLICS | METALACRYLICS | NEOGARD | NEOGARD | REPUBLIC POWDERED METALS | REPUBLIC POWDERED METALS |
|-----------------|------------------------------|------------------------------------|---------------------------------------|--------------------------------|--------------------------------|
| 70611 SERIES | 7261 QUICK-SET ACRYLIC | PERMA-GARD FR 7419 BASE COAT | URETHANE R 7441 SERIES TOP COAT | ALUMANATION 301 | SOLARGARD ULTRA |
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| A | A | A | A | A | A |
| YES | YES | YES | YES | YES | YES |
| YES | NO | YES | YES | NO | YES |
| NO | NO | NO | NO | NO | YES |
| | | | | | |
| | | NA | | 0.68 | 0.83 |
| | | NA | | 0.39 | 0.83 |
| YES | YES | NA | YES | YES | YES |
| NO | NO | NA | NO | YES | YES |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|--------------------------------|--------------------------------|
| 1. | COMPANY NAME | REPUBLIC POWDERED METALS | REPUBLIC POWDERED METALS |
| 2. | PRODUCT NAME | SOLARGARD HYBUILD | SOLARGARD |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.78 | 0.83 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.83 | 0.83 |
| | Energy Star Label (indicate yes/no) | YES | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | YES |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| REPUBLIC POWDERED METALS | REPUBLIC POWDERED METALS | SOMAY PRODUCTS, INC. | SOMAY PRODUCTS, INC. | SOMAY PRODUCTS, INC. | SOUTHWESTERN PETROLEUM CORP. |
|--------------------------------|--------------------------------|---|-------------------------------|---------------------------------|------------------------------------|
| GEOGARD | PERMAFLEX | #842 ELASTOMERIC ROOF MASTIC WATERPROOFER | #992 PATCH & SEAL CAULK | #7751 PRIME & SEAL PRIMER | HEAVY DUTY PRIMER |
| | | YES | YES | YES | |
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| | | YES | YES | YES | |
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| A | A | NONE | NONE | NONE | NONE |
| YES | YES | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
| | | | | | |
| 0.83 | NA | YES | YES | | |
| 0.84 | NA | YES | YES | | |
| YES | NA | NO | NO | NO | |
| YES | NA | NO | NO | NO | |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|------------------------------------|---------------------------------------|
| 1. | COMPANY NAME | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. |
| 2. | PRODUCT NAME | FLEX SHIELD PRIMER | GUARDIAN GENERAL PURPOSE PRIMER |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|
| GUARDIAN EPDM CLEANER/PRIMER | HEAVY DUTY ROOF COATING | FLEX SHIELD ROOF COATING | FLEX SHIELD EM ROOF COATING | GUARDIAN SEAMLESS ROOF COATING | ALUMINUM ROOF COATING |
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| NO | NO | NO | NO | NO | NO |
| NO | NO | NO | NO | NO | NO |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|------------------------------------|-------------------------------------|
| 1. | COMPANY NAME | SOUTHWESTERN PETROLEUM CORP. | SOUTHWESTERN PETROLEUM CORP. |
| 2. | PRODUCT NAME | ALUMINUM ROOF SHIELD | H.D. GRAVEL ROOF PRESERVATIVE |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | X | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | 11 | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | X |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | NONE | NONE |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | NO | NO |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | NO | NO |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF |
|----------------------------------|----------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|
| TOPCOAT SOLO | TOPCOAT CRT | TOPCOAT MB PLUS | LIQUID FABRIC FLASHING GRADE | TOPCOAT XR-2000 | FLASHING GRADE SPRAY FORMULA |
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| YES | YES | YES | YES | YES | YES |
| YES | YES | YES | YES | YES | YES |
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Roof Coatings, Part 2 - Technical Data

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|-----|--|----------------------------------|----------------------------------|
| 1. | COMPANY NAME | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF |
| 2. | PRODUCT NAME | ONESTEP | FASTENER GRADE |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TOPCOAT DIVISION OF OF GAF | TREMCO INC. | TREMCO INC. | TREMCO INC. |
|----------------------------------|----------------------------------|----------------------------------|-----------------|-------------------------------|-----------------|
| SURFACE SEAL SB | WALLCOATE SYSTEM | TOPCOAT MEMBRANE | TREMPRIME WB | DOUBLE DUTY ALUMINUM LV | TREMLASTIC S |
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| | | YES | | | |
| A | A | A | A | A | A |
| YES | YES | YES | YES | YES | YES |
| | | | YES | YES | YES |
| YES | YES | YES | YES | YES | YES |
| | | | | | |
| | | 0.86 | NA | 0.65 | NA |
| | | | NA | 0.57 | NA |
| | | | NA | YES | NA |
| | | | NA | YES | NA |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|---------------------------------|-----------------------|
| 1. | COMPANY NAME | TREMCO INC. | TREMCO INC. |
| 2. | PRODUCT NAME | HIGH BUILD REFLECTIVE ROOF COAT | TREMPRIME QD LOW ODOR |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | YES |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | YES | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.83 | NA |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.83 | NA |
| | Energy Star Label (indicate yes/no) | YES | NA |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | NA |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. | TREMCO INC. |
|--------------------------|-------------|-------------|---------------|---------------|------------------|
| TREMLITE METAL PRIMER WB | TREMLASTIC | ECOLASTIC | TREMLAR LRM-H | TREMLAR LRM-V | TREMLITE COATING |
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| NONE | A | A | A | A | A |
| NO | YES | YES | YES | YES | YES |
| NO | YES | YES | NO | NO | NO |
| NO | YES | YES | NO | NO | NO |
| | | | | | |
| NA | NA | NA | NA | NA | 0.82 |
| NA | NA | NA | NA | NA | 0.87 |
| NA | NA | NA | NA | NA | YES |
| NA | NA | NA | NA | NA | YES |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|--------------|-------------------|
| 1. | COMPANY NAME | TREMCO INC. | TREMCO INC. |
| 2. | PRODUCT NAME | POLARCOTE FR | ONE COAT ALUMINUM |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | X |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | 15 |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | YES | YES |
| 4D. | FM labeling on packaging (indicate yes or no) | YES | YES |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | 0.83 | 0.66 |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | 0.84 | 0.39 |
| | Energy Star Label (indicate yes/no) | YES | YES |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | YES | YES |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| UNITED COATINGS | UNITED COATINGS | UNITED COATINGS | U.S. INTEC | U.S. INTEC | W.P. HICKMAN SYSTEMS, INC |
|--------------------|--------------------|--------------------|--|--|------------------------------|
| ROOF MATE | ROOF SHIELD | BERM 600 | MATRIX 301 SYS PRO FIBERED ALUM RF CTG | MATRIX 302 SYS PRO NONFIBR ALUM RF CTG | MULTI-PLY ADHESIVE |
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| YES | | | | | |
| A | A | A | A | | A |
| YES | YES | YES | | | YES |
| YES | | | | | YES |
| YES | | | | | YES |
| 84.9 | 81 | | | | |
| 0.89 | 0.89 | | | | |
| YES | NO | NO | | | |
| YES | YES | NO | | | |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | W.P. HICKMAN SYSTEMS, INC. | W.P. HICKMAN SYSTEMS, INC. |
| 2. | PRODUCT NAME | HK RECOAT | ELASTOSHIELD |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | X | X |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | A | A |
| 4B. | UL labeling on packaging (indicate yes or no) | YES | YES |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | | |
| 4D. | FM labeling on packaging (indicate yes or no) | | |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRR) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Roof Coatings, Part 2 - Technical Data

| 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. |
|-------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| WHITE ROOF COATING | HK ALUMINUM SHIELD FIBRATED | HK ALUMINUM SHIELD | WEATHERIZER KV | TARSHIELD | TARSHIELD WB |
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| YES | YES | YES | YES | YES | YES |
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Roof Coatings, Part 2 - Technical Data

| | | | |
|-----|--|-------------------------------|-------------------------------|
| 1. | COMPANY NAME | W.P. HICKMAN SYSTEMS, INC. | W.P. HICKMAN SYSTEMS, INC. |
| 2. | PRODUCT NAME | HK ARM | HK RAPID DRY PRIMER SP |
| 3. | COMPLIES WITH: | | |
| 3A. | ASTM C 836-95 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Surface</i> (no response or indicate yes) | | |
| 3B. | ASTM C 957-93 <i>Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface</i> (no response or indicate yes) | | |
| 3C. | ASTM D 41-94 <i>Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | YES |
| 3D. | ASTM D 43-94 <i>Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing</i> (no response or indicate yes) | | |
| 3E. | ASTM D 1187-97 <i>Standard Specification for Asphalt-Based Emulsions for Use as Protective Coatings for Metal</i> (indicate Type) | | |
| | Type I -- Quick-setting | | |
| | Type II -- Conventional application | | |
| 3F. | ASTM D 1227-95 <i>Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing</i> (indicate Type and Class) | | |
| | Type I, Class I -- Mineral colloid emulsifying agents and containing asbestos fibers | | |
| | Type I, Class 2 -- Chemical emulsifying agents and fillers or fibers containing asbestos | | |
| | Type II, Class 1 -- Mineral colloid emulsifying agents and containing fillers other than asbestos | | |
| | Type II, Class 2 -- Chemical emulsifying agents and containing fillers or fibers other than asbestos | | |
| | Type III, Class 1 -- Mineral colloid emulsifying agents without fibrous reinforcement | | |
| | Type III, Class 2 -- Chemical emulsifying agents without fibrous reinforcement | | |
| 3G. | ASTM D 2923-99 <i>Standard Specification for Asphalt Roof Coatings</i> (indicate yes or no) | | |
| 3H. | ASTM D 2824-94 <i>Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Non-Fibered, Asbestos Fibered, and Fibered without Asbestos</i> (indicate Type and metallic aluminum content) | | |
| | Type I -- Non-fibered | | |
| | Type II -- Fibered, containing asbestos fibers | | |
| | Type III -- Fibered, containing no asbestos fibers | | |
| | Aluminum content, ASTM D 2824, minimum, % Type I: 11; Types II or III: 9 | | |
| 3I. | ASTM D 3468-99 <i>Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing</i> (indicate Type and, if applicable, Grade) | | |
| | Type I, Grade 1 -- Neoprene | | |
| | Type I, Grade 2 -- Fiber-modified neoprene | | |
| | Type II -- CSPE | | |
| 3J. | ASTM D 4479-93 <i>Standard Specification for Asphalt Roof Coatings -- Asbestos Free</i> (indicate Type) | | |
| | Type I -- Low softening point | | |
| | Type II -- High softening point | | |
| 3K. | ASTM D 6083-97 <i>Standard Specification for Liquid Applied Acrylic Coating Used in Roofing</i> (no response or indicate yes) | | |
| 4. | FIRE RESISTANCE CLASSIFICATION: | | |
| 4A. | UL Classification per ANSI/UL 790 as part of any roof system (indicate Class A, B or C, or none) | | |
| 4B. | UL labeling on packaging (indicate yes or no) | NO | NO |
| 4C. | FM Class 1 as part of any roof system (indicate yes or no) | NO | NO |
| 4D. | FM labeling on packaging (indicate yes or no) | NO | NO |
| 5. | REFLECTIVITY | | |
| | Reflectivity ASTM E 1918 or E 903 or C 1549 (indicate value) | | |
| | Emissivity ASTM E 1371 or E 408 (indicate value) | | |
| | Energy Star Label (indicate yes/no) | | |
| | Cool Roof Rating Council (CRRC) (indicate yes/no) | | |
| 6. | SEE APPENDIX IF CHECKED | | |

Manufacturers Appendix: Roof Cements, Adhesives and Coatings

HENRY COMPANY

For all cements, coatings and adhesives sales information, contact Gerry Chavez at 800/523-0268 or for technical information, contact Skip Leonard at 800/486-1278. Henry's web site www.henry.com can also be used to obtain technical or sales information. Consult Henry Company for latest UL and FM listing.

UL classifications are the highest for the product or system. Other classifications may be available depending on the substrate and system components.

#111 Insulboard Roof Insulation Adhesive is a solvent-free rubberized asphalt emulsion formulated for laminating solvent-sensitive polystyrene foam boards, many other insulations and substrates. Refer to current data sheet for acceptable materials and approved application methods.

RubberKote™ is a coating for EPDM and CSPE membranes to enhance reflectivity and membrane longevity.

The following products have Energy Star approval: Henry #280 White Elastomeric, Henry #869 Elastomeric Aluminum Roof Coating, Henry #275/276 Metalshield™ Metal Roof Coating, Henry RubberKote™, and Henry ProGrade #550 Elastomeric White Roof Coating.

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ROOF MEMBRANE WARRANTIES

National Roofing Contractors Association

LOW-SLOPE Roofing Materials Guide 2004-05



Information about Section 5: Roof Membrane Warranties

General Information

Section 5: Roof Membrane Warranties in the 2004-05 edition of NRCA's *Low-Slope Roofing Materials Guide* provides information about warranties offered by material manufacturers applicable to their built-up, modified bitumen, and single-ply membrane products listed. The information is derived from two sources: an examination of the warranty or guarantee document itself and the manufacturers' 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.

| <u>No.</u> | <u>Item of Information</u> |
|------------|---|
| 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 manufacturers in response to a questionnaire accompanying the warranty document.

| <u>No.</u> | <u>Item of Information</u> |
|------------|---|
| 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 |
| 18 | Preconstruction notice and approval requirement |

| | |
|----|--|
| 19 | Approved, authorized or licensed contractor |
| 20 | Job inspection policy |
| 21 | Contractor's post-installation obligation |
| 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 roof 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 a manufacturer does not provide the relevant data. Brackets ([]) are used in the listing to indicate information that a manufacturer feels is pertinent but 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 name will appear in the warranty section. Or if one company purchases the assets of another, upon request NRCA simply moves the name of the company that acquired it. In the warranty section, on the other hand, this is not 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 to clarify an apparent discrepancy in its corporate name.

By necessity, the warranty listing in the guide presents rather succinctly a great deal of information contained in the manufacturers' warranties, as well as the policies surrounding them. For this reason, readers 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 firm of Hendrick, Phillips, Schemm & Salzman, Atlanta, Ga., in coordination with NRCA staff prepare the warranty section of the *Low-Slope Roofing Materials Guide*.

Understanding the Warranty Listing

Following are descriptions of the kind of data that are 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 cases, 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 manufacturers' 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 a 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 roof systems that are covered by the warranty. If properly updated by the manufacturer, readers should be able to identify these product listings in the membrane section.

4. Scope of coverage: In most cases, 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 proper 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 on 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 system installation final inspection and approval by the manufacturer. In a few instances, particularly in cases of material-only warranties, the coverage period may begin at the time of sale or invoice date.

6. Nature of remedy: This states what action the manufacturer will take in the event that there is a problem with the roof system 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 a 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 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 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 merchandise if the seller is a merchant of goods of that kind. To be merchantable, goods must be fit at least for the ordinary purpose 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 a 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 readers 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 the 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 Exclusion 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 system is applied
8. Change in usage of building without prior written approval of manufacturer
9. Traffic or storage of materials on the roof
10. Moisture entering roof system through walls, copings or any part of the building structure, including adjacent building
11. Damage resulting from lack of positive, proper or adequate drainage; ponding on the roof
12. Negligence or failure of owner to use reasonable care in maintenance of the roof system 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 of 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 roof deck
18. Contaminants that may 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 unauthorized 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. 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 warranty 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 the warranty coverage.

The second sentence under the 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 responses 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.

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 follows. 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.

14. 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 the 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 warrant 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 an 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 materials, for the warranty. When there is a separate charge, it will generally be stated on a per-square (100 square feet) basis.

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. Preconstruction 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 preconstruction notice and approval requirements, where applicable, generally pertain to the procedure to be employed by the roofing contractor before 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 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 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 This category briefly covers 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 a reference to any 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 name 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 was unable to satisfy its warranty commitments.

NRCA also asks manufacturers if they carry insurance covering their warranty 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 manufactures and/or sells products: In this category it 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 it 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: Similar to 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 provisions 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, relatively unique or unusual features, conditions or limitations are approved. 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 it 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 the owner 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.

Index to Listed Roof Membrane Warranties

| | | | |
|--|-----|---|-----|
| BARRETT COMPANY 33 Stonehouse Road Millington NJ 07946 908/647-0100 FAX: 908/647-0278 E-mail: infor@barrett.com Web: barrettroofs.com | 668 | FIRESTONE BUILDING PRODUCTS CO. 525 Congressional Blvd. Carmel, IN 46032 800/428-4442 FAX: 317/575-7100 E-mail: firestonebpco.com Web: www.firestonebp.com | 724 |
| BITEC INC. #2 Industrial Park Drive Morriton, AR 72110 800/535-8597 FAX: 501/354-3019 E-mail: Web: www.bi-tec.com | 678 | FLEX MEMBRANE INTERNATIONAL Bethlehem Drive Morgantown, PA 19543 610/286-7788 FAX: 610/286-7786 E-mail: flexroof@compuserv.com Web: www.flexmembranes.com | 746 |
| BONDNOTE ROOFING SYSTEMS 4090 Pepperell Way Dublin VA 24084 800/368-2160 FAX: 540/674-6511 E-mail: bcrtech@bondnote.com Web: www.bondnote.com | 687 | GAF MATERIALS CORP. 1361 Alps Road Wayne, NJ 07470 973/628-3000 FAX: 973/628-3451 E-mail: Web: www.gaf.com | 750 |
| CARLISLE SYNTec INC. P.O. Box 7000 Carlisle, PA 17013 717/245-7000 FAX: 717/245-7245 E-mail: Web: carlisle-syntec.com | 686 | GENFLEX ROOFING SYSTEMS Omnova Solutions 1722 Indian Wood Circle, Suite A Maumee, OH 419/891-4470 FAX: 419/891-4436 E-mail: mike.fenner@omnova.com | 824 |
| CONKLIN CO. P.O. Box 155 Shakopee, MN 55379-0155 800/888-8838 FAX: 952/496-4285 E-mail: marketing@conklin.com Web: www.conklin.co | 696 | HENRY COMPANY 2911 Slauson Avenue Huntington Park, CA 90255 323/583-5000 FAX: 323/582-6429 E-mail: Web: www.henry.com | 766 |
| DIBITEN P.O. Box 5108 Denver, CO 80217-5108 800/342-4836 FAX: 303/978-3904 E-mail: Web: | 702 | INTERNATIONAL DIAMOND SYSTEMS P.O. Box 351950 Toledo, OH 43635 419/382-0111 FAX: 419/382-3275 E-mail: internationaldiamond@att.net Web: | 782 |
| DURO-LAST INC. 525 Morley Drive Saginaw, MI 48601 800/248-0280 FAX: 800/432-9331 E-mail: disagmi@concentric.com Web: www.duro-last.com | 712 | JOHNS MANVILLE INTERNATIONAL Roofing Systems Group P.O. Box 5108 Denver, CO 80217 303/978-2000 FAX: 303/978-3904 Web: www.jm.com | 786 |
| ERSYSTEMS Elastomeric Roofing Systems, Inc. 50 Medina Street Loretto, MN 55357-0056 612/479-6690 FAX: 612/479-6691 E-mail: ersinfo@ersystems.com Web: www.ersystems.com | 718 | JPS ELASTOMERICS 9 Sullivan Road Holyoke, MA 01040-2800 800/621-ROOF FAX: 413/552-1198 E-mail: info@stvroof.com Web: | 804 |

Index to Listed Roof Membrane Warranties

| | | | |
|---|-----|---|-----|
| KOPPERS INC. 436 Seventh Avenue Pittsburgh, PA 15219 800/648-9629 FAX: 412/227-2002 E-mail: info@koppers.com Web: www.koppers.com | 812 | SEAMAN CORPORATION FiberTite Roofing Systems by Seaman 1000 Venture Blvd. Wooster, OH 44691 800/927-8578 FAX: 800/649-2737 Web: www.fibertite.com | 850 |
| MULE HIDE PRODUCTS CO., INC. 2924 Wyetta Drive Beloit, WI 53511 608/365-3111 FAX: 608/365-7852 E-mail: Web: | 818 | SIPLAST/ICOPAL 1000 E. Rochelle Blvd. Irving, TX 75063 800/922-8800 FAX: 469/995-2205 E-mail: Web: www.siplast.com | 860 |
| OMNOVA SOLUTIONS, INC. GenFlex Roofing Systems 1722 Indian Wood Circle, Suite A Maumee, OH 43537 419/891-4470 FAX: 419/891-4436 E-mail: mike.fenner@onmova.com | 824 | SOPREMA, INC. 310 Quadral Drive Wadsworth, OH 44281 330/334-0066 or 800/356-3521 FAX: 330/334-4289 E-mail: Web: | 866 |
| PERFORMANCE ROOF SYSTEMS, INC. 4821 Chelsea Avenue Kansas City, MO 64130 800/727-9872 FAX: 816/921-5540 E-mail: ken@derbigumus.com Web: | 830 | SOUTHWESTERN PETROLEUM CORP. 534 North Main Street, P.O. Box 961005 Ft. Worth, TX 76161-0005 817/332-2336 or 800/877-9372 FAX: 817/877-4047 E-mail: swepcousa.com Web: | 868 |
| REPUBLIC POWDERED METALS 2628 Pearl Road Medina OH 44256 800/551-7081 FAX: 800/382-1218 E-mail: Web: www.rpmrepublic.com | 838 | TREMCO INC. 3735 Green Road Beachwood, OH 44122-8069 216/292-5000 FAX: 216/292-5629 Web: www.tremcoroofing.com | 870 |
| ROOFING PRODUCTS INTERNATIONAL 57460 Dewitt Street Elkhart, IN 46517 800/628-2957 or 574/293-9096 FAX: 574/294-3450 E-mail: Web: www.roofingproductsint. Com | 842 | U.S. INTEC INC. 1361 Alps Road Wayne, NJ 07470 800/624-6832 FAX: E-mail: Web: | 878 |
| SARNAFIL INC. 100 Dan Road Canton, MA 02021 800/451-2504 FAX: 781/828-5365 E-mail: webmaster@sarnafil.com Web: sarnafilus.com | 846 | W.P. HICKMAN SYSTEMS INC. 30700 Solon Industrial Parkway Solon, OH 44139 440/248-7780 FAX: 440/248-6524 E-mail: wphickman@wphickman.com Web: www.wphickman.com | 894 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|--|---|
| 1. Identity of issuing entity | The Barrett Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Barrett Company Ram-Tough Elastomeric Built Up Roof Five Year Material Limited Warranty; 1986; DT 1249 |
| 3. Product, specification, or system covered | 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 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 years |
| 6. Nature of remedy | 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 | 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 | None |
| 9. Exclusive or additional remedy | 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 |
| 11. Determination of warranty applicability | Barrett shall have sole and exclusive right of determination of warranty applicability. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 19 |
| 13. Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | I, O (See Special Features/Conditions.) |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Unusual or unique applications may require specification modifications or other special considerations. |
| 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. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | 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 | Although this is a material only warranty, contractor is obligated to make repairs to all workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Barrett manufactures some, but not all, components and sells the products as a complete system. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | No restrictions stated |
| 26. Special features/conditions | 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 | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|---|
| 1. Identity of issuing entity | The Barrett Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Barrett Protected Membrane Roof Limited Warranty; 1984; 1984 |
| 3. Product, specification, or system covered | 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 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 | 10 and 20 years. |
| 6. Nature of remedy | 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 the Barrett Ram-Tough Roof Membrane. |
| 8. Notification requirements | Written notification within 30 days of any failure covered by the warranty. |
| 9. Exclusive or additional remedy | Excludes UCC warranties |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 6, 7, 8, 12, 16 |
| 13. Wind coverage/exclusion | 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 conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, R |
| 15. Cost to obtain | \$5.00/square |
| 16. Minimum charge | \$500 |
| 17. Ineligible structure or building use | Unusual installations are subject to technical review and approval. |
| 18. Pre-construction notice and approval requirements | Contractor must submit request form with pertinent information prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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. |
| 22. Backed by name insurance or surety | Surety not named on warranty; Barrett indicates it has insurance coverage of \$1 million per occurrence. |

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| 23. | Issuing entity manufacturers and/or sells products | Barrett manufactures and sells some products and only sells some products. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | Not assignable |
| 26. | Special features/conditions | Yes |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | 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. |
| 3. Product, specification, or system covered | KLB-100-1PG; KLB-100-2F; KLB-100-2MB; KLB-100-2PG; KLB-100-3FK-312-2F; KLB-100-3PG; KLB-100-4FK-312-3F; KLB-100-4PG; KLB-100-2MK-312-4F; KLB-100-2P; KLB-100-3MK-312-2P; KLB-100-3PKLB-100-4MK-312-3P; KLB-100-4PKLB-100-1MBK-312-4P |
| 4. Scope of coverage | Material and workmanship; Barrett warrants that the Barrett Ram-Tough Membrane Components will remain in a watertight condition. |
| 5. Length of coverage | 5, 8, 10, 12, 15, 20, or 25 years, depending on specification used. |
| 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. |
| 7. Monetary limitations | Barrett's repair obligations over the life of the warranty are limited to the owner's original cost of product. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Barrett shall have the sole and exclusive right of good faith determination of warranty applicability. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 8, 12, 16, 18 |
| 13. Wind coverage/exclusion | Warranty excludes high winds, gales, hurricanes, and tornadoes. (Barrett indicates that coverage of wind speeds is up to 72 miles per hour.) |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, I, R |
| 15. Cost to obtain | \$5.00/square |
| 16. Minimum charge | \$500 |
| 17. Ineligible structure or building use | Unusual or unique applications may require specification modifications or other special considerations. |
| 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. |
| 19. Approved, authorized or licensed requirements | 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. |

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| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance. |
| 23. | Issuing entity manufacturers and/or sells products | Barrett manufactures some, but not all, components and sells the products as a complete system. |
| 24. | Conditions for renewal or extension | No renewable provision |
| 25. | Assignability | 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. |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | The Barrett Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Barrett Company Ram-Tough Elastomeric Built-Up Roof Material Components Ten Year Limited Warranty; 1986; DT 1248. |
| 3. Product, specification, or system covered | 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. |
| 4. Scope of coverage | 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 | 10 years. |
| 6. Nature of remedy | 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. |
| 7. Monetary limitations | 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. |
| 8. Notification requirements | None |
| 9. Exclusive or additional remedy | 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 |
| 11. Determination of warranty applicability | Barrett shall have sole and exclusive right of determination of warranty applicability. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 19 |
| 13. Wind coverage/exclusion | Warranty covers roof damage caused by wind speeds up to 72 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | I, O (See Special Features/Conditions.) |
| 15. Cost to obtain | \$2.00/square |
| 16. Minimum charge | \$250 |
| 17. Ineligible structure or building use | Unusual or unique applications may require specification modifications or other special considerations. |
| 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. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | 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 | Although this is a material only warranty, contractor is obligated to make repairs to all workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Barrett indicates it carries \$1-million-per-occurrence products liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Barrett manufactures some, but not all, components and sells the products as a complete system. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | No restrictions stated. |
| 26. Special features/conditions | 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | The Barrett Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Barrett Company Ram-Tough Platinum System Warranty; 1986; DT 1246. |
| 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. |
| 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. |
| 5. Length of coverage | 10, 15, 20, or 25 years, depending upon specification used, |
| 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. |
| 7. Monetary limitations | Barrett's repair obligations over the life of this warranty are limited to the owner's original cost of the product. |
| 8. Notification requirements | Written notification within 30 days following any failure of the product 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Barrett shall have the sole and exclusive right of good faith determination of warranty applicability. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 8, 12, 16, 18 |
| 13. Wind coverage/exclusion | Warranty excludes gales, windstorms with gust wind speeds in excess of 70 mph, hurricanes, and tornadoes. (Barrett indicates that 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 (item 14 in Introduction) | B, C, H, I, R |
| 15. Cost to obtain | \$10.00/square |
| 16. Minimum charge | \$500 |
| 17. Ineligible structure or building use | Unusual or unique applications may require specification modifications or other special considerations. |
| 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. |
| 19. Approved, authorized or licensed requirements | 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. |

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| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to all workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Barrett indicates that it carries \$1-million-per-occurrence products liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Barrett manufactures some, but not all, components and sells the products as a complete system. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Bitec, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Limited Ten-Year Material Warranty; June 1986; (F-203-1/89). |
| 3. Product, specification, or system covered | All Bitec modified bitumen membranes. |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 10 years. |
| 6. Nature of remedy | 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. |
| 7. Monetary limitations | 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% in years 1 and 2 to 10 percent in year 10. |
| 8. Notification requirements | 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.) |
| 9. Exclusive or additional remedy | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 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), 15, 16, 23. Warranty also specifically excludes damage caused by food. |
| 13. Wind coverage/exclusion | No coverage for damage caused by wind |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | I, L |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Roofs installed over cold storage or freezer compartments. |
| 18. Pre-construction notice and approval requirements | None required |
| 19. Approved, authorized or licensed requirements | No |

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| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None |
| 22. | Backed by name insurance or surety | No; Bitec indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Bitec, Inc. manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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. |
| 26. | Special features/conditions | For warranty to be validated, registration form must be completed and mailed to Bitec's offices, P.O. Box 497, Morrilton, AR 72110, within 30 days after job completion. |
| 27. | Executed by owner | Owner signs Bitec registration form. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Bitec, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Limited Insured Roofing Warranty; June 1987. |
| 3. Product, specification, or system covered | All Bitec modified bitumen membranes. |
| 4. Scope of coverage | 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 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, SPM3H.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 | 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 | Bitec's obligations limited to the amount of the original cost of labor and material for installation of the defective membrane. |
| 8. Notification requirements | 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 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 damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | No coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C |
| 15. Cost to obtain | 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 | 10 years: \$300; 15 years: \$400; 20 years: \$500 |
| 17. Ineligible structure or building use | Cold storage, freezer compartments, residences, apartment buildings, and condominiums. |

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| 18. | Pre-construction notice and approval requirements | Contractor required to give notice and obtain approval at least 14 days before project is started. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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 workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Bitec indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Bitec, Inc. manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Not assignable |
| 26. | Special features/conditions | 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Bitec, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Mineral Design Limited Warranty"; January 1997; Form MDW - 12/96. |
| 3. Product, specification, or system covered | Mineral Design MDA or MD5. |
| 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. |
| 5. Length of coverage | 25 years |
| 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. |
| 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. |
| 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) |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Bitec's determination |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | I, L |
| 15. Cost to obtain | None |
| 16. Minimum charge | |
| 17. Ineligible structure or building use | Roof installed over cold storage or freezer compartments |
| 18. Pre-construction notice and approval requirements | None required |
| 19. Approved, authorized or licensed requirements | No |
| 20. Job inspection policy | No on-site inspections |

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| 21. Contractor's post-installation obligation | None; material-only warranty |
| 22. Backed by name insurance or surety | No; Bitec indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Bitec manufactures and sells the product |
| 24. Conditions for renewal or extension | No renewal provision |
| 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. |
| 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> |
| 27. Executed by owner | Warranty registration card must be completed and sent to Bitec within 10 days of membrane installation |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Bondcote Corp. |
| 2. Title, original publication date, and identifying symbol, if any | "BondCote Roofing Systems Standard Warranty", May, 2003; "BondCote Roofing Systems Premium Warranty", May, 2003 |
| 3. Product, specification, or system covered | BondCote Single Ply Roofing Systems. |
| 4. Scope of coverage | Material and workmanship; BondCote Roofing Systems will repair leaks caused by defects in the BondCote membrane materials or accessories installed by an authorized BondCote installer. |
| 5. Length of coverage | 10 years; 15 years using certain insulation; 20 years using specific materials. |
| 6. Nature of remedy | BondCote Roofing Systems will provide owner with repair to correct any leaks caused by defects in the BondCote membrane, materials, or accessories or by the workmanship of the authorized contractor/installer. |
| 7. Monetary limitations | BondCote's cost not to exceed the original installed cost of materials supplied by BondCote Roofing Systems. Premium warranty has no monetary limitation. |
| 8. Notification requirements | Written notification to BondCote Roofing Systems, 4090 Pepperell Way, Dublin, VA 24084, within 30 days after leaks are discovered. |
| 9. Exclusive or additional remedy | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | BondCote's good-faith determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 12, 16 |
| 13. Wind coverage/exclusion | Warranty excludes wind equal to or exceeding gale and tornadoes |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, F, I |
| 15. Cost to obtain | Varies |
| 16. Minimum charge | Varies |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Contractor must complete project approval form and forward to BondCote Roofing Systems for approval prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship. |

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| 22. | Backed by name insurance or surety | No; BondCote indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | BondCote Roofing Systems manufactures and sells the product. |
| 24. | Conditions for renewal or extension | Not assignable without written permission from BondCote Roofing Systems. |
| 25. | Assignability | |
| 26. | Special features/conditions | 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. |
| 27. | Executed by owner | Yes (See Special Features/Conditions.) |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Carlisle Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | “Carlisle Golden Seal™ Total Roofing System Warranty;” WA-F0001 (10/02) |
| 3. Product, specification, or system covered | Sure-Seal EPDM, Brite-Ply EPDM, FleeceBACK™ EPDM and TPO; Sure-Weld TPO Roofing Systems |
| 4. Scope of coverage | Material and workmanship; Carlisle warrants to repair leaks in the Carlisle Golden Seal Total Roofing System caused by a defect in the Carlisle Total Roofing System’s materials or workmanship of 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, fastening bars, metal edging, metal termination bars, and any other Carlisle-brand products utilized in the installation. |
| 5. Length of coverage | 10 or 15 years: Brite-Ply™ EPDM and Brite-Ply FleeceBACK™ membrane systems 10, 15 or 20 years: Sure-Seal® EPDM, Sure-Weld™ TPO, Sure-Seal FleeceBACK or Sure-Weld™ FleeceBACK Membrane Systems 30 years: .090 Sure-Seal EPDM Adhered Membrane Systems |
| 6. Nature of remedy | Carlisle will repair leaks in the Carlisle Golden Seal Total Roofing System. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of discovery of any leak in the Carlisle roofing system to Carlisle’s Warranty Services Department, P.O. Box 7000, Carlisle, PA 17013 |
| 9. Exclusive or additional remedy | Owner’s remedies and Carlisle’s liability limited to Carlisle’s repair of leaks; remedies stated in warranty are the sole and exclusive remedies for failure of the Carlisle roofing system or its components; excludes UCC warranties. (See Special Features/Conditions) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Carlisle’s determination (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation. |
| 13. Wind coverage/exclusion | Warranty form states it excludes winds of peak gust speeds of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that Carlisle’s standard wind coverage is 55 mph and optional coverage is available up to 120 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F (including failure of owner to comply with Carlisle’s care and maintenance information sheet) |
| 15. Cost to obtain | There is a charge. Carlisle declines to provide the cost to obtain. |
| 16. Minimum charge | There is a charge. Carlisle declines to provide the minimum charge. |
| 17. Ineligible structure or building use | Non-commercial structures such as single-family residential structures |

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| 18. Pre-construction notice and approval requirements | Carlisle must be contacted for a project specification and detail review for air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area; cold storage/freezer facilities; adhered projects over 250' height; ballasted and mechanically fastened projects over 75' high; systems using fasteners installed into steel deck less than 22 gauge or into lightweight cementitious decks; project requesting extended wind speed coverage; project requesting 20 or 30 year warranty coverage; and roofs which will come into contact with petroleum based products, chemicals and waste products. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application. Carlisle technical representative makes on-site inspection after completion prior to issuance of warranty. Carlisle declines to state whether there is an inspection charge and the amount of such charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Carlisle indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Carlisle manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is not assignable by operation of law or otherwise; however, application may be made by a new owner for reissuance of the warranty during the original warranty period. Certain procedures, including but not limited to, an inspection of the roofing system by a Carlisle representative, and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue the warranty. |
| 26. Special features/conditions | <p>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.</p> <p>Carlisle shall have no liability under any theory of law for any claims, repairs, restoration or other damages relating to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land or water serving the building.</p> <p>Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle roofing system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Carlisle Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Carlisle Membrane Roofing System Warranty;" WA-F0002 (10/02) |
| 3. Product, specification, or system covered | Sure-Seal EPDM, Brite-Ply EPDM, FleeceBACK™ EPDM and TPO, Sure-Weld TPO Roofing Systems |
| 4. Scope of coverage | Material and workmanship; Carlisle warrants to repair leaks in the Carlisle membrane roofing system caused by a defect in the Carlisle membrane roofing system's materials or workmanship of Carlisle authorized applicator in installing the membrane system. Carlisle roofing system is defined as Carlisle membrane, flashings, adhesives and sealants, and any other Carlisle-brand products utilized in the installation. |
| 5. Length of coverage | 5 or 10 years: All systems 10 or 15 years: Brite-Ply™ EPDM, Brite-Ply FleeceBACK™, Sure-Seal® EPDM, Sure-Weld™ TPO, Sure-Seal FleeceBACK Membrane Systems |
| 6. Nature of remedy | Carlisle will repair leaks in the Carlisle membrane roofing system. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of discovery of any leak in the Carlisle roofing system to Carlisle's Warranty Services Department, P.O. Box 7000, Carlisle, PA 17013 |
| 9. Exclusive or additional remedy | Owner's remedies and Carlisle's liability limited to Carlisle's repair of leaks; remedies stated in warranty are the sole and exclusive remedies for failure of the Carlisle roofing system or its components; excludes UCC warranties. (See Special Features/Conditions.) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Carlisle's determination (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation. |
| 13. Wind coverage/exclusion | Warranty form states that it excludes winds of peak gust speeds of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that warranty covers roof damage resulting from wind speeds up to 55 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet) |
| 15. Cost to obtain | There is a charge. Carlisle declines to provide the cost to obtain. |
| 16. Minimum charge | There is a charge. Carlisle declines to provide the minimum charge. |
| 17. Ineligible structure or building use | Non-commercial structures such as single-family residential structures. |

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| 18. Pre-construction notice and approval requirements | Carlisle must be contacted for a project specification and detail review for air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area; cold storage/freezer facilities; adhered projects over 250' height; ballasted and mechanically fastened projects over 75' high; systems using fasteners installed into steel deck less than 22 gauge or into lightweight cementitious decks; project requesting extended wind speed coverage; project requesting 20 or 30 year warranty coverage; and roofs which will come into contact with petroleum based products, chemicals and waste products. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application. Carlisle technical representative makes on-site inspection after completion prior to issuance of warranty. Carlisle declines to state whether there is an inspection charge and the amount of such charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Carlisle indicates that it does not carry insurance covering its warranty obligation |
| 23. Issuing entity manufacturers and/or sells products | Carlisle manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is not assignable by operation of law or otherwise; however, application may be made by a new owner for reissuance of the warranty during the original warranty period. Certain procedures, including but not limited to, an inspection of the roofing system by a Carlisle representative, and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue the warranty. |
| 26. Special features/conditions | <p>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.</p> <p>Carlisle shall have no liability under any theory of law for any claims, repairs, restoration or other damages relating to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land or water serving the building.</p> <p>Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle roofing system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Carlisle Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Carlisle Golden Seal™ Total Roofing System Warranty with Limited Coverage for Accidental Punctures;" WA-F0010 (03/03) |
| 3. Product, specification, or system covered | Sure-Seal EPDM, Brite-Ply EPDM, FleeceBACK™ EPDM and TPO; Sure-Weld TPO Roofing Systems |
| 4. Scope of coverage | Material and workmanship; Carlisle warrants to repair leaks in the Carlisle Golden Seal Total Roofing System caused by a defect in the Carlisle Total Roofing System's materials or workmanship of Carlisle-authorized roofing applicator in installing the Total Roofing System. This warranty also provides limited coverage, up to 16 man hours per year, to repair leaks in the Carlisle Total Roofing System caused by accidental punctures, but not including punctures caused by snow removal or other trades during new construction. Carlisle Total Roofing System is defined as Carlisle membrane, flashings, counter flashings, adhesives and sealants, insulation, recovery board, fasteners, fastener plates, fastening bars, metal edging, metal termination bars, and any other Carlisle-brand products utilized in installation.. |
| 5. Length of coverage | 10 or 15 years: Brite-Ply FleeceBACK™ Membrane Systems 10, 15 or 20 years: Sure-Seal® EPDM, Sure-Weld™ TPO, Sure-Seal FleeceBACK or Sure-Weld™ FleeceBACK Membrane Systems 30 years: .090 Sure-Seal EPDM Adhered Membrane Systems |
| 6. Nature of remedy | Carlisle will repair leaks in the Carlisle Golden Seal Total Roofing System. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of discovery of any leak in the Carlisle roofing system to Carlisle's Warranty Services Department, P.O. Box 7000, Carlisle, PA 17013 |
| 9. Exclusive or additional remedy | Owner's remedies and Carlisle's liability limited to Carlisle's repair of leaks; remedies stated in warranty are the sole and exclusive remedies for failure of the Carlisle roofing system or its components; excludes UCC warranties. (See Special Features/Conditions.) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Carlisle's determination (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation. |
| 13. Wind coverage/exclusion | Warranty form states it excludes winds of peak gust speeds of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that Carlisle's standard wind coverage is 55 mph and optional coverage is available up to 120 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet) |
| 15. Cost to obtain | There is a charge. Carlisle declines to provide the cost to obtain. |
| 16. Minimum charge | There is a charge. Carlisle declines to provide the minimum charge. |
| 17. Ineligible structure or building use | Non-commercial structures such as single-family residential structures |

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| 18. Pre-construction notice and approval requirements | Carlisle must be contacted for a project specification and detail review for air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area; cold storage/freezer facilities; adhered projects over 250' height; ballasted and mechanically fastened projects over 75' high; system using fasteners installed into steel deck less than 22 gauge or into lightweight cementitious decks; project requesting extended wind speed coverage; project requesting 20 or 30 year warranty coverage; and roofs which will come into contact with petroleum based products, chemicals and waste products. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application. Carlisle technical representative makes on-site inspection after completion prior to issuance of warranty. Carlisle declines to state whether there is an inspection charge and the amount of such charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Carlisle indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Carlisle manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is not assignable by operation of law or otherwise; however, application may be made by a new owner for reissuance of the warranty during the original warranty period. Certain procedures, including but not limited to, an inspection of the Roofing System by a Carlisle representative, and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue the warranty. |
| 26. Special features/conditions | <p>This warranty covers limited repairs to accidental punctures.</p> <p>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.</p> <p>Carlisle shall have no liability under any theory of law for any claims, repairs, restoration or other damages relating to the presence of irritants, contaminants, vapors, fumes, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, and/or serving the building.</p> <p>Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle roofing system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Carlisle Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Carlisle Golden Seal™ Total Roofing System Warranty with Limited Coverage for Hail and Accidental Punctures;" WA-F0020 (03/03) |
| 3. Product, specification, or system covered | Sure-Seal EPDM, FleeceBACK EPDM and TPO Roofing Systems |
| 4. Scope of coverage | Material and workmanship; Carlisle warrants to repair leaks in the Carlisle Golden Seal Total Roofing System caused by a defect in the Carlisle Total Roofing System's materials or workmanship of Carlisle-authorized roofing applicator in installing the Total Roofing System. This warranty also provides limited coverage, up to 16 man hours per year, to repair leaks in the Carlisle Total Roofing System caused by accidental punctures, but not including punctures caused by snow removal or other trades during new construction, and this warranty covers hail, up to a certain size in diameter, but does not apply to changes in appearance or surface imperfections caused by hail. Carlisle Total Roofing System is defined as Carlisle membrane, flashings, counter flashings, adhesives and sealants, insulation, recovery board, fasteners, fastener plates, fastening bars, metal edging, metal termination bars, and any other Carlisle-brand products utilized in installation. |
| 5. Length of coverage | 10 or 15 years: Brite-Ply™ EPDM and Brite-Ply™ FleeceBACK Membrane Systems 10,15 or 20years: Sure-Seal® EPDM, Sure-Weld™ TPO, Sure-Seal FleeceBACK or Sure-Weld™ FleeceBACK Membrane Systems 30 years: .090 Sure-Seal® EPDM Adhered Membrane Systems |
| 6. Nature of remedy | Carlisle will repair leaks in the Carlisle Golden Seal Total Roofing System. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of discovery of any leak in the Carlisle roofing system to Carlisle's Warranty Services Department, P.O. Box 7000, Carlisle, PA 17013 |
| 9. Exclusive or additional remedy | Owner's remedies and Carlisle's liability limited to Carlisle's repair of leaks; remedies stated in warranty are the sole and exclusive remedies for failure of the Carlisle roofing system or its components; excludes UCC warranties. (See Special Features/Conditions.) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Carlisle's determination (See Special Features/Conditions. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2 (over a certain size), 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation. |
| 13. Wind coverage/exclusion | Warranty form states it excludes winds of peak gust speeds of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that Carlisle's standard warranty wind coverage is 55 mph and optional coverage is available up to 120 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet) |
| 15. Cost to obtain | There is a charge. Carlisle declines to provide cost to obtain. |
| 16. Minimum charge | There is a charge. Carlisle declines to provide minimum charge. |

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| 17. Ineligible structure or building use | Non-commercial structures such as single-family residential structures. |
| 18. Pre-construction notice and approval requirements | Carlisle must be contacted for a project specification and detail review for air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area; cold storage/freezer facilities; adhered projects over 250' height; ballasted and mechanically fastened projects over 75' high; system using fasteners installed into steel deck less than 22 gauge or into lightweight cementitious decks; project requesting extended wind speed coverage; project requesting 20 or 30 year warranty coverage; and roofs which will come into contact with petroleum based products, chemicals and waste products. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application. Carlisle technical representative makes on-site inspection after completion prior to issuance of warranty. Carlisle declines to state whether there is an inspection charge and the amount of such charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Carlisle indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Carlisle manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is not assignable by operation of law or otherwise; however, application may be made by a new owner for reissuance of the warranty during the original warranty period. Certain procedures, including but not limited to, an inspection of the Roofing System by a Carlisle representative, and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue the warranty. |
| 26. Special features/conditions | <p>This warranty covers hail up to a certain size that is inserted into the warranty and limited repairs to accidental punctures.</p> <p>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.</p> <p>Carlisle shall have no liability under any theory of law for any claims, repairs, restoration or other damages relating to the presence of irritants, contaminants, vapors, fumes, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, and/or serving the building.</p> <p>Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle roofing system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Carlisle Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Carlisle Membrane Roofing System Warranty with Limited Hail Coverage;" WA-F0016 (10/02) |
| 3. Product, specification, or system covered | Sure-Seal EPDM, FleeceBACK EPDM and TPO Roofing Systems |
| 4. Scope of coverage | Material and workmanship; Carlisle warrants to repair leaks in the Carlisle membrane roofing system caused by a defect in the Carlisle membrane roofing system's materials or workmanship of Carlisle-authorized roofing applicator in installing the membrane system. This warranty also covers hail up to a certain size in diameter, but warranty does not apply to changes in appearance or imperfections caused by hail. Carlisle roofing system is defined as Carlisle membrane, flashings, adhesives and sealants, and any other Carlisle-brand products utilized in the installation. |
| 5. Length of coverage | 10 or 15 years: Brite-Ply™ EPDM and Brite-Ply™ FleeceBACK Membrane Systems 10, 15 or 20 years: Sure-Seal® EPDM, Sure-Weld™ TPO, Sure-Seal FleeceBACK or Sure-Weld™ FleeceBACK Membrane Systems 30 years: .090 Sure-Seal® EPDM Adhered Membrane Systems |
| 6. Nature of remedy | Carlisle will repair leaks in the Carlisle membrane roofing system. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of discovery of any leak in the Carlisle roofing system to Carlisle's Warranty Services Department, P.O. Box 7000, Carlisle, PA 17013 |
| 9. Exclusive or additional remedy | Owner's remedies and Carlisle's liability limited to Carlisle's repair of leaks; remedies stated in warranty are the sole and exclusive remedies for failure of the Carlisle roofing system or its components; excludes UCC warranties. (See Special Features/Conditions.) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Carlisle's determination (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2 (over a certain size), 3, 5, 7, 13, 16, 17. Warranty also specifically excludes insect infestation. |
| 13. Wind coverage/exclusion | Warranty form states it excludes winds of peak gust speeds of ____ mph or higher measured at 10 meters above ground, hurricanes, and tornadoes. Carlisle indicates that Carlisle's standard warranty wind coverage is 55 mph and optional coverage is available up to 120 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F (including failure of owner to comply with Carlisle's care and maintenance information sheet) |
| 15. Cost to obtain | There is a charge. Carlisle declines to provide the cost to obtain. |
| 16. Minimum charge | There is a charge. Carlisle declines to provide the minimum charge. |
| 17. Ineligible structure or building use | Non-commercial structures such as single-family residential structures |

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| 18. Pre-construction notice and approval requirements | Carlisle must be contacted for a project specification and detail review for air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area; cold storage/freezer facilities; adhered projects over 250' height; ballasted and mechanically fastened projects over 75' high; system using fasteners installed into steel deck less than 22 gauge or into lightweight cementitious decks; project requesting extended wind speed coverage; project requesting 20 or 30 year warranty coverage; and roofs which will come into contact with petroleum based products, chemicals and waste products. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | If requested by owner or applicator, Carlisle technical representative makes on-site inspections prior to and during application. Carlisle technical representative makes on-site inspection after completion prior to issuance of warranty. Carlisle declines to state whether there is an inspection charge and the amount of such charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Carlisle indicates that it does not carry insurance covering its warranty obligation |
| 23. Issuing entity manufacturers and/or sells products | Carlisle manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is not assignable by operation of law or otherwise; however, application may be made by a new owner for reissuance of the warranty during the original warranty period. Certain procedures, including but not limited to, an inspection of the Roofing System by a Carlisle representative, and fees will apply to any reissuance. Carlisle reserves the right, in its sole discretion, to refuse to reissue the warranty. |
| 26. Special features/conditions | <p>This warranty covers hail up to a certain size that is inserted into the warranty. 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.</p> <p>Carlisle shall have no liability under any theory of law for any claims, repairs, restoration or other damages relating to the presence of irritants, contaminants, vapors, fumes, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, and/or serving the building.</p> <p>Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle roofing system caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Conklin Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Conklin Limited Materials Warranty; November 1990; 1-000141A (Code #078270B 11/96 appears on packet accompanying warranty documents.) |
| 3. Product, specification, or system covered | Hy-Crown |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 1 to 15 years |
| 6. Nature of remedy | Conklin's obligation is limited to the replacement of Conklin roofing product(s) to repair leaks. |
| 7. Monetary limitations | None stated. |
| 8. Notification requirements | 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 |
| 9. Exclusive or additional remedy | 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 |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 14, 15, 16 19, 20, 24, 25. |
| 13. Wind coverage/exclusion | Warranty excludes gales, windstorms, hurricanes, and tornadoes. Conklin indicates that warranty covers roof damage resulting from wind speeds up to 43 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | Including notice to contractor (R) |
| 15. Cost to obtain | 1 to 10 years: no charge; 11 to 15 years: less than 10,000 square feet, \$200; greater than 10,000 square feet, \$300 |
| 16. Minimum charge | 1 to 10 years: no charge 11 to 15 years: \$200 |
| 17. Ineligible structure or building use | No |
| 18. Pre-construction notice and approval requirements | Application must be submitted within 30 days of completion of project. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |

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| 21. | Contractor's post-installation obligation | None; material-only warranty. |
| 22. | Backed by name insurance or surety | No; Conklin indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Conklin sells product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Conklin Company, Inc. |
| 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 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. |
| 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. |
| 5. Length of coverage | 1 to 10 years. |
| 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. |
| 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. |
| 8. Notification requirements | 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 | 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 |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 14, 15, 16, 24, 25. |
| 13. Wind coverage/exclusion | 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 (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.) |
| 15. Cost to obtain | \$5.00/square |
| 16. Minimum charge | \$500 |
| 17. Ineligible structure or building use | None |
| 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. |

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| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Conklin warranty inspector makes on-site inspection prior to 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. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Conklin indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Conklin sells product only. |
| 24. Conditions for renewal or extension | 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. |
| 26. Special features/conditions | <p>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.</p> <p>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.</p> |
| 27. Executed by owner | Yes; warranty also executed by contractor |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Conklin Company, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | 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 | 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 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 | 1 to 15 years |
| 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. |
| 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 Conklin system and the labor required to apply the Conklin system or \$250,000, whichever is lesser. |
| 8. Notification requirements | 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 | 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 |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 14, 15, 16, 24, 25 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | 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 | \$8.00/square |
| 16. Minimum charge | \$800 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Contractor must complete pre-application forms and submit them to Conklin prior to starting job; mandatory pre-inspection by Conklin prior to granting approval. |

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| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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 | Contractor obligated to make repairs to all leaks, any defects, and material and workmanship deficiencies for three years. |
| 22. Backed by name insurance or surety | No; Conklin indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Conklin sells product only. |
| 24. Conditions for renewal or extension | 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 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 | <p>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.</p> <p>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.</p> |
| 27. Executed by owner | Yes; warranty also executed by contractor |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Dibiten, a division of Johns Manville Corporation |
| 2. Title, original publication date, and identifying symbol, if any | "15 Year Limited Material Warranty"; March 1997; RS-9012 3-97. |
| 3. Product, specification, or system covered | Dibiten Poly 5 specifications with roof coating: 501, 502, 503, 504, R505, R506. |
| 4. Scope of coverage | Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects. |
| 5. Length of coverage | 15 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 (1/15 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. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, I, M, R |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Structures used for cool or cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |

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| 22. | Backed by name insurance or surety | No; Dibiten indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Dibiten manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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: (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> |
| 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Dibiten, a division of Johns Manville Corporation |
| 2. Title, original publication date, and identifying symbol, if any | "20 Year Limited Material Warranty"; March 1997; RS-9013 3-97 |
| 3. Product, specification, or system covered | 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. |
| 4. Scope of coverage | Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects. |
| 5. Length of coverage | 20 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 (1/20 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. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, I, M, R. |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Structures used for cool or cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |

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| 22. | Backed by name insurance or surety | No; Dibiten indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Dibiten manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. Warranty states that it is made to the original owner. |
| 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: (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> |
| 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Dibiten, a division of Johns Manville Corporation |
| 2. Title, original publication date, and identifying symbol, if any | "10 Year Limited Material Warranty"; March 1997; RS-9010 3-97 |
| 3. Product, specification, or system covered | 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. |
| 4. Scope of coverage | Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects. |
| 5. Length of coverage | 10 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 (1/10 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. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, I, M, R |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Structures used for cool or cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |

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| 21. Contractor's post-installation obligation | None; material-only warranty. |
| 22. Backed by name insurance or surety | No; Dibiten indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Dibiten manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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: (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> |
| 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Dibiten, a division of Johns Manville Corporation |
| 2. Title, original publication date, and identifying symbol, if any | "6 Year Limited Material Warranty"; March 1997; RS-9009 3-97. |
| 3. Product, specification, or system covered | 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. |
| 5. Length of coverage | 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 (1/6 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. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, I, M, R |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Structures used for cool or cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |

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| 22. | Backed by name insurance or surety | No; Dibiten indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Dibiten manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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: (a) maintaining a file showing proof-of-purchase, all inspections and repairs; (b) inspecting roof at least semiannually; © removing any debris; (d) cleaning gutters, downspouts, drains, and surrounding areas; (e) repairing damaged masonry, poorly mounted counter-flashing, 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 (l) 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> |
| 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|--|
| 1. Identity of issuing entity | 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. |
| 3. Product, specification, or system covered | Dibiten Poly 4 Specifications with roof coating: 401, 402, 404, R405, R406. |
| 4. Scope of coverage | Material only; Dibiten warrants its roofing membrane to be free of manufacturing defects. |
| 5. Length of coverage | 12 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. |
| 7. Monetary limitations | 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 13, 17, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, I, M, R |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Structures used for cool or cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections |
| 21. Contractor's post-installation obligation | None; material-only warranty. |

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| 22. | Backed by name insurance or surety | No; Dibiten indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Dibiten manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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: (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 counter-flashing, 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 (l) 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> |
| 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|---|
| 1. Identity of issuing entity | Duro-Last Roofing, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "15 Year Residential Material Warranty"; March 1993; DL 15-01 Rev. 3/93. |
| 3. Product, specification, or system covered | Duro-Last Roofing System. |
| 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. |
| 5. Length of coverage | 15 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. |
| 7. Monetary limitations | 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 |
| 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.) |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 18. Warranty also excludes damages caused by chemicals not normally found in nature. |
| 13. Wind coverage/exclusion | A, C, I |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | None |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | None required. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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. |
| 22. Backed by name insurance or surety | No; Duro-Last indicates that it does not carry insurance covering its warranty obligations. |

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| 23. Issuing entity manufacturers and/or sells products | Duro-Last manufactures and sells product. |
| 24. Conditions for renewal or extension | No restrictions stated. |
| 25. Assignability | 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Duro-Last Roofing, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "15 Year Warranty"; August 1, 1991; DL 15-00 Rev. |
| 3. Product, specification, or system covered | Duro-Last |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 15 years. |
| 6. Nature of remedy | 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. |
| 7. Monetary limitations | 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. |
| 8. Notification requirements | Written notification to Duro-Last's corporate headquarters, 525 Morley Drive, Saginaw, MI 48601, within 30 days after discovery of any leak. |
| 9. Exclusive or additional remedy | 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.) |
| 10. Inclusion of consequential damages | No express exclusion. |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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.] |
| 13. Wind coverage/exclusion | Warranty excludes gales, hurricanes, and tornadoes. [Duro-Last does not indicate wind speeds covered by warranty.] |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | A, C, G, I |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Porch, sun deck, garage, storage shed, or single-family residence of less than 1,000 square feet. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Duro-Last quality assurance specialist makes on-site inspection after application prior to issuance of warranty; no charge. |

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| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Duro-Last indicates that it carries \$12 million liability insurance coverage. |
| 23. | Issuing entity manufacturers and/or sells products | Duro-Last fabricates and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | Assignable with written permission of Duro-Last, Inc. |
| 26. | Special features/conditions | 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. |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Duro-Last, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "20 Year Limited Warranty," DL20-02-PRO.8/99 |
| 3. Product, specification, or system covered | Total System |
| 4. Scope of coverage | Material and workmanship; Duro-Last warrants that its product membrane, material and accessories will not become defective during the first 10 years and warrants the installation workmanship of the Duro-Last authorized dealer/contractor for the installation of the Duro-Last roofing system for 10 years. For years 11-20, Duro-Last will pay a proportionate share of the cost of product membrane, material and accessories necessary to return the roof to leak-proof status for the balance of the warranty term but Duro-Last will not be responsible for the cost of any labor needed to effect repair. Warranty does not extend to color change of the Duro-Last roof system. |
| 5. Length of coverage | 10 years: Duro-Last will be liable for labor and material to make repair. 11-20 years: Duro-Last will pay a pro-rated portion of the product membrane, material and accessories, but no labor costs. |
| 6. Nature of remedy | Provided that Duro-Last has authorized the repair and an authorized dealer/contractor makes the repair, during years 1 through 10, Duro-Last will repair the membrane, material and accessories and the cost of furnishing labor to repair the roof. During the 11 th through 20 th years, Duro-Last shall not be responsible for the cost of any labor and Duro-Last will pay only for a proportionate share of the cost of product membrane, material and accessories necessary to return the roof to a leak-proof status for the balance of the warranty term. During the 11 th year, Duro-Last will pay 80 percent of the cost of material; 12 th year: 60 percent of the cost of the material; 13 th year, 40 percent of the cost of the material; 14 th – 20 th years, 30 percent of the cost of the material. During years 11 through 20, the owner pays its share of membrane, materials and accessories plus the cost of labor. |
| 7. Monetary limitations | Duro-Last's liability for cost of labor for repairs during first 10 years is at the contractor list price in effect at time of repair. During years 11 through 20, Duro-Last pays only a proportionate cost of material only, ranging from 80 percent to 30 percent. |
| 8. Notification requirements | Written notification by certified mail, return receipt requested to Duro-Last, at 525 Morley Drive in Saginaw, MI 48601 within 30 days after discovery of any leak or other alleged failure. |
| 9. Exclusive or additional remedy | Remedies stated in warranty are the sole and exclusive remedies of the owner for alleged failure of the Duro-Last roofing system whether in membrane, material, accessories or dealer/contractor workmanship; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No express exclusion |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 10, 12, 14, 16, 18. Warranty also excludes damages caused by chemicals not normally found in nature. |
| 13. Wind coverage/exclusion | Warranty excludes gales, hurricanes, and tornadoes. Duro-Last indicates warranty covers roof damage resulting from winds up to 42 mph. |

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| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | A, C, H, I |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Single-family residence |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Duro-Last makes on-site inspection prior to and during application upon request only; Duro-Last makes 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 years. |
| 22. Backed by name insurance or surety | No |
| 23. Issuing entity manufacturers and/or sells products | Duro-Last manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty passes to future owners of the building during the 20-year term. |
| 26. Special features/conditions | Warranty shall be governed in all respects by the laws of the state of Michigan, regardless of the state of purchase or installation. If Duro-Last's authorized dealer/contractor made any statements about Duro-Last's merchandise or services, those statements are not warranties, cannot be relied upon by Owner, and are not part of the contract for sale or installation. Oral representations cannot be relied upon as correctly stating the representation of Duro-Last, Inc. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | Elastomeric Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "ERSystems _____ Year EPDM Roof System Warranty"; October 1, 1996; 961001 RSW. |
| 3. Product, specification, or system covered | .045 and .060 black nonreinforced EPDM; .045 and .060 black FR EPDM; reinforced 90, plate bond, fully adhered, ballasted, batten. |
| 4. Scope of coverage | 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 | 5 or 10 years: EPDM; 5, 10, or 15 years: .045 and .060 black nonreinforced EPDM, .045 and .060 black FR EPDM, reinforced 90. |
| 6. Nature of remedy | 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. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | ERSystems' determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | 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 (item 14 in Introduction) | C, M, S (See Special Features/Conditions.) |
| 15. Cost to obtain | 5 years: \$ 8.00/square; 10 years: \$11.00/square; 15 years: \$15.00 /square |
| 16. Minimum charge | 5 years: \$ 600; 10 years: \$ 800; 15 years: \$1,000 |
| 17. Ineligible structure or building use | Cold-storage buildings, single-family residences, and special purpose facilities. |

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| 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. |
| 19. Approved, authorized or licensed requirements | 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. |
| 21. Contractor's post-installation obligation | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | ERSystems sells product only. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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>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 | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Elastomeric Roofing Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "ERSystems ____ Year EPDM Membrane Material Warranty"; October 1, 1996; 961001 MMW. |
| 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. |
| 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. |
| 5. Length of coverage | 5 or 10 years: EPDM 5, 10, or 15 years: .045 and .060 black nonreinforced EPDM, .045 and .060 black FR EPDM, reinforced 90. |
| 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. |
| 7. Monetary limitations | The maximum value allowed by ERSystems for the repair or credit shall not exceed the original product purchase price. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | ERSystems' determination. |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | The warranty covers roof damage resulting from wind speeds up to 55 mph. The warranty excludes gales (exceeding 55 mph) and tornadoes. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, M, S (See Special Features/Conditions.) |
| 15. Cost to obtain | No charge |
| 16. Minimum charge | No charge |
| 17. Ineligible structure or building use | Cold-storage buildings, single-family residences, and special-purpose facilities. |

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| 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. |
| 19. Approved, authorized or licensed requirements | 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. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |
| 22. Backed by name insurance or surety | No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | ERSystems sells product only. |
| 24. Conditions for renewal or extension | 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. |
| 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. 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> |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Elastomeric Roofing Systems, Inc |
| 2. Title, original publication date, and identifying symbol, if any | ERSystems ____ Year Permaweld CPA Material Warranty"; October 1, 1996; 961001 PMMW. |
| 3. Product, specification, or system covered | Permaweld, Permaweld Fleece Backed, PermaVac systems. |
| 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. |
| 5. Length of coverage | 5, 10 or 15 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. |
| 7. Monetary limitations | The maximum value allowed by ERSystems for the repair or credit shall not exceed the original product purchase price. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | ERSystems' determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | 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 (item 14 in Introduction) | C, M, S (See Special Features/Conditions.) |
| 15. Cost to obtain | No charge |
| 16. Minimum charge | No charge |
| 17. Ineligible structure or building use | Cold-storage buildings, single-family residences, and special purpose facilities. |
| 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | None; material-only warranty. |
| 22. | Backed by name insurance or surety | No; ERSystems indicates that it carries a \$2.5 million product liability insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | ERSystems sells product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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>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 | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Firestone Building Products Company, a division of Bridgestone/Firestone, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Modified Bitumen Product Limited Warranty;" September 1997 |
| 3. Product, specification, or system covered | Firestone APP 160, 170 and 180; Firestone SBS Membranes. Warranty does not cover flashings, seams, adhesives, sealants, coatings or workmanship. |
| 4. Scope of coverage | Material only; Firestone warrants that it will provide replacement membrane material or a prorated credit sufficient to replace any area of Firestone modified bitumen membrane which leaks as a result of ordinary exposure to the elements or manufacturing defects in the membrane. |
| 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. |
| 6. Nature of remedy | Purchaser's sole and exclusive remedy and Firestone's liability shall be limited to either the supply of replacement membrane material sufficient to cover or replace the deteriorated membrane or a prorated credit based upon the remaining months of the unexpired warranty to be applied towards the purchase of new membrane material. |
| 7. Monetary limitations | Firestone's replacement obligation over the life of the warranty is limited to the original cost of the membrane. |
| 8. Notification requirements | Written notice within 30 days of any occurrence of a leak along with a copy of the purchase invoice. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 8, 10, 11, 12 (see Special Features/Conditions), 13, 17, 18, 19, 20, 22. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | None |

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| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections. |
| 21. | Contractor's post-installation obligation | None |
| 22. | Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | 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 excluded under the warranty, investigation costs shall be paid by purchaser; failure of purchaser to pay investigation costs and to make repairs in a reasonable manner and within a reasonable time shall render the warranty null and void.</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's compliance with Firestone roofing care and maintenance guidelines stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals, and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories, and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, the purchaser shall reimburse Firestone for all reasonable costs incurred during inspection and/or repair of the membrane 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 membrane for inspection and/or repair.</p> <p>Any dispute, controversy or claim between the purchaser and Firestone concerning the 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.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Red Shield "Roofing System Limited Warranty;" January 1, 2000 |
| 3. Product, specification, or system covered | Firestone RubberGard EPDM Systems, Firestone UltraPly 78+ Systems, Firestone APP Systems, Firestone SBS Systems |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone roofing system that is not excluded by the terms of the warranty. (See Item 12 below). 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. |
| 5. Length of coverage | 5, 10, 15 or 20 years depending upon specification and materials used |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination. |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | Warranty excludes winds in excess of 55 mph, hurricanes and tornadoes. Firestone indicates warranty covers roof damage resulting from wind speeds up to 55 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, M, S (See Special Features Conditions) |
| 15. Cost to obtain | 5 years: \$2.00/square 10 years: \$4.00/square 15 years: \$7.00/square 20 years: \$10.00/square |
| 16. Minimum charge | 5 years: \$300 10 years: \$350 15 years: \$400 20 years: \$500 |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Firestone field technical representative makes on-site inspection after completion and prior to issuance of warranty; no charge |
| 21. | Contractor's post-installation obligation | Contractor obligated to repair workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations |
| 23. | Issuing entity manufacturers and/or sells products | Firestone manufactures and sells product |
| 24. | Conditions for renewal or extension | 10-year Red Shield warranty can be extended for 5 years at a charge of \$10.00/square or \$2.00/square if coated with Firestone AcryliTop. Owner pays \$750 for inspection. |
| 25. | Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Rubberguard Max "Red Shield Roofing System and Damage Repair Limited Warranty;" April 2000 |
| 3. Product, specification, or system covered | Firestone brand reinforced membranes, insulation and other Firestone brand accessories when installed in accordance with Firestone technical specifications. |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone roofing system that is not excluded by the terms of the warranty. (See Item 12 below). The Firestone roof system means Firestone-brand reinforced membranes, Firestone brand insulation and other Firestone brand accessories. Warranty covers leaks caused by unintentional and occasional damage to the membrane as a result of roof top inspection, maintenance or service. |
| 5. Length of coverage | 5, 10, 15 or 20 years. Duration of warranty depends on the specification and materials used. |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | 5 years: \$2.00/square 10 years: \$4.00/square 15 years: \$7.00/square 20 years: \$10.00/square |
| 16. Minimum charge | 5 years: \$300 10 years: \$350 15 years: \$400 20 years: \$500 |
| 17. Ineligible structure or building use | Single-family residence, patios, plaza decks |

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| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. Conditions for renewal or extension | 10-year Red Shield warranty can be extended for 5 years at a charge of \$10.00/square or \$2.00/square if coated with Firestone AcryliTop. Owner pays \$750 for inspection. |
| 25. Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "White AcryliTop PC-100 Surface Reflectance Limited Warranty," April 2000 |
| 3. Product, specification, or system covered | AcryliTop PC-100 white coating |
| 4. Scope of coverage | Material only: Firestone warrants that the AcryliTop PC-100 white coating applied to the Firestone RubberGuard membrane will maintain a reflectance rating of .50 when tested in accordance with the Environmental Protection Agency's "Energy Star" program. The coating must be installed per Firestone specifications, including the cleaning of the membrane using Firestone's Membrane Pre-wash™. Warranty does not cover membrane, flashings, seams, adhesives, sealants or workmanship. |
| 5. Length of coverage | 5 years |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the supply of replacement AcryliTop PC-100 material sufficient to replace the affected area of coating. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days of any claim under the warranty |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Reflectance testing to be completed at owner's expense by an independent testing laboratory using equipment specified in warranty; warranty also states Firestone determines whether the reflective value is below .50 as a result of ordinary exposure to the elements. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 8, 11, 12 (see Special Features/Conditions), 13, 17, 18, 19. Warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, H, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | \$200 |
| 16. Minimum charge | \$200 |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspection. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. | Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Firestone sells the product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee. |
| 26. | Special features/conditions | <p>If Firestone determines that the reflectance value of coating below .50 is caused by something other than ordinary exposure to the elements, investigation costs must be paid by the owner; failure of owner to pay these costs shall render the warranty null and void.</p> <p>Warranty cannot be amended, altered, or modified in any way except in writing signed by an authorized officer of Firestone.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including no exposure to acids, solvents, greases, oils, fats, chemicals and the like; and verification that the PC-100 coating remains intact where water may pond for more than 48 hours or where there is occasional traffic on the roof surface. The warranty does not cover the coating in areas where there is ponding water or where the coating has been worn away or damaged by traffic.</p> <p>In the event that roof access is limited due to security or other restrictions, 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. Failure by owner to pay these costs or to deny roof access to Firestone shall render the warranty null and void until such costs are paid in full.</p> <p>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. The owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County in the State of Indiana or the United States District Court, Southern District of Indiana, Indianapolis Division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Firestone Building Products Company, division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | "ISO Insulation Limited Warranty;" 4/96 |
| 3. Product, specification, or system covered | Firestone ISO 95+ insulation |
| 4. Scope of coverage | Material only; Firestone warrants that when used under a Firestone manufactured roofing membrane, the Firestone ISO 95+ will not warp, bow, destabilize or delaminate to the point of causing a roof leak as a result of any manufacturing defect in the ISO 95+. |
| 5. Length of coverage | Up to 20 years. Term of this warranty cannot exceed that of the Firestone standard or Red Shield warranty. |
| 6. Nature of remedy | If Firestone determines the owner has a valid warranty claim, Firestone will provide owner with free Firestone ISO 95+ and Firestone roofing membrane materials and will repair the affected roof area. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notification to Firestone within 30 days of the discovery of any event leading to a claim. |
| 9. Exclusive or additional remedy | Warranty is the 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 |
| 11. Determination of warranty applicability | Firestone's determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 10, 12, 13, 17, 18, 22. Warranty also specifically excludes damages caused by atomic radiation, insects or animals. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | H, J |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections. |

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| 21. Contractor's post-installation obligation | Although this is a material-only warranty, contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | No restrictions stated |
| 26. Special features/conditions | 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 an authorized officer. No other person has any authority to bind Firestone with any representation or warranty whether oral or written. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Roofing Membrane Limited Warranty;" December 1996 |
| 3. Product, specification, or system covered | Rubberguard EPDM, Ultra Ply TPO, UltraPly 78+, APP, SBS |
| 4. Scope of coverage | Material only; Firestone warrants that it will provide replacement membrane materials sufficient to replace any area of Firestone roofing membrane which 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. |
| 5. Length of coverage | 10 or 20 years depending on materials used |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to supply of replacement material sufficient to replace the affected area of membrane. |
| 7. Monetary limitations | Firestone's replacement obligations over the life of the warranty are limited to the owner's original cost of the Firestone membrane, prorated based on the remaining months of the unexpired warranty. |
| 8. Notification requirements | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | 10 years: \$50 20 years: \$200 |
| 16. Minimum charge | 10 years: \$50 20 years: \$200 |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | Although this is a material-only warranty, contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. | Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Firestone manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Asphalt Membrane Limited Warranty;" November 1997 |
| 3. Product, specification, or system covered | Firestone asphalt roofing membrane |
| 4. Scope of coverage | Material only; Firestone warrants that it will repair any leak in the Firestone asphalt roofing membrane, when installed in accordance with Firestone technical specifications, as a result of weathering due to ordinary exposure to the elements or any manufacturing defect in the membrane. Warranty does not cover flashings, seams, adhesives, sealants, coatings or workmanship. |
| 5. Length of coverage | 10 or 12 years depending on materials used |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | Firestone's repair obligation over the life of the warranty is limited to the owner's original cost of the membrane. |
| 8. Notification requirements | Written notification within 30 days of discovery of a potential claim along with three 12" x 12" samples from the roofing membrane. Two samples must be from the suspected area and one must be from another area. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 8, 10, 11, 12, 17, 18, 22. The warranty also specifically excludes damages caused by atomic radiation, insects, or animals and Specific Condition H. |
| 13. Wind coverage/exclusion | Warranty excludes wind, 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 (item 14 in Introduction) | C, H, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | \$50 |
| 16. Minimum charge | \$50 |
| 17. Ineligible structure or building use | Single-family residence, patio, plaza deck |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | No on-site inspections |

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| 21. Contractor's post-installation obligation | Although this is a material-only warranty, contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Firestone Building Products Company, division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Asphalt Standard Roof System Limited Warranty" |
| 3. Product, specification, or system covered | Firestone asphalt roof membranes, Firestone brand insulation and other Firestone brand accessories when installed in accordance with Firestone technical specifications. |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone Asphalt Roofing System that is not excluded by the terms of the warranty. The Firestone System means Firestone brand membranes, Firestone brand insulation and other Firestone brand accessories when installed in accordance with Firestone technical specifications. |
| 5. Length of coverage | 5, 10, 12, 15 or 20 years |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | Firestone's repair obligation over the life of the warranty is limited to the owner's original cost of the system installation. |
| 8. Notification requirements | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | Warranty excludes wind, 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 (item 14 in Introduction) | C, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | 5 years: \$3.00/square; 10 years: \$5.00/square; 12 years: \$6.00/square; 15 years: \$8.00/square |
| 16. Minimum charge | 5 years: \$300; 10 years: \$350; 12 years: \$400; 15 years: \$400 |
| 17. Ineligible structure or building use | Single-family residence, patios, plaza decks |
| 18. Pre-construction notice and approval requirements | Pre-installation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</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 an authorized officer.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Platinum-P Roofing System Limited Warranty;" October 2002 |
| 3. Product, specification, or system covered | Firestone Platinum Specifications |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone Platinum roofing system that is not excluded by the terms of the warranty. (See Item 12 below). The Firestone Platinum roof system is composed of all Firestone materials. Warranty covers leaks caused by unintentional and occasional damage to the membrane as a result of normal roof top inspection, maintenance or service. |
| 5. Length of coverage | 30 years |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | \$15.00/square |
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | Single-family residence, patios, plaza decks |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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 excluded under the warranty, investigation costs shall be paid by owner; failure of owner to pay investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Platinum-PH Roofing System Limited Warranty;" October 2002 |
| 3. Product, specification, or system covered | Firestone Platinum Specifications |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone Platinum roofing system that is not excluded by the terms of the warranty. (See Item 12 below). The Firestone Platinum roof system is composed of all Firestone materials. Warranty covers leaks caused by unintentional and occasional damage to the membrane as a result of normal roof top inspection, maintenance or service. |
| 5. Length of coverage | 30 years |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2 (in excess of 2" in diameter), 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. |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | \$15.00/square |
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | Single-family residence, patios, plaza decks |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed applicator | Yes |
| 20. Job inspection policy | Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge. |

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| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee. |
| 26. Special features/conditions | <p>This warranty covers hail up to 2" in diameter.</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 investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Firestone Building Products Company, a division of BFS Diversified Products, LLC |
| 2. Title, original publication date, and identifying symbol, if any | Firestone "Platinum-PHW Roofing System Limited Warranty;" October 2002 |
| 3. Product, specification, or system covered | Firestone Platinum Specifications |
| 4. Scope of coverage | Material and workmanship; Firestone warrants to repair any leak in the Firestone Platinum roofing system that is not excluded by the terms of the warranty. (See Item 12 below). The Firestone Platinum roof system is composed of all Firestone materials. Warranty covers leaks caused by unintentional and occasional damage to the membrane as a result of normal roof top inspection, maintenance or service. |
| 5. Length of coverage | 30 years |
| 6. Nature of remedy | Owner's sole and exclusive remedy and Firestone's liability shall be limited to the repair of the leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Firestone's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2 (in excess of 2" in diameter), 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. |
| 13. Wind coverage/exclusion | Warranty excludes winds in excess of 100 mph, hurricanes, and tornadoes. Firestone indicates that warranty covers roof damage resulting from wind speeds up to 100 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, M, S (See Special Features/Conditions) |
| 15. Cost to obtain | \$15.00/square |
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | Single-family residence, patios, plaza decks |
| 18. Pre-construction notice and approval requirements | Preinstallation notice and associated drawings showing details that do not conform to the published specification must be submitted a minimum of 14 days prior to job start and must be approved by Firestone technical services department. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Firestone field technical representative makes on-site inspection after job completion prior to issuance of warranty; no charge. |

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| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; Firestone does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Firestone manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty is transferable subject to Firestone inspection, written approval, and payment of current transfer fee. |
| 26. Special features/conditions | <p>This warranty covers hail up to 2" in diameter and winds up to 100 mph.</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 investigation costs and to properly make repairs using a Firestone applicator in a reasonable manner and within a reasonable time shall render the warranty null and void.</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 an authorized officer.</p> <p>Warranty requires owner's compliance with Firestone building envelope care and maintenance guide stated on reverse side of warranty document, including at least twice yearly inspections; no ponding water remaining on the roof more than 48 hours after a rainfall; drain areas remain clear; no exposure to acids, solvents, greases, oil, fats, chemicals and the like; protective walkways for roof traffic; maintenance of counterflashings, metal work, drains, skylights, equipment curbs and supports, other rooftop accessories and roof coatings and sealants.</p> <p>In the event roof access is limited due to security or other restrictions, 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. 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>Any dispute, controversy or claim between the owner and Firestone concerning warranty shall be settled by mediation. If the dispute, controversy or claim is not resolved in mediation, owner and Firestone agree that neither party will commence or prosecute any suit, proceeding or claim other than in the courts of Hamilton County, Indiana or the U.S. District Court, Southern District of Indiana, Indianapolis division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts. Warranty shall be governed and construed in accordance with the laws of the State of Indiana.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Flex Membrane International |
| 2. Title, original publication date, and identifying symbol, if any | "Warranty"; July 1990. |
| 3. Product, specification, or system covered | Flex FB Elvaloy, Flex FB 100, Flex MF/R Elvaloy, Flex MF/R 50, Flex MF/R 60, Flex MF/R 70, Flex MF/R 80, Flex TPO 45, Flex TPO 45FB, Flex TPO 60, Flex TPO 60 FB, Flex CTR 150 Black, Flex SBS 145 CAPgm4FR, Flex SBS 160 CAPgm4FR, Flex SBS 250 CAPgm4FR. |
| 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. |
| 5. Length of coverage | 5, 10 or 15 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. |
| 7. Monetary limitations | None stated. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Flex's judgement. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1 , 2, 3, 4, 5, 16 |
| 13. Wind coverage/exclusion | Warranty excludes hurricanes and tornadoes. Flex indicates that warranty covers wind speeds up to 60 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | B, C, F, G, H |
| 15. Cost to obtain | 5 years: None; 10 years: \$5.00/square; 15 years: 8.00/square |
| 16. Minimum charge | 5 years: None; 10 years: \$375; 15 years: \$600 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | The contractor submits request for guarantee to Flex for approval with roof diagram. |
| 19. Approved, authorized or licensed requirements | Yes |
| 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. |

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| 21. | Contractor's post-installation obligation | The contractor is obligated to make repairs to all leaks and workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Flex indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Flex 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. |
| 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. |
| 26. | Special features/conditions | No representative of Flex has authority to make any representations or promises except as stated in warranty. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Flex Membrane International |
| 2. | Title, original publication date, and identifying symbol, if any | Membrane Material Warranty; July 1990. |
| 3. | Product, specification, or system covered | Flex membrane material in all Flex roof systems. |
| 4. | Scope of coverage | Material only; Flex warrants that the Flex membrane material will be free from defects. |
| 5. | Length of coverage | 5, 10, or 15 years. |
| 6. | Nature of remedy | Flex's sole obligation shall be to repair or replace the defective membrane material. |
| 7. | Monetary limitations | Flex's liability shall not exceed the original value of the membrane material. |
| 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. |
| 9. | Exclusive or additional remedy | 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Flex's judgment. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 16. |
| 13. | Wind coverage/exclusion | Warranty excludes hurricanes and tornadoes. Flex indicates that warranty covers wind speeds up to 60 mph. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, H. |
| 15. | Cost to obtain | 5 years: None; 10 years: \$1.00/square; 15 years: \$2.00/square |
| 16. | Minimum charge | 5 years: None; 10 years: \$50; 15 years: \$100 |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | The contractor submits request for guarantee to Flex for approval with roof diagram. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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. |
| 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. |

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| 22. | Backed by name insurance or surety | No |
| 23. | Issuing entity manufacturers and/or sells products | Flex manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision in warranty. Flex indicates that it may issue extension on individual project basis. |
| 25. | Assignability | 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. |
| 26. | Special features/conditions | No representative of Flex has authority to make any representations or promises except as stated in warranty. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. | Title, original publication date, and identifying symbol, if any | "Limited Warranty on Material;" June 2003, COMTS589 Rev. 1 |
| 3. | Product, specification, or system covered | All GAFGLAS built-up roofing membranes and flashings. All Ruberoid SBS and APP modified bitumen membranes and flashings. Everguard PVC, TPO, EPDM |
| 4. | Scope of coverage | Material only; GAF warrants that the GAF roof membrane and base flashing material will not leak due to ordinary wear and tear of the elements or manufacturing defects. |
| 5. | Length of coverage | <p>10 years: GAFGLAS Ply 4, Flexply 6, mineral surfaced cap sheet, Stratavent Eliminator, #75 base sheet, #80 Ultima base sheet, GAFGLAS flashing; Everguard PVC 40, 45, 50, 60, 80; TPO 45, 60, 80; EPDM 45, 60; Ruberoid Torch Smooth, SBS Heat-Weld Smooth, SBS Heat-Weld 25; modified base sheet, Ultraclad SBS, Ruberoid 20, 30, 30 FR.</p> <p>12 years: Ruberoid mop granule products, torch granule products, SBS heat-weld products, mop smooth with flood coat and gravel, torch smooth coated.</p> |
| 6. | Nature of remedy | GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of the GAF materials that leak as a result of manufacturing defect or deterioration caused by ordinary wear and tear. Repair or replacement of the roof deck or of other materials not sold by GAF is not included. |
| 7. | Monetary limitations | GAF's maximum liability during first year of the warranty 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% on 10 year warranties and by 8% on 12 year warranties during each subsequent year, less any costs previously incurred by GAF for repair or replacement. |
| 8. | Notification requirements | Written notification within 30 days after discovery of a leak to GAF contractor services, 1361 Alps Road, Building 11-2, Wayne, NJ 07470 and provide proof of purchase and application date to establish that claimant is the original owner. Notice to contractor is not notice to GAF. |
| 9. | Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantee or warranties and any other obligations or liability 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 |
| 11. | Determination of warranty applicability | GAF's determination |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 19, 20, 22 |
| 13. | Wind coverage/exclusion | Warranty excludes windstorms, hurricanes, and tornadoes. GAF indicates there is no coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | Warranty may be cancelled if the roof is damaged by any cause listed above as a specific exclusion that may affect the integrity and watertightness of the roof. |
| 15. | Cost to obtain | None |

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| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Cold storage or freezer buildings or buildings with high humidity conditions. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | No |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |
| 22. Backed by name insurance or surety | No; GAF indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | GAF manufactures and sells products. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | Not transferable or assignable in any manner |
| 26. Special features/conditions | GAF may require owner to submit, at owner's expense, samples of GAF material for testing and photographs. 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 for GAF unless it is in writing and signed by an authorized contractor services manager. GAF shall not be responsible for any change or amendment to the GAF roof specifications unless approved in writing by an authorized GAF contractor services manager. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|---|
| 1. | Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. | Title, original publication date, and identifying symbol, if any | Diamond Pledge "LWIC" Roof Guarantee; January 2002; COMTS594 |
| 3. | Product, specification, or system covered | All GAFGLAS built-up and Ruberoid modified bitumen membranes, flashings and accessories; lightweight insulating concrete |
| 4. | Scope of coverage | <p>Material and workmanship; GAF guarantees to make repairs through the GAF roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories and coated edge metal 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 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.</p> <p>GAF also guarantees that, as to the lightweight insulating concrete (LWIC), the actual resistance to heat flow through the LWIC 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.</p> |
| 5. | Length of coverage | <p>10, 12, 15 or 20 years depending upon roofing specification. Where Mcurbs or Lexsuco flashings are used, they are covered by the guarantee only for the first 10 years.</p> <p>Smooth surfaced built-up and modified roof systems require reapplication of roof coating on average every three to five years to assure guarantee remains in full force. Roof systems coated with BMCA MB Plus or BMCA Surface Seal require reapplication every seven years to maintain the coating and guarantee effectiveness.</p> |
| 6. | Nature of remedy | <p>GAF will repair leaks through the GAF membrane, base flashing, insulation, expansion joint covers, pre-flashed accessories and coated edge metal.</p> <p>If the LWIC fails to perform as warranted, GAF will (1) make repairs to the LWIC insulation as GAF deems appropriate so that the LWIC insulation will perform as guaranteed; and (2) repair the roof membrane to the extent that it is damaged as a result of the failure of the LWIC to perform as guaranteed or as a result of repairs to the LWIC.</p> |
| 7. | Monetary limitations | No dollar limit on covered repairs |
| 8. | Notification requirements | Written notification within 30 days of discovery of leak to GAF contractor services department, 1361 Alps Road, Wayne, NJ 07470. |
| 9. | Exclusive or additional remedy | 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 negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 19, 22. |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, M, S |

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| 15. Cost to obtain | 10 years: \$10.00/square 12 years: \$12.00/square 15 years: \$14.00/square 20 years: \$19.00/square |
| 16. Minimum charge | 10 years: \$850; 12 years: \$900; 15 years: \$1,000; 20 years: \$1,200 |
| 17. Ineligible structure or building use | Non-lightweight insulated concrete decks, high-humidity buildings, buildings with increased internal pressures and cold storage. |
| 18. Pre-construction notice and approval requirements | Contractor must submit a notice of award application and obtain technical acceptance. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | GAF roof protection services representative makes on-site inspections prior to and during application upon request and after completion prior to issuance of warranty, 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, materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its guarantee obligations. |
| 23. Issuing entity manufacturers and/or sells products | GAF manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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; and (3) an assignment fee of \$500 is paid to GAF. Otherwise, guarantee is not assignable, directly or indirectly |
| 26. Special features/conditions | <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or materials that impede any inspection must be removed at owner's expense so GAF can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee. Owner's failure to do so in a timely manner may result in cancellation or suspension of guarantee.</p> <p>No representative, employee, or agent of GAF has any authority to assume any additional liability or responsibility for GAF, unless approved in writing by an authorized construction services manager. 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 contractor services manager.</p> <p>In an emergency, the Owner may make temporary repairs to minimize damage to the building or its contents. Such repairs will not result in cancellation of guarantee as long as the temporary repairs are reasonable and customary and do not result in permanent damage to the GAF roofing material.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. | Title, original publication date, and identifying symbol, if any | "Liberty™ Limited Warranty On SBS Materials;" April 2003; RESLB300 |
| 3. | Product, specification, or system covered | All Liberty membranes and flashings |
| 4. | Scope of coverage | Material only; GAF warrants that the GAF roofing membrane and GAF base flashing material will not leak due to ordinary wear and tear by the elements or manufacturing defects. |
| 5. | Length of coverage | 10 years: Liberty Self-Adhering Cap Sheet or FR Cap Sheet installed directly over an acceptable substrate. 15 years: Liberty SBS Self-Adhering Cap Sheet or Liberty Cap FR Sheet installed over Liberty MA Base Sheet or Liberty Base/Ply Sheet installed over an acceptable substrate. |
| 6. | Nature of remedy | GAF's sole responsibility is the repair or replacement, at GAF's option, of that portion of the GAF materials that leak as a result of a manufacturing defect or deterioration caused by ordinary wear and tear. Within a reasonable time after notification, GAF will evaluate claim and resolve it in accordance with the terms of the warranty. |
| 7. | Monetary limitations | GAF's maximum liability during the first year is the original cost of the GAF materials only. After the first year, GAF's maximum liability is the original cost of the GAF materials reduced by 6.67% for 15-year warranties and 10% for 10-year warranties during each subsequent year, less any costs previously incurred by GAF for repair or replacement. |
| 8. | Notification requirements | Written notification within 30 days after discovery of leak to GAF contractor services, 1361 Alps Road, Wayne, NJ 07470. Owner must provide proof of purchase and application date to prove claimant is original owner. GAF may require owner to submit, at owner's expense, samples of GAF materials for testing and photographs. |
| 9. | Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantee or warranties and any other obligations or liability of GAF, whether any claim is based upon strict liability, negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 22 |
| 13. | Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates there is no coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C. Warranty may be cancelled if the roof is damaged by any cause listed as an exclusion from coverage (see item #12 above) that may affect the integrity and watertightness of the roof. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | Cold storage or freezer buildings or buildings with high humidity conditions. |

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| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None |
| 22. | Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | GAF manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | Not transferable or assignable in any manner. |
| 26. | Special features/conditions | 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 for GAF unless it is in writing and signed by an authorized contractor services manager. GAF shall not be responsible for any change or amendment to the GAF roof specifications used in the construction of the roof unless approved in writing by an authorized GAF contractor services manager. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. Title, original publication date, and identifying symbol, if any | "System Pledge™ Roof Guarantee"; July 2003, COMTS586 |
| 3. Product, specification, or system covered | All GAF GLAS built-up roofing, Ruberoid modified bitumen membranes, flashings and accessories and EverGuard membranes. |
| 4. Scope of coverage | <p>Material and workmanship; GAF guarantees to repair leaks through the GAF roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating 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.</p> <p>If a Stratavent perforated venting base sheet is installed directly over isocyanurate insulation, GAF will make repairs to eliminate blisters that occur between the Stratovent perforated vented base sheet and the isocyanurate insulation even if the blisters do not result in leaks.</p> |
| 5. Length of coverage | 10, 12, 15 or 20 years depending upon the roof specification. Smooth surfaced built-up and modified roof systems require reapplication of roof coating on average every three to five years. Roof systems coated with BMCA MB Plus or BMCA Surface Seal requires an initial coating at installation and reapplication every seven years. Mcurbs or Leksuco flashings are covered only for the first 10 years. |
| 6. Nature of remedy | GAF will repair covered leaks through GAF roofing materials. |
| 7. Monetary limitations | GAF's maximum liability shall not exceed in the aggregate over the life of the guarantee more than \$100 per square. The per square amount of GAF's maximum liability is inserted in the text of the guarantee at the time of issuance. |
| 8. Notification requirements | Written notice within 30 days after discovery of a leak to GAF contractor services department, 1361 Alps Road, Building 11-2, Wayne, NJ 07470 |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties and any other obligations or liability of GAF whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | GAF's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 19, 20, 21, 22 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, H, M, S |
| 15. Cost to obtain | Yes; GAF did not disclose cost. |
| 16. Minimum charge | Yes; GAF did not disclose minimum charge. |
| 17. Ineligible structure or building use | Some structures or building uses are not eligible for warranty coverage. GAF did not disclose ineligible structures or building uses. Contact GAF for details. |

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| 18. | Pre-construction notice and approval requirements | Contractor must submit a notice of award application and obtain technical acceptance. |
| 19. | Approved, authorized or licensed contractor | Yes |
| 20. | Job inspection policy | GAF roof protection services representative makes on-site inspections prior to and during application upon request and after completion prior to issuance of guarantee, as well as two years after issuance of guarantee; no charge. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to all leaks, any defects, materials and workmanship for two years. |
| 22. | Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its guarantee obligations. |
| 23. | Issuing entity manufacturers and/or sells products | GAF manufactures and sells product |
| 24. | Conditions for renewal or extension | Some specifications may be eligible for extension of guarantee for up to 5 years. Owner must (1) notify GAF in writing 6 months before or up to 12 months after expiration; (2) pay a \$300 inspection fee; and (3) make any repairs to the GAF membrane or other roofing or building components that are identified by GAF. An approved roofer must then properly apply the appropriate BMCA liquid membrane and notify GAF that it is complete. |
| 25. | Assignability | Assignable to a subsequent owner only if (1) request is made in writing within 30 days after ownership transfer; (2) roof is inspected and any roof repairs identified by GAF are completed at owner's expense; and (3) an assignment fee of \$500 is paid. Otherwise, guarantee is not assignable, directly or indirectly. |
| 26. | Special features/conditions | <p>If investigation after notice to GAF indicates that leak is not covered by this guarantee, owner pays an inspection cost of \$500. Guarantee will be cancelled if owner fails to pay inspection fee within 30 days.</p> <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that GAF can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee that are identified as necessary to preserve the integrity of the GAF roofing materials.</p> <p>In an emergency, the owner may make temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in the cancellation of guarantee provided they are reasonable and customary and do not result in permanent damage to the GAF roof materials.</p> <p>No representative, employee, or agent of GAF, has the authority to assume any additional or other liability or responsibility for GAF unless approved in writing by an authorized contractor services manager. 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 contractor services manager.</p> <p>Any controversy or claim relating to the guarantee shall first be submitted to mediation. In the event that mediation is unsuccessful, any lawsuit or proceeding shall be before the appropriate state or federal court in the State of New Jersey. Guarantee shall be governed by New Jersey laws. Each party irrevocably consents to the jurisdiction and venue of the New Jersey state or federal court.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. | Title, original publication date, and identifying symbol, if any | "Ruberoid® LMG Labor and Material Guarantee (A limited warranty);" July 2003; COMTS 560 Rev. 7/03 |
| 3. | Product, specification, or system covered | Ruberoid modified membrane and base flashings: Ruberoid Mop Plus FR, Mop Plus, Mop 170 FR, Mop Granule, 30 FR, 30, Torch FR, Torch Plus, Torch Granule, Torch Smooth Coated, Torch Smooth |
| 4. | Scope of coverage | Material only; GAF warrants that the Ruberoid roof membrane and 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 a watertight condition. Warranty applies to Ruberoid materials installed in accordance with current GAF specifications. |
| 5. | Length of coverage | 10 years: Ruberoid 30, Ruberoid Torch Smooth 12 years: Ruberoid Torch Granule, Ruberoid Torch Smooth Coated 15 years: Ruberoid Mop Plus, Ruberoid Mop Plus FR, Ruberoid Mop 170 FR, Ruberoid Mop Granule, Ruberoid 30 FR, Ruberoid Torch FR, Ruberoid Torch Plus |
| 6. | Nature of remedy | GAF's sole responsibility is to repair that portion of the GAF membrane and base flashing 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 in conjunction with the Ruberoid materials is not included. GAF will evaluate claim and resolve it in accordance with the warranty within 90 days after notification of a leak. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notice within 30 days after discovery of the leak to GAF contractor services department, 1361 Alps Road, Building 11-2, Wayne, New Jersey 07470. Notice to GAF must include a copy of the warranty or proof of purchase of the Ruberoid materials. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | GAF's determination |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 7, 8, 10, 11, 12, 13, 15, 19, 20, 21, 22 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | Warranty may be cancelled if the roof is damaged by any cause listed as an exclusion (see Item 12 above) that may affect the integrity and watertightness of the roof. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | Applications over buildings with high internal humidity, freezer buildings or cold storage buildings. |

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| 18. | Pre-construction notice and approval requirements | None required |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections. |
| 21. | Contractor's post-installation obligation | None; material-only guarantee. |
| 22. | Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its guarantee obligations. |
| 23. | Issuing entity manufacturers and/or sells products | GAF manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Not transferable or assignable in any manner |
| 26. | Special features/conditions | <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 allow water infiltration or result in spillage of coolant, oils or grease; (9) recoating any cracked, flaked, 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 unless it is in writing and signed by an authorized contractor services manager. 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 Contractor Services manager.</p> |
| 27. | Executed by owner | Yes; Owner must sign and mail in warranty registration form. Warranty is not effective unless properly registered. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. Title, original publication date, and identifying symbol, if any | "Diamond Pledge™ Roof Guarantee;" December 2002; COMTS587 |
| 3. Product, specification, or system covered | All GAFGLAS built-up roofing membranes, flashing and accessories. All Ruberoid modified bitumen membranes, flashings and accessories. EverGuard membranes. Must use GAF or EverGuard accessory products in conjunction with the membrane system. |
| 4. Scope of coverage | <p>Material and workmanship; GAF guarantees to repair leaks through the GAF roofing membrane, base flashing, insulation, expansion joint covers, pre-flashed accessories, coated edge metal and coating 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.</p> <p>If a Stratavent Eliminator perforated venting base sheet is installed directly over isocyanurate insulation, GAF will also make repairs to eliminate blisters that occur between the Stratavent vented base sheet and the isocyanurate insulation even if the blisters do not result in leaks.</p> |
| 5. Length of coverage | 10, 12, 15, 20 or 25 years. Length of coverage depends upon roofing specification. Smooth surfaced built-up and modified roof systems require reapplication of roof coating on average every 3 to 5 years. Roofing systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every 7 years for guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every 10 years. Only Triposite XL Systems are eligible for 25 years. Mcurbs or Lexsucu flashings are covered only for the first 10 years. |
| 6. Nature of remedy | GAF will repair covered leaks through GAF materials. |
| 7. Monetary limitations | No dollar limit on covered repairs. |
| 8. Notification requirements | Written notification within 30 days of discovery of leak to GAF contractor services department, 1361 Alps Road, Building 11-2, Wayne, NJ 07470 |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties and any other obligations or liability of GAF, whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | GAF investigates reported leaks |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, H, M. |
| 15. Cost to obtain | \$5.00 to \$17.00/square |
| 16. Minimum charge | 10 years: \$750; 12 years: 750; 15 years: \$800; 20 years: \$1,000 |
| 17. Ineligible structure or building use | Some buildings are ineligible. Contact GAF for details |
| 18. Pre-construction notice and approval requirements | Contractor must submit a notice of award application and obtain technical acceptance. |

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| 19. | Approved, authorized or licensed requirements | Yes; roof must be installed by a GAF Master Select or GAF Master roofing contractor certified by GAF in the type of system being installed. |
| 20. | Job inspection policy | GAF roof protection services representative makes on-site inspections prior to and during application upon request, and after completion prior to issuance of warranty, 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 materials and workmanship for two years. |
| 22. | Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its guarantee obligations. |
| 23. | Issuing entity manufacturers and/or sells products | GAF manufactures and sells product. |
| 24. | Conditions for renewal or extension | <p>This guarantee may be eligible for an extension for up to 5 years depending upon the specification. Owner must (1) notify GAF in writing 6 months before or up to 12 months after the expiration date that owner wishes to extend the guarantee; (2) pay a \$300 inspection fee; and (3) make any repairs to the GAF roofing materials or other roofing or building components that are identified by GAF. An approved roofer must then properly apply the appropriate BMCA liquid membrane and notify GAF that it is complete.</p> <p>If GAF issues a Diamond Pledge Extension Addendum at the time of issuance of the Guarantee, GAF guarantees that GAF will extend the guarantee for a term equal to 25% of the original guarantee length if owner (1) has the roof inspected annually by a Master-Select Roofing Contractor; (2) has annual roofing system maintenance performed by a Master Select roofing contractor in accordance with GAF's 10-point maintenance program; (3) submits to GAF annually a roof inspection form with at least 6 photographs showing roof condition and critical details and a record of all maintenance within 60 days of the anniversary date of roof completion starting with the first 2 years. GAF has no obligation to extend the guarantee if the documentation is not received in a timely manner.</p> |
| 25. | Assignability | Assignable to subsequent owner only if (1) request is made in writing 30 days after ownership transfer; (2) owner makes repairs to the GAF roofing materials or other roofing or building components that are identified by GAF; and (3) an assignment fee of \$500 is paid to GAF. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. | Special features/conditions | <p>If investigation after notice to GAF indicates that leak is not covered by this guarantee, owner pays an inspection cost of \$500. Guarantee will be cancelled if owner fails to pay inspection fee within 30 days.</p> <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that GAF can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee that are identified as necessary to preserve the integrity of the GAF roofing materials.</p> <p>In an emergency, the owner may make temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in the cancellation of guarantee provided they are reasonable and customary and do not result in permanent damage to the GAF roof materials.</p> <p>No representative, employee, or agent of GAF, has the authority to assume any additional or other liability or responsibility for GAF unless approved in writing by an authorized contractor services manager. 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 contractor services manager.</p> <p>Any controversy or claim relating to the guarantee shall first be submitted to mediation. In the event that mediation is unsuccessful, any lawsuit or proceeding shall be before the appropriate state or federal court in the State of New Jersey. Guarantee shall be governed by New Jersey laws. Each party irrevocably consents to the jurisdiction and venue of the New Jersey state or federal court.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|---|
| 1. Identity of issuing entity | GAF Materials Corporation (GAF), Loadmaster Supply, Inc. and Loadmaster Erector |
| 2. Title, original publication date, and identifying symbol, if any | "Loadmaster Platinum Promise Guarantee," January 2002; COMTS596 |
| 3. Product, specification, or system covered | All GAF membranes, flashings and accessories and Loadmaster Roof Deck. |
| 4. Scope of coverage | <p>Material and workmanship; GAF guarantees to repair leaks through the GAF roofing membrane, base flashing, expansion joint covers, pre-flashed accessories and coated edge metal 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 roof base; workmanship in applying the GAF materials; and slippage of membrane or base flashing.</p> <p>Loadmaster guarantees that the roof deck will perform as a suitable substrate for the GAF roofing materials, its flexural strength shall be in accordance with published Loadmaster Safe Uniform Total Load tables and its diaphragm shear strength and shear stiffness shall be as represented in the Loadmaster Diaphragm Design manual. Loadmaster otherwise does not guarantee the roof deck. Loadmaster is not responsible for any defect or deficiency resulting from any failure by Erector to follow Loadmaster installation instructions.</p> <p>Loadmaster Erector guarantees that the roof deck will be installed in accordance with the Loadmaster installation specifications and there will exist no defect or deficiency in the roof deck caused by improper installation of the roof deck by Erector. Erector otherwise does not guarantee the roof deck against any defect or deficiency.</p> |
| 5. Length of coverage | 10, 15 and 12 years depending upon roofing specification and contractor status. Where Mcurbs or Lexsuo flashings are used, they are covered for the first 10 years only. |
| 6. Nature of remedy | GAF will repair covered leaks through GAF materials. Loadmaster or Erector will repair the roof deck and roof system, including insulation and GAF roofing materials. Loadmaster in its sole discretion shall select the mode, manner, nature and extent of repairs or other remedial actions necessary. |
| 7. Monetary limitations | No dollar limit on covered repairs. |
| 8. Notification requirements | In the event of a leak through the GAF roofing materials, written notification within 30 days of discovery of leak to GAF contractor services department, 1361 Alps Road, Wayne, NJ 07470. In the event of a claim to Loadmaster or Erector, written notification to Loadmaster at 4295 D International Blvd., Norcross, GA 30093 within 30 days after discovery of a claim or to Erector at the address stated in the guarantee. |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties and any other obligations or liability on the part of GAF and Loadmaster, whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 18, 22 |
| 13. Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates that there is no coverage for damage caused by wind. |

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| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | C, H, M |
| 15. Cost to obtain | From \$10.00 to \$19.00/square |
| 16. Minimum charge | 10 years: \$850; 15 years: \$1,000; 20 years: \$1,200 |
| 17. Ineligible structure or building use | Non-Loadmaster roof decks |
| 18. Pre-construction notice and approval requirements | Contractor must submit a notice of award application and obtain technical acceptance prior to commencement of installation. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | GAF roof protection services representative makes on-site inspections prior to and during application upon request, and after completion prior to issuance of warranty, 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 and defects, materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its guarantee obligations. |
| 23. Issuing entity manufacturers and/or sells products | GAF manufactures and sells GAF roofing materials. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Assignable to subsequent owner only if (1) request is made in writing to GAF and Loadmaster within 30 days after ownership transfer; (2) owner makes repairs to GAF roofing materials, Loadmaster roof deck or other roofing or building components that are identified after an inspection; and (3) owner pays an assignment fee of \$500 to GAF. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. Special features/conditions | <p>Warranty executed by GAF, Loadmaster Supply, Inc. and Loadmaster Erector.</p> <p>Owner agrees to pay promptly for all sampling and testing costs if it is determined that owner's claim is not covered by the guarantee. Owner must perform regular inspections and maintenance and keep records of the work. Owner must make repairs to the building roof system or components not covered by the guarantee that are identified during inspections by GAF as being necessary to preserve the integrity of the GAF roofing materials and the Loadmaster roof deck. Any equipment or material that impedes any inspection must be removed at owner's expense so that GAF and Loadmaster can perform inspections. Failure of owner to perform work in a timely manner may result in cancellation of or suspension of guarantee.</p> <p>No representative, employee, or agent of GAF or Loadmaster has the authority to assume any additional liability or responsibility for GAF or Loadmaster unless in writing and signed by an authorized GAF contractor services manager or Loadmaster technical director.</p> <p>In an emergency, the owner may make temporary repairs to minimize damage to the building or its contents at owner's expense. These repairs will not result in cancellation of the guarantee provided that the temporary repairs are reasonable and customary and do not result in permanent damage to the GAF roof materials and Loadmaster roof deck.</p> |
| 27. Executed by owner | No |
| 1. Identity of issuing entity | GAF Materials Corporation (GAF) |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 2. | Title, original publication date, and identifying symbol, if any | "Topcoat 10 Year Limited Warranty;" June 2002; TOPCS108A |
| 3. | Product, specification, or system covered | Topcoat roofing products: Topcoat membrane, Wallcote Vertical Wall System; Liquid Fabric Flashing Grade, MB Plus, MP300, One Step, Sky-Lite, Precote, Surface Seal SB, XR 2000 Primer, CRT, FlexSeal, Solo, EPDM Coating. |
| 4. | Scope of coverage | Material only; GAF warrants its Topcoat roofing products against manufacturing defects that affect performance and allow leaking. |
| 5. | Length of coverage | 10 years |
| 6. | Nature of remedy | GAF's will provide replacement product for any portion of the Topcoat membrane that allows leakage as a result of a manufacturing defect, excluding labor and any costs involved with repairing or replacing the underlying roof structure. Within a reasonable time after proper notification, GAF will evaluate and resolve claim in accordance with the terms of the warranty. Replacement Topcoat material will be warranted for the remainder of the original warranty period. |
| 7. | Monetary limitations | GAF's maximum liability is providing replacement product for that portion of the Topcoat membrane that leaks as a result of a manufacturing defect. |
| 8. | Notification requirements | Written notification within 30 days after discovery of leak to GAF contractor services, 1361 Alps Road, Bldg. 11, Wayne, NJ 07470. Owner must provide proof of purchase and application date to prove claimant is original owner. GAF may require owner to submit, at owner's expense, sample Topcoat membrane for testing and photographs. |
| 9. | Exclusive or additional remedy | Warranty is exclusive and replaces all other warranties and represents the sole remedy available to any owner of Topcoat membrane; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | GAF's determination |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 7, 9, 11, 12, 13, 17, 18, 19, 20 |
| 13. | Wind coverage/exclusion | Warranty excludes windstorms and tornadoes. GAF indicates there is no coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | None stated |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None |

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| 22. | Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | GAF manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Not transferable or assignable in any manner. Warranty terminates if building is sold or transferred. |
| 26. | Special features/conditions | Owner should retain original warranty as well as product name and lot numbers from the bucket in the event the owner needs to file a claim. No one, including any representative or employee of GAF, has authority to assume any additional liability or responsibility for GAF. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|--|---|
| 1. Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. Title, original publication date, and identifying symbol, if any | "Topcoat Diamond Pledge™ Roof Guarantee;" December 2001; TOPCS111A |
| 3. Product, specification, or system covered | Topcoat Roofing System: Topcoat membrane, Topcoat flashing grade and spray formula grade, Topcoat liquid fabric, MP 300, SB 900, XR2000, Surface Seal SB, Surface Seal SB primer, MB Plus and Flexseal |
| 4. Scope of coverage | Material and workmanship; GAF guarantees to repair leaks through the Topcoat products resulting from natural deterioration of the Topcoat roofing system, manufacturing defects and workmanship in applying the Topcoat Roofing System. |
| 5. Length of coverage | 5, 10, 12, 15 and 20 years depending upon system specification and contractor status. |
| 6. Nature of remedy | GAF will repair covered roof leaks through the Topcoat products. |
| 7. Monetary limitations | No dollar limit on covered repairs. |
| 8. Notification requirements | Written notification to GAF contractor services department, 1361 Alps Road, Wayne, NJ 07470 within 30 days after discovery of a leak through the Topcoat roofing system. |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties and any other obligations or liability of GAF, whether any claim is based upon negligence, breach of warranty, or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13 19, 22. Also excludes leaks caused by excessive snow or ice movement or any damage to the Topcoat Roofing System caused by gutters. |
| 13. Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates there is no coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | C, H, M. |
| 15. Cost to obtain | Yes; GAF did not disclose cost. |
| 16. Minimum charge | Yes; GAF did not disclose minimum charge. |
| 17. Ineligible structure or building use | Some structures or buildings are not eligible for guarantee coverage. GAF did not disclose ineligible structures or building uses. Contact GAF for details. |
| 18. Pre-construction notice and approval requirements | Contractor provides notice through submittal prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | GAF roof protection services representative makes on-site inspections during and after application prior to issuance of guarantee, as well as two years after issuing guarantee. |
| 21. Contractor's post-installation obligation | Contractor's obligated to make repairs to materials and workmanship for two years. |
| 22. Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | GAF manufactures and sells product |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Owner may assign guarantee to a subsequent owner of the building if: (1) the request is in writing within 30 days after ownership transfer; (2) owner makes repairs to the Topcoat roofing system or other roofing or building components that are identified by GAF; and (3) owner pays an assignment fee of \$500. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. Special features/conditions | <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that GAF can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee that are identified as necessary to preserve the integrity of the Topcoat roofing system.</p> <p>In an emergency, the owner may make temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in cancellation of the guarantee provided they are reasonable and customary and do not result in permanent damage to the Topcoat roofing system. No representative, employee, or agent of GAF has the authority to assume any additional liability or responsibility for GAF unless approved in writing by an authorized Contractor Services Manager.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|---|
| 1. | Identity of issuing entity | GAF Materials Corporation (GAF) |
| 2. | Title, original publication date, and identifying symbol, if any | "Topcoat Emerald Pledge Restoration NDL Warranty;" December 2001; TOPCS112 |
| 3. | Product, specification, or system covered | Topcoat roof coatings |
| 4. | Scope of coverage | GAF warrants that the Topcoat 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 a watertight condition. Warranty applies only to Topcoat materials installed by a GAF authorized roofing contractor in accordance with current published specifications. |
| 5. | Length of coverage | 10 years |
| 6. | Nature of remedy | GAF's sole responsibility is to repair that portion of the Topcoat materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. GAF shall evaluate claim and resolve it in accordance with warranty within 60 days after notification of a leak. |
| 7. | Monetary limitations | No dollar limit on covered repairs |
| 8. | Notification requirements | Written notification within 30 days after discovery of leak to GAF contractor services department, 1361 Alps Road, Wayne, NJ 07470. Notice must include a copy of the warranty. |
| 9. | Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantees 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 |
| 11. | Determination of warranty applicability | GAF evaluates claim |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 19, 22. Also excludes leaks caused by excessive snow or ice movement and any damage to the Topcoat materials caused by gutters. |
| 13. | Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. GAF indicates there is no coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | F. Warranty states that cancellation of this warranty will result if the Topcoat materials are damaged by any cause listed as a specific exclusion so as to affect the integrity or watertightness of the roof. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | Building with high internal humidity or used as freezer building for cold storage. |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections |

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| 21. Contractor's post-installation obligation | None |
| 22. Backed by name insurance or surety | No; GAF indicates it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | GAF manufactures and sells product |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | Not transferable or assignable in any manner. |
| 26. Special features/conditions | Project must be registered in accordance with GAF registration requirements. Owner must exercise prudence in the care of the roof system and follow GAF maintenance program. 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 for GAF unless approved in writing by an authorized contractor services manager. GAF shall not be responsible for or liable for any change and/or amendment to the roof specifications in regard to the construction of the roof, unless the change and/or amendment to the specifications are approved in writing by an authorized GAF contractor services manager. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Henry 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. |
| 3. Product, specification, or system covered | Built-up roofing specifications H4-NGC-MR, H4-I--IGC-MR, H4-IGC-GV/GN. |
| 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. |
| 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.) |
| 6. Nature of remedy | Henry will make or cause to be made repairs necessary to maintain the roof membrane in a watertight condition. |
| 7. Monetary limitations | None stated. |
| 8. Notification requirements | Written notice of any material defect of the Henry products within 30 days of the defect Henry Company, 3810 Miller Park Drive, Garland, TX 75042. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 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.) |
| 13. Wind coverage/exclusion | Warranty covers roof damage resulting from wind speeds up to 46 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, D, F, H |
| 15. Cost to obtain | \$10.00/square |
| 16. Minimum charge | \$1,000 |
| 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. |
| 18. Pre-construction notice and approval requirements | Prior approval issued by execution of warranty application form and pre-construction notice 72 hours in advance. |
| 19. Approved, authorized or licensed requirements | 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. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |

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| 22. | Backed by name insurance or surety | No; Henry Company indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Henry Company 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. |
| 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. |
| 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. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | Henry Company |
| 2. Title, original publication date, and identifying symbol, if any | Henry Company Roof Membrane Limited Warranty February 1985. |
| 3. Product, specification, or system covered | Built-up roofing Specifications: H3-MGC-MR, H4NGC-MR, H3-IGC-MR, H4-IGC-MR, H3-IGC-GV/GN, H4-IGC-GV/GN, H3-NPE-MR, H3-IPE-MR, H3-NPE-GV/GN, H3-IPE-GV/GN, H3-NGC-GV/GN |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 10 years |
| 6. Nature of remedy | Henry will make or cause to be made any repairs necessary to maintain roof membrane in a watertight condition. |
| 7. Monetary limitations | Henry Company shall be discharged of all further liability whenever the cost to Henry of all covered roof membrane repairs equals warranty amount. |
| 8. Notification requirements | Written notice of any material defect of the Henry products within 30 days of the defect Henry Company, 3810 Miller Park Drive, Garland, TX 75042. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 8, 9, 10, 11, 18, 22, 23. Warranty also excludes construction inside the building, including the removal or addition of walls, that influences the integrity of the roof membrane. |
| 13. Wind coverage/exclusion | Warranty covers roof damage resulting from wind speeds up to 46 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, H, S |
| 15. Cost to obtain | \$10.00/square |
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | Cold-storage and most apartment buildings and condominiums; all structures and locations subject to approval by Henry Company. |
| 18. Pre-construction notice and approval requirements | |
| 19. Approved, authorized or licensed requirements | Prior approval issued by execution of warranty application form and preconstruction notice 72 hours in advance. |
| 20. Job inspection policy | Henry inspector makes on-site inspections prior to and during application (daily to periodical) and after application, as well as 2 years after issuance of warranty; \$1.00/square charge. |

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| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Henry Company indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Henry Company manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 26. Special features/conditions | 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Henry Company |
| 2. | Title, original publication date, and identifying symbol, if any | Roofing Systems & Waterproofing Limited Warranty; 09/96. |
| 3. | Product, specification, or system covered | Modified Plus Modified Bitumen roofing products and systems. |
| 4. | Scope of coverage | Material only; Henry warrants that it will, at its option, repair or replace free of charge any Henry products that are found to be materially defective. The warranty covers only material defects in Henry products that cause water leakage. |
| 5. | Length of coverage | 12 years |
| 6. | Nature of remedy | Henry's liability limited to replacement of materials and the cost of labor necessary to maintain or restore the surface to which the Henry product is applied in a watertight condition. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notice of any material defect of the Henry products within 30 days of the defect Henry Company, 3810 Miller Park Drive, Garland, TX 75042. |
| 9. | Exclusive or additional remedy | Remedy provided in the warranty is the sole and exclusive remedy provided by Henry to the owner for any and all claims arising under, in connection with, or in any way related to the Henry products; excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 8, 9, 11, 17, 19; also excludes normal wear and tear and aesthetic diminution. |
| 13. | Wind coverage/exclusion | Henry 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. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, I, R |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | Minimum roof size of 50 squares |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections. |
| 21. | Contractor's post-installation obligation | None; material-only warranty. |

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| 22. | Backed by name insurance or surety | No; Henry indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million. |
| 23. | Issuing entity manufacturers and/or sells products | Henry manufacturers and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | The warranty is not assignable without Henry's prior written consent. |
| 26. | Special features/conditions | <p>Pursuant to the warranty, the owner authorizes Henry to investigate or cause to be investigated the alleged material defect of the Henry 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 Henry 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 Henry and owner. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Henry Company |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Roofing & Waterproofing Product Warranty; 09/96. |
| 3. | Product, specification, or system covered | Modified Plus Modified Bitumen roofing products and systems. |
| 4. | Scope of coverage | Material only; Henry warrants that the Henry product, when prepared and applied in accordance with specifications and directions and used under normal service conditions, will not break down or disintegrate. |
| 5. | Length of coverage | 12 years |
| 6. | Nature of remedy | Henry shall refund to the owner all or part of the original cost of the product based upon a prorating schedule. |
| 7. | Monetary limitations | Refund to the owner shall be determined by multiplying the original cost of the product times (by) the unexpired fraction of the warranty period. |
| 8. | Notification requirements | Written notice of any material defect in the Henry products within 30 days of the defect to Henry Company, 3810 Miller Park Drive, Garland, TX 75042 |
| 9. | Exclusive or additional remedy | The warranty is in lieu of and excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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. |
| 13. | Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, I, R |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None; material-only warranty |
| 22. | Backed by name insurance or surety | No; Henry indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million. |

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| 23. Issuing entity manufacturers and/or sells products | Henry manufacturers and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | The warranty is not assignable without Henry's prior written consent. |
| 26. Special features/conditions | <p>Pursuant to the warranty, the owner authorizes Henry to investigate or cause to be investigated the alleged material defect of the Henry 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 Henry for the cost of any such investigation, including repair costs.</p> <p>Henry 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> |
| 27. Executed by owner | Yes; the warranty does not come into force until receipt of a signed copy by Henry and owner. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Henry Company |
| 2. Title, original publication date, and identifying symbol, if any | Limited Roofing & Waterproofing Product Warranty; 09/96. |
| 3. Product, specification, or system covered | Modified Plus Modified Bitumen roofing products and systems. |
| 4. Scope of coverage | Material only; Henry warrants that the Henry product, when prepared and applied in accordance with specifications and directions and used under normal service conditions, will not break down or disintegrate. |
| 5. Length of coverage | 12 years |
| 6. Nature of remedy | Henry shall refund to the owner all or part of the original cost of the product based upon a prorating schedule. |
| 7. Monetary limitations | Refund to the owner shall be determined by multiplying the original cost of the product times (by) the unexpired fraction of the warranty period. |
| 8. Notification requirements | Written notice of any material defect in the Henry products within 30 days of the defect to Henry Company, 3810 Miller Park Drive, Garland, TX 75042. |
| 9. Exclusive or additional remedy | The warranty is in lieu of and excludes all other warranties, guarantees, conditions, and representations; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 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. |
| 13. Wind coverage/exclusion | No coverage for damage caused by wind |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, I, R |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | No |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty |
| 22. Backed by name insurance or surety | No; Henry indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million. |
| 23. Issuing entity manufacturers and/or sells products | Henry manufacturers and sells the product. |

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| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | The warranty is not assignable without Henry's prior written consent. |
| 26. Special features/conditions | <p>Pursuant to the warranty, the owner authorizes Henry to investigate or cause to be investigated the alleged material defect of the Henry 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 Henry for the cost of any such investigation, including repair costs.</p> <p>Henry 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> |
| 27. Executed by owner | Yes; the warranty does not come into force until receipt of a signed copy by Henry and owner. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Henry Company |
| 2. | Title, original publication date, and identifying symbol, if any | Gold Seal Roofing & Waterproofing Membrane Warranty; 09/96. |
| 3. | Product, specification, or system covered | Modified Plus Modified Bitumen roofing products and systems. |
| 4. | Scope of coverage | Material and workmanship; Henry 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, 15, or 20 years (Henry indicates that warranty coverage depends upon specification and specific product used. Standard term is 12 years). |
| 6. | Nature of remedy | Henry'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. |
| 8. | Notification requirements | Written notice of any material defect in the Henry products within 30 days of the defect to Henry Company, 3810 Miller Park Drive, Garland, TX 75042 |
| 9. | Exclusive or additional remedy | Remedy provided in the warranty is the sole and exclusive remedy provided by Henry 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 |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 8, 11, 12, 17; also excludes normal wear and tear and aesthetic diminution. |
| 13. | Wind coverage/exclusion | Henry 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 (item 14 in Introduction) | B, C, H, I, R |
| 15. | Cost to obtain | 12 years: \$ 6.00/square 15 years: \$10.00/square 20 years: \$15.00/square |
| 16. | Minimum charge | 12 years: \$300; 15 years: \$500; 20 years: \$750 |
| 17. | Ineligible structure or building use | Cold-storage facilities; all residential buildings other than multiple dwellings |
| 18. | Pre-construction notice and approval requirements | The contractor must submit details of project, including deck construction, vapor retarder, insulation materials, and all flashing details prior to installation and obtain approval. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Henry 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 | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Henry indicates that it carries umbrella liability insurance covering its warranty obligations in the amount of \$10 million. |
| 23. | Issuing entity manufacturers and/or sells products | Henry manufacturers and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | The warranty is not assignable without Henry's prior written consent. |
| 26. | Special features/conditions | <p>Pursuant to the warranty, the owner authorizes Henry to investigate or cause to be investigated the alleged material defect of the Henry 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 Henry 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 Henry and owner. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | International Diamond Roofing Systems, Inc. (IDS) |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Workmanship Warranty; Revised 12/95. |
| 3. | Product, specification, or system covered | Diamond 105, Seal-A-Plate, FM Bar, Ballasted, Bonded Plate, 135 Totally Adhered, Reinforced |
| 4. | Scope of coverage | 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 workmanship 15 years materials |
| 6. | Nature of remedy | 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 re-placement of the defective IDS product by repair or substitution of new material. |
| 7. | Monetary limitations | IDS' obligation to remedy defects shall not exceed the original cost of IDS materials as charged by IDS. |
| 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 |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | IDS's determination. |
| 12. | Specific exclusions from coverage (item 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. (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/exclusion | 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 (item 14 in Introduction) | C, M, N, S |
| 15. | Cost to obtain | \$8.00/square |
| 16. | Minimum charge | 10 years: \$500; 15 years: \$600 |
| 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. |

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| 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. |
| 19. | Approved, authorized or licensed requirements | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 20. | Job inspection policy | No; IDS indicates that it does not carry insurance covering its warranty obligations. |
| 21. | Contractor's post-installation obligation | 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. |
| 22. | Backed by name insurance or surety | |
| 23. | Issuing entity manufacturers and/or sells products | IDS manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | The warranty is not transferable. |
| 26. | Special features/conditions | <p>Although the warranty states that it covers workmanship of any installed IDS product, the warranty also states: 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 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> |
| 27. | Executed by owner | 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)

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| 1. Identity of issuing entity | International Diamond Roofing Systems, Inc. (IDS) |
| 2. Title, original publication date, and identifying symbol, if any | "Limited Ten Year Membrane Only Warranty (Prorated)"; Revised 12/95. |
| 3. Product, specification, or system covered | Diamond 105, Seal-A-Plate, FM Bar, Ballasted, Bonded Plate, 135 Totally Adhered, Reinforced. |
| 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. |
| 5. Length of coverage | 10 or 15 years. |
| 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 |
| 7. Monetary limitations | IDS' obligation to remedy defects shall not exceed the original cost of IDS materials as charged by IDS. |
| 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 |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 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.) |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, M, N, S |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | The warranty states that IDS shall have no obligation if building is used for non-commercial purposes, such as residential, personal, family, or household purposes. |
| 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; IDS indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | IDS manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | The warranty is not transferable. |
| 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. 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. 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 [s/c] 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 [s/c] 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.</p> <p><u>Note:</u> Ground speed winds must be calculated and multiplied by three in order to determine the effect the wind has on a system. 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 | |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | 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. |
| 3. | Product, specification, or system covered | APP Modified Bitumen Products: 4S, 4.5S, 4MFR, Bicor S, Bicor MRR, Tricor S, Tricor MFR, when applied over one or two plies. |
| 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. |
| 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. |
| 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. |
| 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.) |
| 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral; JM arranges inspection. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. | Cost to obtain | 5 years: \$5.00/sq; 10 years: \$6.00/sq; 12 years: \$8.50/sq. |
| 16. | Minimum charge | 5 years: \$500; 10 years: \$600; 12 years: \$850 |
| 17. | Ineligible structure or building use | Cold-storage buildings, private residences, storage silos, heated tanks |

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| 18. | Pre-construction notice and approval requirements | Contractor is required to submit a guarantee application for approval 14 days prior to start of construction. |
| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. | Conditions for renewal or extension | 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. |
| 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. 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 | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | 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. |
| 3. | Product, specification, or system covered | <u>BUR Specifications</u> : 4GIS, 4GIG, 5GIC, 4GNS, 4GNG, with use of GlasPly Premier Felts; <u>DynaKap Modified Bitumen Specifications</u> : 3CID, 3CIG, 3FID, (See Special Features/Conditions), APP Modified Bitumen Specifications: 3CIN-W, 3PIN-W. |
| 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. |
| 5. | Length of coverage | 20 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. |
| 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.) |
| 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. | Cost to obtain | \$17.00/square |
| 16. | Minimum charge | \$1,700 |
| 17. | Ineligible structure or building use | 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations |
| 23. | Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. | Conditions for renewal or extension | 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. |
| 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 buildings 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, & returned to JM's office in Littleton, CO. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Johns Manville International, Inc. (JM) |
| 2. | Title, original publication date, and identifying symbol, if any | "Gold Shield Roofing System Guarantee"; June 1997; JM-645-2 (6/97), RS-7082 11-97. |
| 3. | Product, specification, or system covered | 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. |
| 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. |
| 5. | Length of coverage | 5 to 10 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. |
| 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.) |
| 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. |
| 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 |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. | Cost to obtain | 5 years: \$5.00/square; 10 years: \$6.00/square |
| 16. | Minimum charge | 5 years: \$500; 10 years: \$600 |
| 17. | Ineligible structure or building use | 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations |
| 23. | Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. | Conditions for renewal or extension | 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 |
| 26. | Special features/conditions | All listed specifications are eligible for either the 5- or 10-year guarantee. |
| 27. | Executed by owner | Yes; Guarantee must be signed, dated, and returned to JM's office in Littleton, CO. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | 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. |
| 3. | Product, specification, or system covered | BUR Specifications: 4GIS, 4GIG, 5GNG, 5GLG, 5GIC, with GlasPly Premier Felts, installed over two layers of Fescoboard |
| 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. |
| 5. | Length of coverage | 20 years for new construction or tear-off |
| 6. | Nature of remedy | JM will take prompt appropriate action to return the Roofing System to a water-tight 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 \$100 per square; minimum coverage is \$10,000.) |
| 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. |
| 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 |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. | Cost to obtain | \$12.00/square |
| 16. | Minimum charge | \$1,200 |
| 17. | Ineligible structure or building use | 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. |
| 19. | Approved, authorized or licensed requirements | Yes |

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| 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. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations |
| 23. Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. Conditions for renewal or extension | 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 |
| 26. Special features/conditions | <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 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 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> |
| 27. Executed by owner | 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)

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|-----|---|---|
| 1. | Identity of issuing entity | 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-7002 11-97. |
| 3. | Product, specification, or system covered | APP Modified Bitumen Products: Bicor or Tricor when installed over two APPEX base sheets, utilizing three plies of material. |
| 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 efficiencies 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 |
| 6. | Nature of remedy | JM will take prompt appropriate action to return the Roofing System to a water-tight 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.) |
| 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. | Cost to obtain | \$17.00/square |
| 16. | Minimum charge | \$1,700 |
| 17. | Ineligible structure or building use | 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. |
| 19. | Approved, authorized or licensed requirements | Yes |

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| 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. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. Conditions for renewal or extension | 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. |
| 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> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | 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. |
| 3. Product, specification, or system covered | <u>BUR Specifications:</u> 4GIS, 4GIG, 3GIS, 3GIG, 4GIC, 4GNC, 4GNS, with use of GlasPly Premier Felts; <u>DynaKap Modified Bitumen Specifications:</u> 2CID, 2CIG, 2CND, 2CNG, 3CID, 3CND (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. |
| 5. Length of coverage | 5 years for re-roofing; 10 years for new construction or tear-off. |
| 6. Nature of remedy | JM will take prompt appropriate action to return the Roofing System to a water-tight 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.) |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. Cost to obtain | \$8.50/square |
| 16. Minimum charge | \$850 |
| 17. Ineligible structure or building use | 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. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 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. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations |
| 23. Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. Conditions for renewal or extension | 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. |
| 26. Special features/conditions | <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 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 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 buildings 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. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | 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. |
| 3. Product, specification, or system covered | <u>BUR Specifications:</u> 4GIS, 4GIG, 5GIC, 5GNS, 5GNG, with use of GlasPly Premier Felts and one layer of Fescoboard; <u>DynaKap Modified Bitumen Specifications:</u> 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. |
| 5. Length of coverage | 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. |
| 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.) |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. Cost to obtain | \$12.50/square |
| 16. Minimum charge | \$1,250 |
| 17. Ineligible structure or building use | 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. | Conditions for renewal or extension | 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. |
| 26. | Special features/conditions | <p>Specifications 5GIC, 5GNC, 5GNS and 5GNG are eligible for this guarantee in JM's designated Region 3 only. 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 | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | Johns Manville International, Inc. (JM) |
| 2. Title, original publication date, and identifying symbol, if any | "UltraGard Roofing System Guarantee;" April 1998; RS-8048 (4/98). |
| 3. Product, specification, or system covered | 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 |
| 5. Length of coverage | 5, 10 or 15 years |
| 6. Nature of remedy | JM will take prompt appropriate action to return the Roofing System to a water-tight 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.) |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral; JM arranges inspection |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 18 |
| 13. Wind coverage/exclusion | 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 Beaufort Scale defines as winds between 47-54 mph. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, F, M (See Special Features/Conditions.) |
| 15. Cost to obtain | PVC systems: 5 yrs: \$4.00/sq; 10 yrs: \$7.00/sq; 15 yrs: \$10.00/sq. |
| 16. Minimum charge | EPDM Systems: 5 years \$2.00/sq; 10 years \$4.00/sq; 15 years \$6.00/sq 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 |

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| 18. | Pre-construction notice and approval requirements | Contractor is required to submit a guarantee application for approval 14 days prior to start of construction. |
| 19. | Approved, authorized or licensed requirements | 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 |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; JM indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | JM manufactures and sells product. |
| 24. | Conditions for renewal or extension | 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. |
| 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.</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 buildings 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's office in Littleton, CO. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | JPS Elastomerics Corp. |
| 2. | Title, original publication date, and identifying symbol, if any | “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 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 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 | 10 or 15 years. |
| 6. | Nature of remedy | JPS will repair leaks in the roofing system using methods determined to be suitable at JPS's discretion. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 5, 7, 17. Warranty states that specific Condition M also makes the warranty inapplicable. |
| 13. | Wind coverage/exclusion | Warranty excludes winds of peak gust speed of ____ mph measured 10 meters above the ground, hurricanes, and tornadoes. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, H, I |
| 15. | Cost to obtain | 10 years: \$7.00 or \$9.00/square; 15 years: \$10.00 or \$12.00/square |
| 16. | Minimum charge | 10 years: \$375; 15 years: \$600 |
| 17. | Ineligible structure or building use | Residential buildings |
| 18. | Pre-construction notice and approval requirements | Contractor submits request to JPS for approval of warranty form, along with diagram and details. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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. |
| 22. | Backed by name insurance or surety | No |

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| 23. Issuing entity manufacturers and/or sells products | JPS manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | JPS Elastomerics Corp. |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Material Warranty for Commercial Building; January 1995, RSD-FM-12 |
| 3. | Product, specification, or system covered | Hi-Tuff Roofing membrane wearing surface. |
| 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. |
| 5. | Length of coverage | 5 or 10 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. |
| 7. | Monetary limitations | JPS' liability limited to the cost of the material at the time of claim, prorated for service to date of claim. |
| 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 |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 16, 23 |
| 13. | Wind coverage/exclusion | Warranty excludes gale-force winds. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, I |
| 15. | Cost to obtain | 5 years: \$ 50; 10 years: \$100 |
| 16. | Minimum charge | 5 years: \$ 50; 10 years: \$100 |
| 17. | Ineligible structure or building use | Residential buildings. |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | JPS technical representative makes on-site inspection after application prior to issuance of warranty; no charge. |

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| 21. Contractor's post-installation obligation | Contractor is normally obligated to make repairs to all leaks, any defects, and workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No |
| 23. Issuing entity manufacturers and/or sells products | JPS manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | JPS Elastomerics Corp. |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Warranty for Commercial Building - NDL; January, 1995, RSD-FM-11. |
| 3. | Product, specification, or system covered | Hi-Tuff Roofing System. |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 10 years. |
| 6. | Nature of remedy | JPS will repair leaks in the roofing system using methods determined to be suitable at JPS' discretion. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notification of leaks must be delivered to JPS Warranty Services Department, 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 5, 7, 17. Warranty states that specific Condition M also makes the warranty inapplicable. |
| 13. | Wind coverage/exclusion | Warranty excludes winds of peak gust speed of ____ mph measured 10 meters above the ground, hurricanes, and tornadoes. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, H, I |
| 15. | Cost to obtain | 5 years: \$4.00/square 10 years: \$6.00/square 15 years: \$9.00/square |
| 16. | Minimum charge | 10 years: \$450 |
| 17. | Ineligible structure or building use | Residential buildings. |
| 18. | Pre-construction notice and approval requirements | Contractor submits request to JPS for approval of warranty form, along with diagram and details. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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. |
| 22. | Backed by name insurance or surety | No |

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| 23. Issuing entity manufacturers and/or sells products | JPS manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|---|
| 1. | Identity of issuing entity | JPS Elastomerics Corp |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Material Warranty for Commercial Building; January 1995, RSD-FM-12. |
| 3. | Product, specification, or system covered | Hi-Tuff Roofing membrane wearing surface. |
| 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. |
| 5. | Length of coverage | 5 or 10 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. |
| 7. | Monetary limitations | JPS' liability limited to the cost of the material at the time of claim, prorated for service to date of claim. |
| 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 |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 16, 23 |
| 13. | Wind coverage/exclusion | Warranty excludes gale-force winds. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, I |
| 15. | Cost to obtain | 5 years: \$150; 10 years: \$300 |
| 16. | Minimum charge | 5 years: \$150; 10 years: \$300 |
| 17. | Ineligible structure or building use | Residential buildings |
| 18. | Pre-construction notice and approval requirements | Yes |
| 19. | Approved, authorized or licensed requirements | 5 years: \$150; 10 years: \$300 |
| 20. | Job inspection policy | JPS technical representative makes on-site inspection after application prior to issuance of warranty; no charge. |

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| 21. Contractor's post-installation obligation | Contractor is normally obligated to make repairs to all leaks, any defects, and workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No |
| 23. Issuing entity manufacturers and/or sells products | JPS manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | JPS Elastomerics Corp. |
| 2. | Title, original publication date, and identifying symbol, if any | Limited Warranty for Commercial Building - NDL; January, 1995, RSD-FM-11. |
| 3. | Product, specification, or system covered | Hi-Tuff Roofing System. |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 10 years. |
| 6. | Nature of remedy | JPS will repair leaks in the roofing system using methods determined to be suitable at JPS' discretion. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notification of leaks must be delivered to JPS Warranty Services Department, 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | JPS' determination; JPS' sole judgment whether specific exclusions and conditions that make warranty null and void occur |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 5, 7, 17. Warranty states that specific Condition M also makes the warranty inapplicable. |
| 13. | Wind coverage/exclusion | Warranty excludes winds of peak gust speed of ____ mph measured 10 meters above the ground, hurricanes, and tornadoes. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, G, H, I |
| 15. | Cost to obtain | 10 years: \$6.00/square |
| 16. | Minimum charge | 10 years: \$450 |
| 17. | Ineligible structure or building use | Residential buildings. |
| 18. | Pre-construction notice and approval requirements | Contractor submits request to JPS for approval of warranty form, along with diagram and details. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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. |
| 22. | Backed by name insurance or surety | No |

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| 23. Issuing entity manufacturers and/or sells products | JPS manufactures and sells the product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|---------------------|--------------------|
| 1. | Identity of issuing entity | Koppers Industries, Inc. | | |
| 2. | Title, original publication date, and identifying symbol, if any | 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 | | | |
| 4. | Scope of coverage | IRMA Built-up Roofing specifications: 263, 264, 273, 274, 463, 464, 473, 474 | | |
| 5. | Length of coverage | 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. | | |
| 6. | Nature of remedy | <p>10 years: specifications 263 and 463 on lightweight insulating concrete or gypsum, 273 and 473 on precast concrete or steel;</p> <p>15 years: specifications 263 and 463 on wood plank, 264 and 464 on lightweight insulating concrete or gypsum;</p> <p>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;</p> <p>20-year specifications are eligible for 15- and 10-year warranties; 15-year specifications are eligible for 10-year warranties.</p> | | |
| 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 Styrofoam) reduced by 5 percent for each year or part thereof. | | |
| 8. | Notification requirements | 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 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 | | |
| 11. | Determination of warranty applicability | 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 (item 12 in Introduction) | 1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 15, 16, 17, 18, 22, 23 | | |
| 13. | Wind coverage/exclusion | The warranty covers roof damage resulting from wind speeds up to 70 mph. | | |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B (except emergency repairs), G | | |
| 15. | Cost to obtain | 10 yrs: \$9.00/sq; | 15 yrs: \$10.50/sq; | 20 yrs: \$13.00/sq |
| 16. | Minimum charge | 10 yrs: \$800; | 15 yrs: \$900; | 20 yrs: \$1,000 |

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| 17. Ineligible structure or building use | Cooler/freezer buildings, private residences. |
| 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. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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 is obligated to make repairs to workman-ship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Koppers indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Koppers manufactures and sells product. |
| 24. Conditions for renewal or extension | 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. |
| 26. Special features/conditions | <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.</p> <p>"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 testing 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 | |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Koppers Industries, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Koppers Built-Up Roofing Warranty;" January 1, 2000; CRD-A-109 |
| 3. Product, specification, or system covered | Built-Up Roofing Specifications: 210-3, 220-3, 210-4, 220-4, 410-3, 420-3, 410-4, 420-4, 910-3, 920-3, 910-4, 920-4 |
| 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 materials or insulation 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. |
| 5. Length of coverage | 5, 10, 15 or 20 years. Up to 20 years for 200 and 400 series 4-ply systems; up to 15 years for 200 and 400 series 3-ply systems, with the exception of 3-ply systems over nailable decks in which case the maximum length of coverage is 10 years. |
| 6. Nature of remedy | Koppers will schedule a roof inspection and arrange for any repairs that are covered by warranty |
| 7. Monetary limitations | This warranty has no aggregate dollar limit on covered repairs. However, in the event that the cost of a covered repair would exceed, in Koppers' judgment, the remaining value of the roofing system on the date the repair is required, Koppers will provide owner with such remaining value, but with no deduction for the cost of any previous repairs. |
| 8. Notification requirements | Call Koppers at 1-800-468-9626 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 |
| 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; excludes UCC warranties |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Koppers' determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 17, 18, 22, 23 |
| 13. Wind coverage/exclusion | Warranty excludes wind damage, hurricanes and tornadoes. Koppers indicates that there is no coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, H, J, M |
| 15. Cost to obtain | 5 years: \$10.00/square; 10 years: \$12.00/square; 15 years: \$15.00/square; 20 years: \$18.00/square |
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | Residential |

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| 18. | Pre-construction notice and approval requirements | Warranty application is submitted to Koppers for approval and upon approval, contractor is notified. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Koppers representatives or authorized inspectors make on-site inspections prior to and during application as deemed necessary. Koppers makes inspection after completion prior to issuance of warranty, 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, defects and workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Koppers does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Koppers manufactures and sells product |
| 24. | Conditions for renewal or extension | 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 may be transferred to such tenant, purchaser or successor only if (1) named owner provides written notification of any transfer of ownership to Koppers, 436 Seventh Ave., Pittsburgh, PA 15219 within 30 days of such transfer; (2) Koppers is given the opportunity to inspect the roof; and (3) any repairs required by Koppers are made. |
| 26. | Special features/conditions | <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. Owner's failure to repair leaks not covered by the warranty will void any further Koppers obligation under the warranty.</p> <p>Annual roof inspections are the responsibility of the building owner. Owner must comply with Koppers care and maintenance recommendations, including a complete recoating of the flashing system, using a Koppers aluminum roof coating, every five years on flashing specifications 168, 172, and 180, and as needed on 174 and 182. A roof sketch must be supplied to Koppers identifying exact location of all additions, alterations, or repairs.</p> <p>Should repairs fail their essential purpose, owner may request an inspection of the recurring leak area by a Koppers technical service representative. Koppers will then follow the recommendation of its representative as to the appropriate remedy.</p> <p>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. By purchase, acceptance or receipt of Koppers products and warranty, the owner accepts the terms, conditions, limitations and exclusions contained in the Koppers warranty.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Koppers Industries, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | "Modified Bitumen Roof Membrane Warranty;" January 1, 2000; CRD-D-109. |
| 3. Product, specification, or system covered | Modified Bitumen specifications: 401, 402, 403, 404, 405, 412, 414, 415, 416, 417. |
| 4. Scope of coverage | Materials 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. 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 ridging or slippage. |
| 5. Length of coverage | 5, 10, or 12 years. |
| 6. Nature of remedy | Koppers will schedule a roof inspection and arrange for any repairs which are covered by warranty. |
| 7. Monetary limitations | Repair Limit is stated in the warranty when issued. |
| 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: Commercial Roofing Department. |
| 9. Exclusive or additional remedy | Warranty obligation of Koppers and 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; warranty includes the complete and exclusive agreement with Koppers and supercedes any and all prior oral or written agreements or representations; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Koppers' determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 22, 23 |
| 13. Wind coverage/exclusion | Warranty excludes wind damage, hurricanes and tornadoes. Koppers indicates that there is no coverage for damage caused by wind |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C, F, H, J, M, O |
| 15. Cost to obtain | \$6.00/square |
| 16. Minimum charge | 5 years: \$350; 10 years: \$550; 12 years: \$600 |
| 17. Ineligible structure or building use | Residential |
| 18. Pre-construction notice and approval requirements | Warranty application is submitted to Koppers for approval and contractor is notified upon approval by Koppers. This is followed by acknowledgment through signed agreements. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | Koppers representatives or authorized inspectors make on-site inspections prior to and during application as deemed necessary by Koppers. Koppers makes inspections after completion, prior to issuing warranty, as well as two years after issuance of warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to all leaks and defects and workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Koppers indicates it does not carry insurance conveying its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Koppers manufactures and sells product. |
| 24. Conditions for renewal or extension | 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 may be assigned or transferred to such tenant, purchaser, or successor only if: (1) the owner provides written notification of any transfer of ownership to Koppers within 30 days of such transfer; (2) Koppers is given opportunity to inspect the roof at its discretion; and (3) any repairs required by Koppers are made |
| 26. Special features/conditions | <p>Annual roof inspections are the responsibility of the building owner. Owner must comply with Koppers care and maintenance recommendations, including a complete recoating of the flashing system, using a Koppers aluminum roof coating, every five years on flashing specifications 168, 172, 180, and as needed on 174 and 182.</p> <p>Warranty will be governed by the laws of the Commonwealth of Pennsylvania. By purchase, acceptance or receipt of Koppers products and warranty, the Owner accepts the terms, conditions, limitations and exclusions contained in the Warranty. 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 the warranty, investigation and repair costs shall be paid by owner. A roof sketch should be supplied to Koppers identifying exact locations of all additions, alterations or repairs.</p> |
| 27. Executed by owner | No (See Special Features/Conditions). |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Mule-Hide Products |
| 2. | Title, original publication date, and identifying symbol, if any | "Mule-Hide Products Co., Inc. Standard System Warranty for Commercial Buildings"; May 1, 1994. |
| 3. | Product, specification, or system covered | 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 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 | 10 or 15 years. |
| 6. | Nature of remedy | 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 | None stated. |
| 8. | Notification requirements | 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 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 |
| 11. | Determination of warranty applicability | Mule-Hide's determination (See Special Features/ Conditions.) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | 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 warranty ineffective or null and void (item 14 in Introduction) | B, C, F (warranty references owner's care and maintenance information), G, K. Warranty also is canceled if there is an internal positive pressure condition that causes or contributes to a partial or total failure of the roof. |
| 15. | Cost to obtain | 10 years: \$5.00/square for Hypalon, thermoplastics; \$6.00/square for EPDM |
| 16. | Minimum charge | 10 years: \$500; 15 years: \$900 |
| 17. | Ineligible structure or building use | Residences |
| 18. | Pre-construction notice and approval requirements | Submit pre-job survey form and warranty application to Mule-Hide Products Co. for approval prior to job commencement. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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 | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Mule-Hide sells the product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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 | <p>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.</p> <p>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.</p> <p>The owner acknowledges that owner had a duty to exercise reasonable care in the selection of a contractor.</p> |
| 27. | Executed by owner | Yes; owner expressly accepts Mule-Hide's terms, conditions, and limitations. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Mule-Hide Products |
| 2. Title, original publication date, and identifying symbol, if any | Mule-Hide Membrane Material Warranty; May 1, 1994. |
| 3. Product, specification, or system covered | EPDM Membranes, Hypalon Membranes, Thermoplastic (PVC) Membranes. |
| 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. |
| 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 |
| 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. |
| 7. Monetary limitations | The maximum prorated value allowed for repair or credit shall not exceed the original purchase price of the membrane. |
| 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. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Mule-Hide's determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 12, 16, 23 |
| 13. Wind coverage/exclusion | Warranty excludes wind, hurricanes, and tornadoes. Mule-Hide indicates that there is no coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C |
| 15. Cost to obtain | 10 yrs: \$2500; 20 yrs: \$2.00/sq (EPDM black only) |
| 16. Minimum charge | 10 years: \$2500 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Submit pre-job survey form and warranty application to Mule-Hide Products Co. prior to job commencement. |
| 19. Approved, authorized or licensed requirements | No |

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| 20. | Job inspection policy | No on-site inspections. |
| 21. | Contractor's post-installation obligation | None; material-only warranty. |
| 22. | Backed by name insurance or surety | No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Mule-Hide sells the product only. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | No representative has the authority to make any representations or promises except as stated in warranty. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Mule-Hide Products |
| 2. | Title, original publication date, and identifying symbol, if any | Mule-Hide Products Co., Inc. Premium System Warranty for Commercial Buildings; May 1, 1994. |
| 3. | Product, specification, or system covered | <u>EPDM systems</u> : ballasted, mechanically attached, fully adhered; <u>Hypalon systems</u> : ballasted, mechanically attached, fully adhered; <u>Thermoplastic (PVC) systems</u> : mechanically attached, fully adhered. |
| 4. | Scope of coverage | 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 | 10 or 15 years. |
| 6. | Nature of remedy | 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 | None stated. |
| 8. | Notification requirements | 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 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 |
| 11. | Determination of warranty applicability | Mule-Hide's determination (See Special Features/ Conditions.) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | 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 warranty ineffective or null and void (item 14 in Introduction) | B, C, F (warranty references owner's care and maintenance information), G, K. Warranty also is canceled if there is an internal positive pressure condition that causes or contributes to a partial or total failure of the roof. |
| 15. | Cost to obtain | 10 years: \$8.00/square; 15 years: \$14.00/square |
| 16. | Minimum charge | 10 years: \$800; 15 years: \$1,250 |
| 17. | Ineligible structure or building use | Residences. |
| 18. | Pre-construction notice and approval requirements | Submit pre-job survey form and warranty application to Mule-Hide Products Co. for approval prior to job commencement. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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 | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Mule-Hide indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Mule-Hide sells the product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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 | <p>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.</p> <p>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.</p> <p>The owner acknowledges that owner had a duty to exercise reasonable care in the selection of a contractor.</p> |
| 27. | Executed by owner | Yes; owner expressly accepts Mule-Hide's terms, conditions, and limitations. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Omnova Solutions Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | GenFlex Roofing Systems "EPDM Roofing System Warranty;" January 1, 2001 |
| 3. | Product, specification, or system covered | GenFlex EPDM |
| 4. | Scope of coverage | Material and workmanship; Omnova 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. |
| 5. | Length of coverage | 5 years: all .045/.060 GenFlex membranes; 10 years: all .045/.060 GenFlex membranes; 15 years: all .045/.060 GenFlex membranes; 20 years: .060 mil EPDM |
| 6. | Nature of remedy | If there is a leak caused by a defect in GenFlex brand materials or workmanship, Omnova will repair the leak. |
| 7. | Monetary limitations | None stated |
| 8. | Notification requirements | Written notice within 30 days of discovery of any roof 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 roof system; no other express warranties; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Omnova's determination |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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.) |
| 13. | Wind coverage/exclusion | Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes. Omnova indicates that warranty covers roof damage resulting from winds up to 54 mph. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C (Warranty may also be suspended if owner fails to reimburse Omnova for investigation costs if Omnova's investigation reveals that Omnova is not responsible for owner's claim.), D,H,K |
| 15. | Cost to obtain | 5 years: \$2.00/square; 10 years: \$4.00/square; 15 years: \$7.00/square; 20 years: \$10.00/square |
| 16. | Minimum charge | 5 years: \$300; 10 years: \$350; 15 years: \$400; 20 years: \$500 |
| 17. | Ineligible structure or building use | Single family residence |
| 18. | Pre-construction notice and approval requirements | Authorized contractor must submit pre-job survey form to GenFlex technical department two weeks prior to job start. |
| 19. | Approved, authorized or licensed requirements | Yes |

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| 20. Job inspection policy | GenFlex technical representative makes on-site inspection at job start and after completion prior to issuance of warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Omnova does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Omnova sells product only |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty may not be transferred upon change of ownership unless the owner (a) notifies Omnova in writing of its proposed change at least 45 days prior to the change; (b) pays Omnova the warranty transfer fee in effect on the date the warranty was issued; and (c) completes all repairs required by Omnova in order to correct failures to comply with owner's obligations under the warranty. |
| 26. Special features/conditions | <p>If Omnova's investigation of any claim reveals that Omnova is not responsible for owner's claim, owner shall promptly reimburse Omnova for the investigation and repair costs incurred by Omnova.</p> <p>While Omnova 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 Omnova 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 48 hours after it stops raining must 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 Omnova arising out of warranty or relating to any material supplied or specifically required by Omnova 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Omnova Solutions Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | GenFlex Roofing Systems "Limited Membrane Only Warranty;" January 1, 2001 |
| 3. | Product, specification, or system covered | GenFlex TPO, RM and EPDM |
| 4. | Scope of coverage | Material only; Omnova 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 years: all GenFlex membranes; 10 years: all GenFlex membranes; 15 years: all GenFlex membranes; 20 years: .060 mil EPDM, .060 TPO, .060 RM-T |
| 6. | Nature of remedy | Omnova will, at its option, either repair the membrane or issue credit against the purchase of a new roofing membrane from Omnova, prorated based on months of service. |
| 7. | Monetary limitations | Credit issued by Omnova 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 roof 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 the sole and exclusive remedy for failure of the roofing membrane; no other express warranties; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes. Omnova indicates that warranty covers roof damage resulting from winds up to 54 mph. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, C (warranty may also be suspended if owner fails to reimburse Omnova for investigation costs if Omnova's investigation reveals that Omnova is not responsible for owner's claim), D, H, K |
| 15. | Cost to obtain | 5 years: no charge; 10 years: \$50; 15 years: \$100; 20 years: \$200 |
| 16. | Minimum charge | 5 years: no charge; 10 years: \$50; 15 years: \$100; 20 years: \$200. |
| 17. | Ineligible structure or building use | Single family residence |
| 18. | Pre-construction notice and approval requirements | Authorized contractor must submit pre-job survey form to GenFlex technical department two weeks prior to job start. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections |

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| 21. Contractor's post-installation obligation | None; material-only warranty |
| 22. Backed by name insurance or surety | No; Omnova does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Omnova manufactures and sells GenFlex TPO and RM and only sells GenFlex EPDM. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Warranty may not be transferred upon change of ownership unless the owner (a) notifies Omnova in writing of proposed change at least 45 days prior to change; (b) pays Omnova the warranty transfer fee in effect on the date the warranty was issued; and (c) completes all repairs required by Omnova in order to comply with the owner's obligations under this warranty. |
| 26. Special features/conditions | <p>If Omnova's investigation of any claim reveals that Omnova is not responsible for owner's claim, owner shall promptly reimburse Omnova for the investigation and repair costs incurred by Omnova.</p> <p>While Omnova 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 Omnova 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 Omnova maintenance and care requirements stated on reverse side of warranty, including at least twice yearly inspections; ponded water 48 hours after it stops raining must 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 Omnova arising out of warranty or relating to any material supplied or specifically required by Omnova 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Omnova Solutions Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | GenFlex Roofing Systems "Thermoplastic Roofing System Warranty," January 1, 2001 |
| 3. | Product, specification, or system covered | GenFlex RM and GenFlex TPO Roofing Systems |
| 4. | Scope of coverage | Material and workmanship; Omnova 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. |
| 5. | Length of coverage | 5, 10 and 15 years: .045 TPO, .060 TPO, .048 PVC, .060 PVC; 20 years: .060 TPO, .060 RM-T |
| 6. | Nature of remedy | If there is a leak caused by a defect in GenFlex brand materials or workmanship, Omnova will repair the leak. |
| 7. | Monetary limitations | None stated |
| 8. | Notification requirements | Written notice within 30 days of discovery of any roof leak and any warranty claim by certified mail to GenFlex Roofing Systems, 1722 Indian Wood Circle, Maumee, Ohio 43537. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Omnova's determination |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1,2,3,4,5,6,7,9,10,12 (see Special Features/Conditions), 13, 14, 17, 22, 24. (Warranty also specifically excludes damages caused by insects and animals.) |
| 13. | Wind coverage/exclusion | Warranty excludes roof damage resulting from wind gusts in excess of 54 mph and hurricanes. Omnova indicates that warranty covers roof damage resulting from winds up to 54 mph. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B,C (Warranty may also be suspended if owner fails to reimburse Omnova for investigation costs if Omnova's investigation reveals that Omnova is not responsible for owner's claim.), D,H,K. |
| 15. | Cost to obtain | 5 years: \$2.00/square; 10 years: \$ 4.00/square; 15 years: \$7.00/square; 20 years: \$10.00/square |
| 16. | Minimum charge | 5 years: \$300; 10 years: \$350; 15 years: \$400; 20 years: \$500 |
| 17. | Ineligible structure or building use | Single family residence |
| 18. | Pre-construction notice and approval requirements | Authorized contractor must submit pre-job survey form two weeks prior to job start. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Omnova technical representative makes on-site inspection at job start and after completion prior to issuance of warranty; no charge. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Omnova does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Omnova manufactures and sells GenFlex RM and TPO thermoplastic membranes. |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Warranty may not be transferred upon change of ownership unless the owner (a) notifies Omnova in writing of proposed change at least 45 days prior to change; (b) pays Omnova the warranty transfer fee in effect on the date the warranty was issued; and (c) completes all repairs required by Omnova in order to comply with owner's obligations under this warranty. |
| 26. | Special features/conditions | <p>If Gen Corp's investigation of any claim reveals that Omnova is not responsible for owner's claim, owner shall promptly reimburse Omnova for the investigation and repair costs incurred by Omnova.</p> <p>While Omnova 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 Omnova 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 48 hours after it stops raining must 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 Omnova arising out of warranty or relating to any material supplied or specifically required by Omnova 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Performance Roof Systems, Inc. (PRS) |
| 2. Title, original publication date, and identifying symbol, if any | "Derbigum Roof System Guaranty"; October 1, 1993. |
| 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. |
| 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. |
| 5. Length of coverage | 10 years |
| 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 |
| 7. Monetary limitations | No limit to PRS' expenditures for damages covered by this guaranty. |
| 8. Notification requirements | Contact PRS immediately at (800) 727-9872 if roof leaks. |
| 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 |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, F, N; warranty indicates that lack of regular and routine maintenance may void contract. |
| 15. Cost to obtain | \$7.50/square |
| 16. Minimum charge | \$1,000 |
| 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 |
| 18. Pre-construction notice and approval requirements | PRS requires a 14-day guaranty application notification in order to verify specifications and to assign a roof auditor. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; PRS indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | PRS manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provisoin. |
| 25. | Assignability | 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. In the event an emergency situation exists, owner may make ecessary 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. 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 project pecifications 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. 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 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 | Yes; owner and roofing contractor must acknowledge and accept the guaranty by signing. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Performance Roof Systems, Inc. (PRS) |
| 2. Title, original publication date, and identifying symbol, if any | "Derbigum Roof Membrane Guaranty"; October 1, 1993. |
| 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 |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 10 years |
| 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. |
| 7. Monetary limitations | No limit to PRS' expenditures for damages covered by this guaranty. |
| 8. Notification requirements | Contact PRS immediately at (800) 727-9872 if roof leaks. |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (See Special Features/Conditions.) |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, F, N; warranty indicates that lack of regular and routine maintenance may void contract. |
| 15. Cost to obtain | \$6.00/square |
| 16. Minimum charge | \$750 |
| 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 |
| 18. Pre-construction notice and approval requirements | PRS requires a 14-day guaranty application notification in order to verify specifications and to assign a roof auditor. |
| 19. Approved, authorized or licensed requirements | Yes |

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| 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. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; PRS indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | PRS manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | 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. 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. 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 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>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 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 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 | Yes; owner and roofing contractor must acknowledge and accept the guaranty by signing. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Performance Roof Systems, Inc. (PRS) |
| 2. | Title, original publication date, and identifying symbol, if any | "Derbigum Ten Year Limited Material Warranty"; October 1, 1993. |
| 3. | Product, specification, or system covered | Derbigum XPS, Derbigum XPS/FR, Derbicolor XPS, Derbicolor XPS/FR, Derbigum GP, Derbicolor GP, Derbigum GP/FrR, Derbicolor GP/FR, Derbibase |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 10 years |
| 6. | Nature of remedy | 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 |
| 7. | Monetary limitations | 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. |
| 8. | Notification requirements | None stated. |
| 9. | Exclusive or additional remedy | 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | None listed; material-only warranty. |
| 13. | Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | None listed. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | None required. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections. |
| 21. | Contractor's post-installation obligation | None; material-only warranty. |
| 22. | Backed by name insurance or surety | No; PRS indicates that it does not carry insurance covering its warranty obligations. |

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| 23. | Issuing entity manufacturers and/or sells products | PRS manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | |
| 27. | Executed by owner | Yes; owner must execute and return to PRS the "Ten Year Limited Material Warranty" notification card. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Performance Roof Systems, Inc. (PRS) |
| 2. | Title, original publication date, and identifying symbol, if any | "Derbigum Roof Service Contract"; October 1, 1993. |
| 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 |
| 4. | Scope of coverage | 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 |
| 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 |
| 7. | Monetary limitations | No limit to PRS' expenditures for damages covered by this guaranty. |
| 8. | Notification requirements | Contact PRS immediately at (800) 727-9872 if roof leaks. |
| 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 |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (See Special Features/Conditions.) |
| 12. | Specific exclusions from coverage (item 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. |
| 13. | Wind coverage/exclusion | No coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | B, F, N; warranty indicates that lack of regular and routine maintenance may void contract. |
| 15. | Cost to obtain | \$12.50/square |
| 16. | Minimum charge | \$1,250 |
| 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 |
| 18. | Pre-construction notice and approval requirements | PRS requires a 14-day guaranty application notification in order to verify specifications and to assign a roof auditor. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; PRS indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | PRS manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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. 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. 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 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. 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 what-ever judicial action would be appropriate to enforce such decision.</p> |
| 27. | Executed by owner | Yes; owner and roofing contractor must acknowledge and accept the guaranty by signing. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Republic Powdered Metals, Inc. (RPM) |
| 2. | Title, original publication date, and identifying symbol, if any | "Republic Single Ply Systems Warranty"; January, 2001, RPM-011.ML |
| 3. | Product, specification, or system covered | Geoflex PIB (Polyisobutylene) and Cooley C3 Single Ply Systems. |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 10, 15 or 20 years. |
| 6. | Nature of remedy | RPM warrants that it will promptly correct leaks in any area of the Republic Single Ply System at its own expense. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | 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 | 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 5, 6, 7, 10, 11, 12, 15, 16, 17, 22, 23 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | A, B, C, F, G, H, I, J, L, M (See Special Features/ Conditions). |
| 15. | Cost to obtain | 10 years: \$2.50/square; 15 years: \$5.00/square; 20 years: \$10.00/square |
| 16. | Minimum charge | 10 years: \$250; 15 years: \$500; 20 years: \$1,000 |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | Notice of award from contractor detailing job requirements must be approved by RPM prior to construction. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | RPM technical service representative makes on-site inspections prior to, during application and upon completion, prior to issuance of warranty; no charge. |

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| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to leaks and workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; RPM indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | RPM manufactures and sells the materials. |
| 24. Conditions for renewal or extension | No renewal extension. |
| 25. Assignability | Warranty is non-transferable. |
| 26. Special features/conditions | <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 | See Special Features above. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|---|
| 1. | Identity of issuing entity | Republic Powdered Metals, Inc. (RPM) |
| 2. | Title, original publication date, and identifying symbol, if any | Manufacturer's Limited Warranty Material Only"; January 2001, RPM-010.M |
| 3. | Product, specification, or system covered | Geoflex, Cooley C3. |
| 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. |
| 5. | Length of coverage | 5, 10 or 15 years (RPM indicates that warranty coverage depends upon specification and substrate used.) |
| 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 |
| 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). |
| 8. | Notification requirements | No |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 10, 11, 12, 16, 17, 19, 20, 23 |
| 13. | Wind coverage/exclusion | Warranty excludes gales, hurricanes and tornadoes. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, R |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | RPM requires a Notice of Award on all projects showing pertinent information. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | No on-site inspections. |

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| 21. Contractor's post-installation obligation | None; material-only warranty. |
| 22. Backed by name insurance or surety | No; RPM indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | RPM manufactures and sells the product |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | Warranty is non-transferable. |
| 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Roofing Products International Inc. (RPI) |
| 2. | Title, original publication date, and identifying symbol, if any | "Limited Membrane Only Warranty"; RPI-54-692-5C. |
| 3. | Product, specification, or system covered | RPI EPDM .045 Black, .060 Black, .045 White, .060 White, RPI FR (Fire Retardant) EPDM .045 Black, .060 Black, .045 White, .060 White. |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 10, 20, or 30 years. |
| 6. | Nature of remedy | 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. |
| 7. | Monetary limitations | 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. |
| 8. | Notification requirements | Notification of breach of warranty within 30 days of discovery of premature deterioration of membrane |
| 9. | Exclusive or additional remedy | No warranties that extend beyond what is stated on warranty document; excludes UCC warranties |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Unclear; warranty states, "If upon inspection by the Seller, the Membrane proves to be defective....." |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 12, 19 |
| 13. | Wind coverage/exclusion | RPI indicates that there is no coverage for damage caused by wind. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | None listed. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections. |

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| 21. | Contractor's post-installation obligation | None; material-only warranty. |
| 22. | Backed by name insurance or surety | No; RPI indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | RPI sells product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | Warranty states that no representative of RPI has authority to make any representations or promises except as stated in the warranty document itself. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|---|
| 1. | Identity of issuing entity | Roofing Products International Inc. (RPI) |
| 2. | Title, original publication date, and identifying symbol, if any | "Limited Warranty Form"; Form RPI-91-31-1M. |
| 3. | Product, specification, or system covered | 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; RPI warrants to repair any leaks due to defects in the RPI Roofing System materials or in workmanship of the RPI-registered roofing applicator. |
| 5. | Length of coverage | 5, 10 or 15 years. |
| 6. | Nature of remedy | RPI will repair leaks in the RPI Rubber Roofing System. |
| 7. | Monetary limitations | 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 within 30 days of discovery of any leaks, by certified mail, return receipt requested, to RPI at 57460 Dewitt St., Elkhart, IN 46517-1018, or other such address RPI notifies owner. |
| 9. | Exclusive or additional remedy | 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 |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 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/exclusion | 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 warranty ineffective or null and void (item 14 in Introduction) | C |
| 15. | Cost to obtain | Call RPI 800/628-2957 |
| 16. | Minimum charge | Call RPI 800/628-2957 |
| 17. | Ineligible structure or building use | 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 | Submittal of job start notification form, W-3, to RPI headquarters office for review by technical representative prior to job start. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | 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 years. |

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| 22. | Backed by name insurance or surety | No; RPI does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | RPI sells product only. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | 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 | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Sarnafil, Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | "10 Year Standard Warranty - Sarnafil Roofing Warranty for Commercial Building"; March 1995. |
| 3. | Product, specification, or system covered | Sarnafil G410, S327, G476. |
| 4. | Scope of coverage | Material and workmanship; Sarnafil warrants that it will repair leaks originating |
| 5. | Length of coverage | 10 years. |
| 6. | Nature of remedy | Sarnafil's liability limited to Sarnafil's repair of roofing membrane or accessory. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notification to Sarnafil, Canton Commerce Center, Canton, MA, within 30 days of discovery of each leak in the roofing system. |
| 9. | Exclusive or additional remedy | Warranty is given in lieu of all other warranties; remedies stated in warranty are exclusive; seeks to exclude UCC. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Sarnafil's determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 8, 12, 17, 23. Roofing damage by wind-blown objects is also specifically excluded. |
| 13. | Wind coverage/exclusion | 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. |
| 14. | Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | C, G |
| 15. | Cost to obtain | \$6.00/square. |
| 16. | Minimum charge | \$800 |
| 17. | Ineligible structure or building use | Private residences. |
| 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. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Sarnafil field technical representatives make on-site inspections during application (determined by field 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. |
| 22. | Backed by name insurance or surety | No; Sarnafil indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Sarnafil manufactures and sells the product. |

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| 24. Conditions for renewal or extension | 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. |
| 26. Special features/conditions | <p>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.</p> <p>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.</p> |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|
| 1. | Identity of issuing entity | Sarnafil, Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | "10 Year System Warranty – Sarnafil Roofing Warranty for Commercial Building;" March 1995. |
| 3. | Product, specification, or system covered | Sarnafil G410, S327, G476. |
| 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. |
| 5. | Length of coverage | 10 years. |
| 6. | Nature of remedy | Sarnafil's liability is limited to repair of Sarnafil's roofing membrane, Sarnatherm insulation, or accessory. |
| 7. | Monetary limitations | None stated. |
| 8. | Notification requirements | Written notification to Sarnafil, Canton Commerce Center, Canton, MA, within 30 days of discovery of each leak in the roofing system. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Sarnafil's determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 6, 7, 8, 12, 17, 23. Roofing damage by wind-blown objects is also specifically excluded. |
| 13. | Wind coverage/exclusion | 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. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, G |
| 15. | Cost to obtain | \$6.00/square |
| 16. | Minimum charge | \$800 |
| 17. | Ineligible structure or building use | Private residences. |
| 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. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Sarnafil field technical representatives make on-site inspections during application (determined by field 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. |

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| 22. | Backed by name insurance or surety | No; Sarnafil indicates that it does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Sarnafil manufactures and sells the product. |
| 24. | Conditions for renewal or extension | 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. |
| 26. | Special features/conditions | <p>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.</p> <p>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.</p> |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|
| 1. | Identity of issuing entity | Seaman Corporation |
| 2. | Title, original publication date, and identifying symbol, if any | "Materials Warranty for FiberTite Roofing Membrane." |
| 3. | Product, specification, or system covered | FiberTite Single-Ply Roof. |
| 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. |
| 5. | Length of coverage | 10 years. |
| 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 8 percent if the defect occurs in the tenth year. |
| 7. | Monetary limitations | Seaman's prorated liability is based upon the original sales price. |
| 8. | Notification requirements | Written notification within 30 days of discovery of the alleged defect to Seaman Corporation. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Seaman's determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 13, 16, 18, 20, 21, 23 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | B, C |
| 15. | Cost to obtain | \$9.00/square |
| 16. | Minimum charge | \$900 |
| 17. | Ineligible structure or building use | 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Seaman indicates that it is self-insured. |
| 23. | Issuing entity manufacturers and/or sells products | Seaman manufactures and sells the product. |
| 24. | Conditions for renewal or extension | 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. |
| 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 |
| 27. | Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|
| 1. | Identity of issuing entity | Seaman Corporation |
| 2. | Title, original publication date, and identifying symbol, if any | "Warranty for Commercial Roofing." |
| 3. | Product, specification, or system covered | FiberTite Roofing Systems. |
| 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. |
| 5. | Length of coverage | 5 or 10 years. |
| 6. | Nature of remedy | 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. |
| 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Seaman's good faith determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24 |
| 13. | Wind coverage/exclusion | 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 (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. |
| 15. | Cost to obtain | \$6.00/square |
| 16. | Minimum charge | \$650 |
| 17. | Ineligible structure or building use | Residential single-dwelling homes eligible for membrane only warranty. |
| 18. | Pre-construction notice and approval requirements | The contractor to provide pre-installation notice with building and job requirements and obtain approval prior to beginning installation. |
| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | No |
| 22. | Backed by name insurance or surety | No; Seaman indicates that it is self-insured. |

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| 23. | Issuing entity manufacturers and/or sells products | Seaman manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|
| 1. | Identity of issuing entity | Seaman Corporation |
| 2. | Title, original publication date, and identifying symbol, if any | "Materials Warranty for FiberTite Roofing Membrane." |
| 3. | Product, specification, or system covered | FiberTite Roofing Systems. |
| 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. |
| 5. | Length of coverage | 15 years. |
| 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. |
| 7. | Monetary limitations | Seaman's prorated liability is based upon the original sales price. |
| 8. | Notification requirements | Written notification within 30 days of discovery of the alleged defect to Seaman Corporation. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Seaman's determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 13, 16, 18, 20, 21, 23 |
| 13. | Wind coverage/exclusion | 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 (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 |
| 15. | Cost to obtain | \$2.00/square |
| 16. | Minimum charge | \$250 |
| 17. | Ineligible structure or building use | 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. |

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| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Seaman indicates that it is self-insured. |
| 23. | Issuing entity manufacturers and/or sells products | Seaman manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|-----|---|--|
| 1. | Identity of issuing entity | Seaman Corporation |
| 2. | Title, original publication date, and identifying symbol, if any | "Warranty for Commercial Roofing." |
| 3. | Product, specification, or system covered | 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. |
| 5. | Length of coverage | 15 years. |
| 6. | Nature of remedy | 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. |
| 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Seaman's good faith determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24 |
| 13. | Wind coverage/exclusion | 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 (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. |
| 15. | Cost to obtain | None |
| 16. | Minimum charge | None |
| 17. | Ineligible structure or building use | 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. |
| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |

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| 22. | Backed by name insurance or surety | No; Seaman indicates that it is self-insured. |
| 23. | Issuing entity manufacturers and/or sells products | Seaman manufactures and sells the product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | 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. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|---|
| 1. | Identity of issuing entity | Seaman Corporation |
| 2. | Title, original publication date, and identifying symbol, if any | "Warranty for Commercial Roofing." |
| 3. | Product, specification, or system covered | 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. |
| 5. | Length of coverage | 15 years. |
| 6. | Nature of remedy | Seaman will repair leaks at its expense. |
| 7. | Monetary limitations | 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. |
| 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. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Seaman's good faith determination. |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 3, 4, 5, 6, 7, 9, 10, 12, 18, 22, 24 |
| 13. | Wind coverage/exclusion | 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 (item 14 in Introduction) | B, C |
| 15. | Cost to obtain | \$7.00/square |
| 16. | Minimum charge | \$750 |
| 17. | Ineligible structure or building use | 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. |
| 19. | Approved, authorized or licensed requirements | 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. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. | Backed by name insurance or surety | No; Seaman indicates that it is self-insured. |

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| 23. Issuing entity manufacturers and/or sells products | Seaman manufactures and sells the product. |
| 24. Conditions for renewal or extension | 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. |
| 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. |
| 27. Executed by owner | Yes |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. | Identity of issuing entity | Siplast, Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | Siplast, Inc. "Roof Membrane Limited Warranty"; October 15, 1987. |
| 3. | Product, specification, or system covered | Paratech |
| 4. | Scope of coverage | 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. |
| 5. | Length of coverage | 5 or 10 years. |
| 6. | Nature of remedy | Siplast shall repair the roof membrane at its own expense. (See Special Features/Conditions.) |
| 7. | Monetary limitations | 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. |
| 8. | Notification requirements | Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered. |
| 9. | Exclusive or additional remedy | Owner's exclusive remedy against Siplast regarding the roof membrane; excludes all other warranties; excludes UCC warranties. |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (no provision). |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 23 |
| 13. | Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, R |
| 15. | Cost to obtain | 5 years: \$4.00/square 10 years: \$5.00/square |
| 16. | Minimum charge | \$300 if less than 50 squares |
| 17. | Ineligible structure or building use | Cold-storage buildings and buildings with high-interior-humidity problems. |
| 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. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Inspections by Siplast field technical staff made prior and during application periodically or as needed and after application; no charge. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to workmanship deficiencies for two years. |

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| 22. | Backed by name insurance or surety | No; Siplast does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Siplast manufactures and sells product. |
| 24. | Conditions for renewal or extension | No renewal provision. |
| 25. | Assignability | No restrictions stated. |
| 26. | Special features/conditions | Warranty 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | Siplast, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Siplast, Inc. "Roof Membrane Guarantee" March 1, 1982. |
| 3. Product, specification, or system covered | Paradiene 20/30, Veral, Paradiene 40, Parafor 50 LT. |
| 4. Scope of coverage | 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 | 10 years, with additional 5-year and 10-year extension options available |
| 6. Nature of remedy | Siplast shall repair the roof membrane at its own expense. (See Special Features/Conditions.) |
| 7. Monetary limitations | None stated. |
| 8. Notification requirements | Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered. |
| 9. Exclusive or additional remedy | Excludes other warranties; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 15, 23 |
| 13. Wind coverage/exclusion | Warranty excludes windstorms, hurricanes, and tornadoes. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, R |
| 15. Cost to obtain | None, if over 50 squares. |
| 16. Minimum charge | \$300 if less than 50 squares |
| 17. Ineligible structure or building use | Cold-storage buildings and buildings with high-interior-humidity problems. |
| 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. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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 | |
| 22. Backed by name insurance or surety | No; Siplast does not carry insurance covering its warranty obligations. |

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| 23. Issuing entity manufacturers and/or sells products | Siplast manufactures and sells product. |
| 24. Conditions for renewal or extension | <p>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.</p> <p>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 maintenance and repairs have been completed in accordance with Siplast's instructions and specifications.</p> |
| 25. Assignability | No restrictions stated. |
| 26. Special features/conditions | 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 |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Siplast, Inc |
| 2. Title, original publication date, and identifying symbol, if any | Roof System Guarantee September 1996. |
| 3. Product, specification, or system covered | Siplast roof membrane, Siplast Zonolite, Insulperm, NVS, Insulcel and Zonocel roof insulation, and Zono-tite and NVS fasteners |
| 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.) |
| 5. Length of coverage | 10 years: all systems; 15 and 20 years available for Paradiene 20/30 and Veral systems |
| 6. Nature of remedy | If the roof system 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. |
| 7. Monetary limitations | None stated. |
| 8. Notification requirements | Written notice within 30 days after leak is discovered or should by reasonable diligence have been discovered |
| 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral |
| 12. Specific exclusions from coverage (item 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. |
| 13. Wind coverage/exclusion | 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.) |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, H, R |
| 15. Cost to obtain | 10 years: no charge; 15 years: \$7.50/square; 20 years: \$12.50/square |
| 16. Minimum charge | \$300 if less than 50 squares, plus normal per-square charge |

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| 17. Ineligible structure or building use | Cold-storage buildings and buildings with high humidity problems |
| 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. |
| 19. Approved, authorized or licensed requirements | Yes; the roofing contractor and lightweight concrete applicator must be approved and licensed by Siplast. |
| 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. |
| 21. Contractor's post-installation obligation | The contractor is obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Siplast does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Siplast manufactures and sells the products. |
| 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 ree 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. |
| 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. |
| 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Soprema, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Soprema, Inc. "Limited Warranty For Roofing System"; Jan. 1, 1997. |
| 3. Product, specification, or system covered | 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, Mammouth Aluminum. |
| 4. Scope of coverage | 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. |
| 5. Length of coverage | 10, 15, or 20 years. |
| 6. Nature of remedy | 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. |
| 7. Monetary limitations | None stated. |
| 8. Notification requirements | 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. |
| 9. Exclusive or additional remedy | 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. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision). |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 13 (including exposure to chlorofluorocarbons, 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. |
| 13. Wind coverage/exclusion | 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. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | 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 |
| 15. Cost to obtain | 10 years: no charge; 15 years: \$ 7.50/square; 20 years: \$12.50/square |
| 16. Minimum charge | None |

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| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | 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). |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | 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. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |
| 22. Backed by name insurance or surety | No; Soprema indicates that it does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Soprema manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | 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. |
| 26. Special features/conditions | Any product sold by Soprema and not manufactured by Soprema is sold "as is" and without any warranty. Soprema disclaims 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|--|
| 1. Identity of issuing entity | Southwestern Petroleum Corporation (SWEPCO) |
| 2. Title, original publication date, and identifying symbol, if any | "SWEPCO Brand Roofing Products Limited Warranty"; December, 1993; J-7433-1293. |
| 3. Product, specification, or system covered | 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 only; SWEPCO warrants that it will furnish sufficient roofing material |
| 5. Length of coverage | Uni+Shield: 5 years without extended-life coating option; Uni+Shield: 12 years with extended-life coating option; #301: 10 years, 12/20 years - material only; #302: 5 years, 12/20 years - material only; #303: 10 years, 12/20 years - materials only |
| 6. Nature of remedy | 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 | 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 | 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 | 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 |
| 11. Determination of warranty applicability | SWEPCO's determination. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19, 20, 22, 23 |
| 13. Wind coverage/exclusion | Warranty excludes damage to roof as a result of the wind, regardless of its speed. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | 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 | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | No |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None |

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| 22. | Backed by name insurance or surety | No |
| 23. | Issuing entity manufacturers and/or sells products | SWEPCO manufactures and sells PolyShield product; SWEPCO sells Uni+Shield product only. |
| 24. | Conditions for renewal or extension | Warranty may be extended for 8 years. Extension is contingent upon repairs and recoat at owners expense within 6 months of expiration. |
| 25. | Assignability | 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 | Any replacement products due under warranty will be made FOB SWEPCO's principal place of business or nearest warehouse. |
| 27. | Executed by owner | No; however, SWEPCO's order form, incorporating the warranty, requires buyer's signature. |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | Tremco Incorporated |
| 2. Title, original publication date, and identifying symbol, if any | "10 Year QA Plus Warranty For New Roofs"; August 2003 |
| 3. Product, specification, or system covered | Therm 100, Therm 200, Burmastic 100, Burmastic 200, Burmastic 300, BUR Combinations; PowerPly MB Systems, Tremply HP4510, Tremfast, TPA, TPA FB |
| 4. Scope of coverage | Material and workmanship; Tremco warrants that it will repair and provide roof inspection, preventive maintenance and limited housekeeping services on the Tremco Roofing System (TRS) in years 2 and 5. TRS shall be defined as the weatherproofing assembly and its components, which includes membrane, insulation, flashings, all sheet metal-related details and termination details as specified by Tremco. |
| 5. Length of coverage | 10 years |
| 6. Nature of remedy | Tremco will have repairs to leaks performed. In years 2 and 5 of the warranty, Tremco shall provide roof inspection preventive maintenance and limited housekeeping services, including repair of tears and splits in metal edge flashing components, flashing membrane and roof membrane with appropriate repair mastics and membranes, sealing exposed fasteners, sealing termination bar and counterflashings, repairing roof membrane splits and blisters that threaten roof integrity and sealing metal projections. Tremco will provide to the owner roof inspection reports which shall become part of the roof database maintained on the roof. |
| 7. Monetary limitations | Tremco's total liability over the life of the warranty shall not in any event exceed in dollar value the installed contract price of the TRS. Tremco's maximum liability shall be pro-rated on a straight-line basis over the life of the warranty, and shall not exceed such pro-rated amount. |
| 8. Notification requirements | Owner shall report leaks by contacting Tremco at 1-800-422-1195 and in writing at 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 | Remedies and obligations stated in warranty are owner's sole and exclusive remedies of and obligations to the owner for any and all matters arising with respect to or in any way connected with the restored roof system or its component parts. Tremco 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 the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Tremco's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 6, 9, 11, 13, 16, 17 |
| 13. Wind coverage/exclusion | Tremco indicates that warranty covers roof damage resulting from wind speeds up to 73 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 (item 14 in Introduction) | B, C, F, J, M, S. Warranty also states that Tremco may void warranty based on any of the specific exclusions listed in Item 12 above |
| 15. Cost to obtain | \$10.00/square |

| | |
|--|---|
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Tremco local representative reviews specifications to assure compliance with Tremco standards. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Tremco technical service representatives make on-site inspections prior, during and after application, as well as 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. |
| 22. Backed by name insurance or surety | No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Tremco manufactures and sells product. |
| 24. Conditions for renewal or extension | Warranty can be extended for 5 years at a charge of \$5.00/square, with a \$500 minimum. |
| 25. Assignability | Owner's rights under warranty are not transferable |
| 26. Special features/conditions | Owner must fulfill responsibilities outlined in owner's manual; lack of care and maintenance is cause for warranty cancellation. If a 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 certified or approved applicator. Owner shall provide waivers of subrogation upon request. Any unresolved issues shall be submitted to the exclusive jurisdiction of the courts of Cuyahoga County, Ohio and governed by Ohio law. No representative of Tremco has authority to vary or alter warranty terms. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|--|
| 1. Identity of issuing entity | Tremco Incorporated |
| 2. Title, original publication date, and identifying symbol, if any | "10 Year QA Plus Warranty For Restored Roofs"; August 2003 |
| 3. Product, specification, or system covered | Restoration of BUR and modified bitumen roof systems: Therm 100, Therm 200, Burmastic 100, Burmastic 200, BUR Combinations; PowerPly MB Systems |
| 4. Scope of coverage | Material and workmanship; Tremco warrants that roof leaks on the Restored Roofing System caused by defects in workmanship or material will be repaired at no charge to the owner. If the restored roof system requires a complete roof replacement during the first 5 years due to a covered cause, Tremco will refund the entire restoration material amount, excluding insulation costs, toward a new Tremco roof. The remaining 5 years will have a maximum refund of 50% of the restoration material amount, excluding installation costs, toward a new Tremco roof system. |
| 5. Length of coverage | 10 years |
| 6. Nature of remedy | Tremco will have repairs to leaks performed. In years 2 and 5 of the warranty, Tremco shall provide roof inspection, preventive maintenance and limited housekeeping services, including repair of tears and splits in metal edge flashing components, flashing membrane and roof membrane with appropriate repair mastics and membranes, sealing exposed fasteners, sealing termination bar and counterflashings, repairing roof membrane splits and blisters that threaten roof integrity and sealing metal projections. Tremco will provide to the owner roof inspection reports which shall become part of the roof database maintained on the roof. |
| 7. Monetary limitations | Tremco's total liability shall not in any event exceed the restoration material amount, excluding installation costs, of the restored roof system. |
| 8. Notification requirements | Owner shall report leaks by contacting Tremco at 1-800-422-1195 and in writing at 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 | Remedies and obligations stated in warranty are owner's sole and exclusive remedies of and obligations to the owner for any and all matters arising with respect to or in any way connected with the restored roof system or its component parts. Tremco 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 the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Tremco's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 6, 9, 11, 13, 16, 17 |
| 13. Wind coverage/exclusion | Tremco indicates that warranty covers roof damage resulting from wind speeds up to 73 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 (item 14 in Introduction) | B, C, F, J, M, S. Warranty also states that Tremco may void warranty based on any of the specific exclusions listed in Item 12 above. |
| 15. Cost to obtain | \$10.00/square |

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|--|---|
| 16. Minimum charge | \$1,000 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Tremco local representative reviews specifications to assure compliance with Tremco standards. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Tremco technical service representatives make on-site inspections prior, during and after application, as well as 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. |
| 22. Backed by name insurance or surety | No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Tremco manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Owner's rights under warranty are not transferable. |
| 26. Special features/conditions | Owner must fulfill responsibilities outlined in owner's manual; lack of care and maintenance is cause for warranty cancellation. If a 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 certified or approved applicator. Owner shall provide waivers of subrogation upon request. Any unresolved issues shall be submitted to the exclusive jurisdiction of the courts of Cuyahoga County, Ohio and governed by Ohio law. No representative of Tremco has authority to vary or alter warranty terms. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|---|
| 1. Identity of issuing entity | Tremco Incorporated |
| 2. Title, original publication date, and identifying symbol, if any | "15 Year QA Plus Warranty For New Roofs;" August 2003 |
| 3. Product, specification, or system covered | Therm 100, Therm 200, Burmastic 100, Burmastic 200, Burmastic 300, BUR Combinations; PowerPly MB Systems, Tremply HP4510, Tremfast, TPA, TPA FB. |
| 4. Scope of coverage | Material and workmanship; Tremco warrants that it will repair and provide roof inspection, preventive maintenance and limited housekeeping services on the Tremco Roofing System (TRS) in years 2, 5 and 10. TRS shall be defined as the weatherproofing assembly and its components, which includes membrane, insulation, flashings, sheet metal-related details and termination details as specified by Tremco. |
| 5. Length of coverage | 15 years |
| 6. Nature of remedy | Tremco will have repairs to leaks performed. In years 2 and 5 of the warranty, Tremco shall provide roof inspection preventive maintenance and limited housekeeping services, including repair of tears and splits in metal edge flashing components, flashing membrane and roof membrane with appropriate repair mastics and membranes, sealing exposed fasteners, sealing termination bar and counterflashings, repairing roof membrane splits and blisters that threaten roof integrity and sealing metal projections. Tremco will provide to the owner roof inspection reports which shall become part of the roof database maintained on the roof. |
| 7. Monetary limitations | Tremco's total liability over the life of the warranty shall not in any event exceed in dollar value the installed contract price of the TRS. Tremco's maximum liability shall be pro-rated on a straight-line basis over the life of the warranty, and shall not exceed such pro-rated amount. |
| 8. Notification requirements | Owner shall report leaks by contacting Tremco at 1-800-422-1195 and in writing at 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 | Remedies and obligations stated in warranty are owner's sole and exclusive remedies of and obligations to the owner for any and all matters arising with respect to or in any way connected with the restored roof system or its component parts. Tremco 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 the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Tremco's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 6, 9, 11, 13, 16, 17 |
| 13. Wind coverage/exclusion | Tremco indicates that warranty covers roof damage resulting from wind speeds up to 73 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 (item 14 in Introduction) | B, C, F, J, M, S. Warranty also states that Tremco may void warranty based on any of the specific exclusions listed in Item 12 above. |

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| 15. | Cost to obtain | \$15.00/square |
| 16. | Minimum charge | \$1,500 |
| 17. | Ineligible structure or building use | None |
| 18. | Pre-construction notice and approval requirements | Tremco local representative reviews specifications to assure compliance with Tremco standards. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Tremco technical service representatives make on-site inspections prior, during and after application, as well as 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 |
| 22. | Backed by name insurance or surety | No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | Tremco manufactures and sells product. |
| 24. | Conditions for renewal or extension | Warranty can be extended for 5 years at a charge of \$5.00/square, with a \$500 minimum. |
| 25. | Assignability | Owner's rights under warranty are not transferable. |
| 26. | Special features/conditions | Owner must fulfill responsibilities outlined in owner's manual; lack of care and maintenance is cause for warranty cancellation. If a 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 certified or approved applicator. Owner shall provide waivers of subrogation upon request. Any unresolved issues shall be submitted to the exclusive jurisdiction of the courts of Cuyahoga County, Ohio and governed by Ohio law. No representative of Tremco has authority to vary or alter warranty terms. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|---|
| 1. Identity of issuing entity | Tremco Incorporated |
| 2. Title, original publication date, and identifying symbol, if any | "5 Year QA Plus Warranty for Restored Roofs;" August 2003 |
| 3. Product, specification, or system covered | Restoration of BUR and modified bitumen roof systems: Therm 100, Therm 200, Burmastic 100, Burmastic 200, BUR Combinations; PowerPly MB Systems |
| 4. Scope of coverage | Material and workmanship; Tremco warrants that roof leaks on the Restored Roofing System caused by defects in workmanship or material will be repaired at no charge to the owner. If the restored roof system requires a complete roof replacement during the warranty period due to a covered cause, Tremco will refund the entire restoration material amount, excluding installation costs, toward a new Tremco roof. |
| 5. Length of coverage | 5 years |
| 6. Nature of remedy | Tremco will have repairs to leaks performed. In year two of the warranty, Tremco shall provide roof inspection, preventive maintenance and limited housekeeping services, including repair of tears and splits in metal edge flashing components, flashing membrane and roof membrane with appropriate repair mastics and membranes, sealing exposed fasteners, sealing termination bar and counterflashings, repairing roof membrane splits and blisters that threaten roof integrity and sealing metal projections. Tremco will provide to the owner roof inspection reports which shall become part of the roof database maintained on the roof. |
| 7. Monetary limitations | Tremco's total liability shall not in any event exceed the restoration material amount, excluding installation costs, of the restored roof system. |
| 8. Notification requirements | Owner shall report leaks by contacting Tremco at 1-800-422-1195 and in writing at 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 | Remedies and obligations stated in warranty are owner's sole and exclusive remedies of and obligations to the owner for any and all matters arising with respect to or in any way connected with the restored roof system or its component parts. Tremco 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 the warranty. Warranty is given in lieu of any and all other warranties; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Tremco's determination |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 5, 6, 9, 11, 13, 16, 17 |
| 13. Wind coverage/exclusion | Tremco indicates that warranty covers roof damage resulting from wind speeds up to 73 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 (item 14 in Introduction) | B, C, F, J, M, S. Warranty also states that Tremco may void warranty based on any of the specific exclusions listed in Item 12 above. |
| 15. Cost to obtain | \$5.00/square |

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| 16. Minimum charge | \$500 |
| 17. Ineligible structure or building use | None |
| 18. Pre-construction notice and approval requirements | Tremco local representative reviews specifications to assure compliance with Tremco standards. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Tremco technical service representatives make on-site inspections prior, during and after application, as well as 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. |
| 22. Backed by name insurance or surety | No; Tremco indicates that it maintains significant levels of product liability insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | Tremco manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Owner's rights under warranty are not transferable |
| 26. Special features/conditions | Owner must fulfill responsibilities outlined in owner's manual; lack of care and maintenance is cause for warranty cancellation. If a 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 certified or approved applicator. Owner shall provide waivers of subrogation upon request. Any unresolved issues shall be submitted to the exclusive jurisdiction of the courts of Cuyahoga County, Ohio and governed by Ohio law. No representative of Tremco has authority to vary or alter warranty terms. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | U.S. Intec, Inc., a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | U.S. Intec® LMG Labor and Material Guarantee (A limited warranty); April 2001; USICS110A |
| 3. Product, specification, or system covered | Brai Supreme APP Smooth, APP Granule, APP Granule FR, SBS Poly Smooth, SMB Poly Granule, SBS Poly Granule FR, Plus SBS Poly Granule FR, Workhorse APP 160 Smooth, APP 160 Granule, SBS 160 Granule |
| 4. Scope of coverage | Material only; U.S. Intec warrants that U.S. Intec roof membrane and U.S. Intec base flashing materials will withstand ordinary wear and tear by the elements and will be free from manufacturing defects which affect their ability to maintain the roof in watertight condition. |
| 5. Length of coverage | 12 years |
| 6. Nature of remedy | U.S. Intec's sole responsibility is to repair that portion of the U.S. Intec materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. U.S. Intec shall resolve claims within 60 days after notification of a leak. |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notice within 30 days after discovery of the leak to U.S. Intec contractor services department, 1361 Alps Road, Bldg., Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. Notice must include a copy of the warranty or proof of purchase of U.S. Intec roof membrane and U.S. Intec base flashing materials. |
| 9. Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantees or warranties and of any other obligations 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 |
| 11. Determination of warranty applicability | U.S. Intec evaluates claim |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13 (including aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials), 15, 17, 19, 20, 22 |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | F. Warranty states that cancellation of the warranty will result if the roof is damaged by any cause listed as an exclusion (See Item 12 above) so as to affect the integrity or watertightness of the roof. |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Buildings cannot have high internal humidity or be used as freezer buildings for cold storage. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | Yes |

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| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None; material-only warranty |
| 22. | Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Not transferable or assignable in any manner |
| 26. | Special features/conditions | <p>Owner must follow a 10-point maintenance program in accordance with the instructions stated on the reverse side of the warranty, including maintaining a file for all records relating to the roof, inspecting the roof at least twice a year, arranging for repairs to correct non-guaranteed conditions, re-attaching loose metalwork, replacing sealant and re-coating any cracked, flaking, blistered or worn areas with a compatible U.S. Intec coating. Coatings over smooth-surfaced products must be maintained to protect the membrane surface. In no event shall new penetrations, made after roof completion, be covered under the warranty.</p> <p>Owner must sign and mail to U.S. Intec the warranty registration form within 120 days of roof completion in order for warranty to be effective. No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for U.S. Intec any additional or other liability or responsibility. U.S. Intec shall not be responsible for any changes to the U.S. Intec specifications applicable to the roof unless the change is approved in writing by an authorized U.S. Intec contractor services manager.</p> |
| 27. | Executed by owner | Yes (See Special Features/Conditions). |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | U. S. Intec Inc |
| 2. Title, original publication date, and identifying symbol, if any | "Intec/Permaglass Ten Year Limited Warranty on Material;" June, 1999; USICS200 6/99 |
| 3. Product, specification, or system covered | All Intec/Permaglass specifications. |
| 4. Scope of coverage | Material only: Intec/Permaglass fiberglass roof membrane and 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. |
| 5. Length of coverage | 10 years. |
| 6. Nature of remedy | U.S. Intec's sole responsibility is the repair or replacement, at U.S. Intec's option, of that portion of the U.S. Intec roof membrane and base flashing materials that contain manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak |
| 7. Monetary limitations | U.S. Intec's maximum liability for cost of repairs or replacement during the first year after completion is the original cost of the U.S. Intec roof membrane and base flashing materials only. After the first year, U.S. Intec's maximum liability is the original cost of the U.S. Intec roof membrane and base flashing materials used on the roof reduced by 10% of the maximum liability during each year after the first year of the warranty, less any costs previously incurred by U.S. Intec for repair or replacement during previous years. In no event shall U.S. Intec be liable for a sum greater than the maximum liability of the warranty or for more than 5 times the proportional cost paid to the company for the U.S. Intec roof membrane and base flashing materials installed on the affected portion of the roof, whichever is less. |
| 8. Notification requirements | Written notice within 30 days after discovery of the leak to the nearest U.S. Intec district office. |
| 9. Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantees or warranties, and any other obligations 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 |
| 11. Determination of warranty applicability | Neutral (No provision). |
| 12. Specific exclusions from coverage (item 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, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, H. 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) so as to affect the integrity or watertightness of the roof. |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |

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| 17. Ineligible structure or building use | Warranty does not apply to application over cold storage or freezer buildings or buildings with high humidity conditions. U.S. Intec indicates that the U.S. Intec application and specification manual lists other ineligible structures or building uses. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed requirements | No |
| 20. Job inspection policy | No on-site inspections. |
| 21. Contractor's post-installation obligation | None; material-only warranty. |
| 22. Backed by name insurance or surety | No |
| 23. Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision. |
| 25. Assignability | Not transferable or assignable in any manner. |
| 26. Special features/conditions | <p>Owner must sign and mail to U.S. Intec the warranty registration form within 30 days of completion of the roof for the warranty to be effective.</p> <p>No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for the company any additional or other liability or responsibility. U.S. Intec shall not be responsible for or liable for any change and/or amendment to the U.S. Intec roof specifications in regard to the construction of the roof unless the change and/or amendment to the specifications are approved in writing by an authorized U.S. Intec Contractor Services Manager.</p> |
| 27. Executed by owner | Yes (See Special Features/Conditions.) |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | BRAI Supreme Modified Bitumen Roofing Limited Warranty on Material; January 2001; USICS106A |
| 3. Product, specification, or system covered | All Brai Supreme APP and SBS roof membrane and base flashing materials. Warranty applies only to U.S. Intec roofing materials used as a cap sheet together with base flashings. |
| 4. Scope of coverage | Material only; U.S. Intec roof membrane and 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. |
| 5. Length of coverage | 10 years: uncoated/smooth surfaced systems 12 years: coated or granule-surfaced systems |
| 6. Nature of remedy | U.S. Intec's sole responsibility is the repair or replacement, at U.S. Intec's option, of that portion of the U.S. Intec roof membrane and base flashing materials that contains manufacturing defects or deterioration caused by ordinary wear and tear by the elements that have resulted in a roof leak. |
| 7. Monetary limitations | U.S. Intec's maximum liability for cost of repairs or replacement during the first year is the original cost of the U.S. Intec roof membrane and base flashing materials only. After the first year, U.S. Intec's maximum liability is the original cost of the U.S. Intec roof membrane and base flashing materials reduced by 10% (8% for 12 year warranties) of the maximum liability during each year after the first year of the warranty, less any costs previously incurred by U.S. Intec for repair or replacement. |
| 8. Notification requirements | Written notice and proof of purchase and application date to establish that claimant is the original owner within 30 days after discovery of a leak caused by manufacturing defects or ordinary wear and tear to U.S. Intec contractor services department, 1361 Alps Road, Bldg. 7, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. U.S. Intec may require owner to submit, at owner's expense, sample U.S. Intec materials for testing and photographs. Owner should retain warranty in the event owner needs to file a claim. |
| 9. Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantees or warranties, and any other obligations 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 |
| 11. Determination of warranty applicability | U.S. Intec evaluates claim. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13 (including aliphatic or aromatic solvents, chlorinated hydrocarbons, turpentine, oils, organic or inorganic polar materials), 15, 17, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 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) so as to affect the integrity or watertightness of the roof. |

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| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Cold storage or freezer buildings or buildings with high humidity conditions. |
| 18. Pre-construction notice and approval requirements | None |
| 19. Approved, authorized or licensed contractor | No |
| 20. Job inspection policy | No on-site inspections |
| 21. Contractor's post-installation obligation | None; material-only warranty |
| 22. Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its warranty obligations. |
| 23. Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Not transferable or assignable in any manner |
| 26. Special features/conditions | <p>U.S. Intec may require owner to submit, at owner's expense, sample U.S. Intec materials for testing and photographs.</p> <p>No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for U.S. Intec any additional or other liability or responsibility. U.S. Intec shall not be responsible for or liable for any change and/or amendment to the U.S. Intec roof specifications in regard to the construction of the roof unless the change and/or amendment to the specifications are approved in writing by an authorized U.S. Intec contractor services manager.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | BRAI Supreme Commercial Roof Guarantee;" March 2003; USICS101 |
| 3. Product, specification, or system covered | All Brai Supreme APP and SBS membranes, flashings and accessories. All Brai Supreme and WorkHorse BUR membranes, flashings and accessories. |
| 4. Scope of coverage | Material and workmanship; U.S. Intec guarantees that it will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories resulting from (1) natural deterioration of the U.S. Intec roofing membrane; (2) blisters; (3) bare spots; (4) fish-mouths; (5) ridges; (6) splits not caused by structural failure or movement of or cracks in substrate roof base or non-U.S. Intec insulation over which the U.S. Intec roofing materials are applied; (7) buckles and wrinkles; (8) workmanship in applying the U.S. Intec roofing materials; and (9) slippage of membrane or base flashing. |
| 5. Length of coverage | 5, 10, 12, 15 or 20 years. Duration of coverage depends on system specification and contractor status. Smooth surfaced built-up and modified systems require reapplication of coating on average every 3 to 5 years. Roof systems coated with BMCA MB Plus or BMCA Surface Seal require an initial coating at date of installation and reapplication only every 7 years. Where Mcurbs or Lexsuco flashings are used, they are covered only for 10 years. |
| 6. Nature of remedy | U.S. Intec will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories. |
| 7. Monetary limitations | U.S. Intec inserts a dollar per square maximum liability over the life of the guarantee upon issuance of the guarantee. |
| 8. Notification requirements | Written notice within 30 days after discovery of the leak to U.S. Intec contractor services department, 1361 Alps Road, Bldg. 11-1, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties, and any other obligations or liability on the part of U.S. Intec whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 22. |
| 13. Wind coverage/exclusion | 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 (item14 in Introduction) | C, H, M, S |
| 15. Cost to obtain | Yes; U.S. Intec did not disclose cost to obtain. |
| 16. Minimum charge | Yes; U.S. Intec did not disclose cost to obtain. |
| 17. Ineligible structure or building use | U.S. Intec states to consult the U.S. Intec Application and Specification Manual |
| 18. Pre-construction notice and approval requirements | Contractor provides notice to U.S. Intec by submittal prior to job start. |

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| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Roofing protection services representative makes on-site inspection after completion prior to issuance of warranty and two-years after issuing warranty; no charge. |
| 21. | Contractor's post-installation obligation | Contractor is obligated to make repairs to all leaks and materials and workmanship for 2 years after completion of the roof. |
| 22. | Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its guarantee obligations. |
| 23. | Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product. |
| 24. | Conditions for renewal or extension | Guarantee may be eligible for extension for up to 5 years depending upon specification. Owner must (1) notify U.S. Intec in writing 6 months before or up to 12 months after the expiration date; (2) pay a \$300 inspection fee; and (3) make any repairs to the U.S. Intec materials or other roofing or building components that are identified by U.S. Intec as necessary to preserve the integrity of the U.S. Intec materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof and notify U.S. Intec that it is complete. |
| 25. | Assignability | Guarantee is assignable to another owner of the building for the remaining term only if: (1) the request is in writing within 30 days after ownership transfer; (2) the membrane is inspected and any requested repairs are completed at owner's expense; and (3) an assignment fee of \$500 is paid to U.S. Intec. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. | Special features/conditions | <p>If investigation reveals that leak is not covered by the guarantee, owner pays an investigation cost of \$500. Guarantee will be cancelled if owner fails to pay this cost within 30 days.</p> <p>Owner must perform regular inspections and maintenance during the guarantee and perform repairs identified during inspections by U.S. Intec. Any equipment or material that impedes any inspection must be removed at owner's expense so that U.S. Intec can make inspections. Owner must make repairs to the building or roof components not covered under the guarantee. Guarantee may be cancelled or suspended if owner fails to do so in a timely manner.</p> <p>In an emergency, 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 the guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the U.S. Intec roofing materials. Owner is responsible for all expenses associated with temporary repairs.</p> <p>No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for U.S. Intec any additional or other liability or responsibility in connection with the roof. U.S. Intec shall not be responsible for or liable for any change or amendment to the U.S. Intec roof specifications in regard to the construction of the roof, unless the change or amendment to the specifications is approved in writing by an authorized U.S. Intec contractor services manager.</p> <p>Any controversy or claim relating to the guarantee shall first be submitted to mediation. In the event that mediation is unsuccessful, any law suit or proceeding shall be before the appropriate state or federal court in the State of New Jersey. Guarantee shall be governed by New Jersey laws. Each party irrevocably consents to the jurisdiction and venue of the New Jersey state or federal court.</p> |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | BRAI Supreme™ No Dollar Limit (NDL) "LWIC" Guarantee; January 2002; USICS111 |
| 3. Product, specification, or system covered | All Brai Supreme APP and SBS membranes, flashings and accessories; all Brai Supreme and WorkHorse BUR membranes, flashings and accessories; lightweight insulating concrete |
| 4. Scope of coverage | Material and workmanship; U.S. Intec guarantees that it will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories resulting from (1) natural deterioration of the U.S. Intec roofing membrane; (2) blisters; (3) bare spots; (4) fishmouths; (5) ridges; (6) splits not caused by structural failure or movement of or cracks in substrate roof base or non-U.S. Intec insulation over which the U.S. Intec roofing materials are applied; (7) buckles and wrinkles; (8) workmanship in applying the U.S. Intec roofing materials; and (9) slippage of membrane or base flashing. As to the lightweight insulating concrete, U.S. Intec guarantees that (1) the actual resistance to heat flow through the lightweight insulating concrete will be at least 80% of the design thermal resistance, (2) the lightweight insulating concrete will not cause the roofing membrane to leak as a result of the effects of vapor pressure or (3) the lightweight insulating concrete will not cause structural damage to the building as a result of thermal or chemical reactions. |
| 5. Length of coverage | 5, 10, 12, 15 or 20 years. Duration of coverage depends on system specification and contractor status. Smooth surfaced built-up and modified systems require reapplication of coating on average every 3 to 5 years. Roof systems coated with BMCA MB Plus or BMCA Surface Seal require an initial coating at date of installation and reapplication only every 7 years. Where Mcurbs or Lexsuco flashings are used, they are covered only for 10 years. |
| 6. Nature of remedy | U.S. Intec will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories. If the lightweight insulating concrete fails to perform as warranted, U.S. Intec will make repairs to the lightweight insulating concrete and repair the membrane to the extent that it is damaged as a result of repairs to the lightweight insulating concrete. |
| 7. Monetary limitations | No dollar limit on covered repairs |
| 8. Notification requirements | Written notice within 30 days after discovery of the leak to U.S. Intec contractor services department, 1361 Alps Road, Bldg. 11-1, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties, and any other obligations or liability on the part of U.S. Intec whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 22. |
| 13. Wind coverage/exclusion | Warranty excludes windstorms, hurricanes and tornadoes. U.S. Intec indicates that there is no coverage for damage caused by wind. |

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| 14. Specific conditions to make warranty ineffective or null and void (item14 in Introduction) | C, H, M, S |
| 15. Cost to obtain | Yes; U.S. Intec did not disclose cost to obtain. |
| 16. Minimum charge | Yes; U.S. Intec did not disclose cost to obtain. |
| 17. Ineligible structure or building use | U.S. Intec states to consult the U.S. Intec Application and Specification Manual |
| 18. Pre-construction notice and approval requirements | Contractor provides notice to U.S. Intec by submittal prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Roofing protection services representative makes on-site inspection after completion prior to issuance of warranty and two-years after issuing warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to all leaks and materials and workmanship for 2 years after completion of the roof. |
| 22. Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its guarantee obligations. |
| 23. Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Guarantee is assignable to another owner of the building for the remaining term only if: (1) the request is in writing within 30 days after ownership transfer; (2) the membrane is inspected and any requested repairs are completed at owner's expense; and (3) an assignment fee of \$500 is paid to U.S. Intec. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. Special features/conditions | <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that U.S. Intec can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee. Guarantee may be cancelled or suspended if owner fails to do so in a timely manner.</p> <p>In an emergency, owner may make temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in the cancellation of the guarantee provided the temporary repairs are reasonable and customary and do not result in permanent damage to the U.S. Intec roofing materials.</p> <p>No representative, employee, or agent of U.S. Intec has the authority to assume any additional responsibility for U.S. Intec. U.S. Intec shall not be responsible for or liable for any change or amendment to the U.S. Intec roof specifications in regard to the construction of the roof, unless the change and/or amendment to the specifications is approved in writing by an authorized U.S. Intec contractor services manager.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | U.S. Intec Workhorse Limited Warranty on Material, Ten Year; August 2001; USICS109A.V2 |
| 3. Product, specification, or system covered | WorkHorse APP and SBS membranes and base flashing materials. Brai Supreme and WorkHorse BUR membranes and base flashing materials. |
| 4. Scope of coverage | Material only; U.S. Intec warrants that the U.S. Intec roof membrane and base flashing materials will not leak due to ordinary wear and tear by the elements or manufacturing defects. |
| 5. Length of coverage | 10 years |
| 6. Nature of remedy | U.S. Intec's sole responsibility is the repair or replacement, at U.S. Intec's option, of that portion of the U.S. Intec roof membrane and base flashing materials that leak as a result of manufacturing defect or deterioration caused by ordinary wear and tear. |
| 7. Monetary limitations | U.S. Intec's maximum liability during the first year is the original cost of the U.S. Intec roof membrane and base flashing materials only. After the first year, U.S. Intec's maximum liability is the original cost of the U.S. Intec roof membrane and base flashing materials reduced by 10% during each subsequent year, less any costs previously incurred by U.S. Intec for repair or replacement. |
| 8. Notification requirements | Written notice and proof of purchase and application date to establish that claimant is the original owner within 30 days after discovery of a leak caused by manufacturing defects or ordinary wear and tear to U.S. Intec contractor services, 1361 Alps Road, Bldg. 7, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. U.S. Intec may require owner to submit, at owner's expense, sample U.S. Intec materials for testing and photographs. Owner should retain warranty in the event owner needs to file a claim. |
| 9. Exclusive or additional remedy | Warranty is expressly in lieu of any other guarantees or warranties, and any other obligations or liability of U.S. Intec whether any claim is based upon strict liability, negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | U.S. Intec evaluates claim. |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 7, 8, 10, 11, 12, 13, 15, 19, 20, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | Warranty states that warranty may be cancelled if the roof is damaged by any cause listed as an exclusion (See Item 12 above) which may affect the integrity and watertightness of the roof. |
| 15. Cost to obtain | None |
| 16. Minimum charge | None |
| 17. Ineligible structure or building use | Cold storage or freezer buildings or buildings with high humidity conditions. |

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| 18. | Pre-construction notice and approval requirements | None |
| 19. | Approved, authorized or licensed requirements | No |
| 20. | Job inspection policy | No on-site inspections |
| 21. | Contractor's post-installation obligation | None; material-only warranty |
| 22. | Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its warranty obligations. |
| 23. | Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product |
| 24. | Conditions for renewal or extension | No renewal provision |
| 25. | Assignability | Not transferable or assignable in any manner |
| 26. | Special features/conditions | No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for U.S. Intec any additional or other liability or responsibility. U.S. Intec shall not be responsible for or liable for any change or amendment to the U.S. Intec roof specifications in regard to the construction of the roof unless approved in writing by an authorized U.S. Intec contractor services manager. |
| 27. | Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America, Loadmaster Supply, Inc. and Loadmaster Erector |
| 2. Title, original publication date, and identifying symbol, if any | "Loadmaster Platinum Promise Guarantee;" COMTS597 |
| 3. Product, specification, or system covered | All Brai Supreme APP and SBS membranes, flashings and accessories. All Brai Supreme and WorkHorse BUR membranes, flashings and accessories. Loadmaster Roof Deck. |
| 4. Scope of coverage | <p>Material and workmanship; U.S. Intec guarantees that it will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories resulting from (1) natural deterioration of the U.S. Intec roofing membrane; (2) blisters; (3) bare spots; (4) fish-mouths; (5) ridges; (6) splits not caused by structural failure or movement of or cracks in substrate roof base or non-U.S. Intec insulation over which the U.S. Intec roofing materials are applied; (7) buckles and wrinkles; (8) workmanship in applying the U.S. Intec roofing materials; and (9) slippage of membrane or base flashing.</p> <p>Loadmaster guarantees that the roof deck will perform as a suitable substrate for the U.S. Intec roofing materials, its flexural strength shall be in accordance with published Loadmaster Safe Uniform Total Load tables and its diaphragm shear strength and shear stiffness shall be as represented in the Loadmaster Diaphragm Design manual. Loadmaster otherwise does not guarantee the roof deck. Loadmaster is not responsible for any defect or deficiency resulting from any failure by Erector to follow Loadmaster installation instructions.</p> <p>Loadmaster Erector guarantees that the roof deck will be installed in accordance with Loadmaster installation specifications and that there will exist no defect or deficiency in the roof deck by Erector. Erector otherwise does not guarantee the roof deck for or against any defect or deficiency.</p> |
| 5. Length of coverage | 5, 10, 12, 15 or 20 years. Duration of coverage depends on system specification and contractor status. Smooth surfaced built-up and modified systems require reapplication of coating on average every 3 to 5 years. Roof systems coated with BMCA MB Plus or BMCA Surface Seal require an initial coating at date of installation and reapplication only every 7 years. Where Mcurbs or Lexsucu flashings are used, they are covered only for 10 years. |
| 6. Nature of remedy | U.S. Intec's sole responsibility is the repair of the roof deck and roof system, including insulation and U.S. Intec roofing materials, at its sole cost and expense. U.S. Intec, in its sole discretion, shall select the mode, manner, nature and extent of repairs or other remedial action necessary, if any. Loadmaster or Erector will repair the roof deck and roof system, including insulation and U.S. Intec roofing materials. |
| 7. Monetary limitations | No dollar limit on covered repairs |
| 8. Notification requirements | <p>Written notice within 30 days after discovery of a leak in U.S. Intec roofing materials to U.S. Intec contractor services department, 1361 Alps Road, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec.</p> <p>Written notice within 30 days after discovery of the claim against Loadmaster or Erector to Loadmaster and Erector at: Loadmaster, 4295 D International Blvd., Norcross, Georgia 30093</p> |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties, and any other obligations or liability on the part of U.S. Intec whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |

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| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, H, M, S |
| 15. Cost to obtain | Yes; U.S. Intec did not disclose cost to obtain. |
| 16. Minimum charge | Yes; U.S. Intec did not disclose minimum charge. |
| 17. Ineligible structure or building use | U.S. Intec states to consult the U.S. Intec Application and Specification Manual |
| 18. Pre-construction notice and approval requirements | Contractor provides notice to U.S. Intec by submittal prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Roofing protection services representative makes on-site inspection after completion prior to issuance of warranty and two-years after issuing warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to all leaks and materials and workmanship for 2 years after completion of the roof. |
| 22. Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its guarantee obligations. |
| 23. Issuing entity manufactures and/or sells products | U.S. Intec manufactures and sells product. |
| 24. Conditions for renewal or extension | No renewal provision |
| 25. Assignability | Guarantee is assignable to another owner of the building for the remaining term only if: (1) the request is in writing within 30 days after ownership transfer; (2) the membrane is inspected and any requested repairs are completed at owner's expense; and (3) an assignment fee of \$500 is paid to U.S. Intec. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. Special features/conditions | <p>Owner agrees to pay promptly all costs for sampling and testing if it is determined that owner's claim was not covered by guarantee. Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that U.S. Intec can perform inspections. Owner must make repairs to the building or roof components not covered under the guarantee. Guarantee may be cancelled or suspended if owner fails to do so in a timely manner. In an emergency, owner may make temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in the cancellation of the guarantee provided the temporary repairs are reasonable and customary and do not result in permanent damage to the U.S. Intec roofing materials.</p> <p>No representative, employee, or agent of U.S. Intec has the authority to assume any additional responsibility for U.S. Intec. U.S. Intec shall not be responsible for or liable for any change or amendment to the U.S. Intec roof specifications in regard to the construction of the roof, unless the change and/or amendment to the specifications is approved in writing by an authorized U.S. Intec contractor services manager.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

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|---|---|
| 1. Identity of issuing entity | U.S. Intec, a division of Building Materials Corporation of America |
| 2. Title, original publication date, and identifying symbol, if any | "BRAI Supreme™ No Dollar Limit (NDL) Guarantee;" March 2003; USICS108 |
| 3. Product, specification, or system covered | All Brai Supreme APP and SBS membranes, flashings and accessories. All Brai Supreme and WorkHorse BUR membranes, flashings and accessories. Supreme Eliminator perforated vented base sheet. |
| 4. Scope of coverage | Material and workmanship; U.S. Intec guarantees that it will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories resulting from (1) natural deterioration of the U.S. Intec roofing membrane; (2) blisters; (3) bare spots; (4) fish-mouths; (5) ridges; (6) splits not caused by structural failure or movement of or cracks in substrate roof base or non-U.S. Intec insulation over which the U.S. Intec roofing materials are applied; (7) buckles and wrinkles; (8) workmanship in applying the U.S. Intec roofing materials; and (9) slippage of membrane or base flashing. If a Supreme Eliminator perforated venting base sheet is installed directly over isocyanurate insulation, U.S. Intec will make repairs to eliminate blisters that occur between the Supreme Eliminator perforated venting base sheet and the isocyanurate insulation, even if these blisters do not result in leaks. |
| 5. Length of coverage | 5, 10, 12, 15 or 20 years. Duration of coverage depends on system specification and contractor status. Smooth surfaced built-up and modified systems require reapplication of coating on average every 3 to 5 years. Roof systems coated with BMCA MB Plus or BMCA Surface Seal require an initial coating at date of installation and reapplication only every 7 years. Where Mcurbs or Lexsuo flashings are used, they are covered only for 10 years. |
| 6. Nature of remedy | U.S. Intec will repair leaks through the U.S. Intec roofing membrane, base flashing, insulation, expansion joint covers and pre-flashed accessories |
| 7. Monetary limitations | No dollar limit on covered repairs. |
| 8. Notification requirements | Written notice within 30 days after discovery of the leak to U.S. Intec contractor services department, 1361 Alps Road, Bldg. 11-1, Wayne, New Jersey 07470. Notice to the roofing contractor is not notice to U.S. Intec. |
| 9. Exclusive or additional remedy | Guarantee is expressly in lieu of any other guarantees or warranties, and any other obligations or liability on the part of U.S. Intec whether any claim is based upon negligence, breach of warranty or any other theory; excludes UCC warranties. |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (no provision) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 22. |
| 13. Wind coverage/exclusion | 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 (item 14 in Introduction) | C, H, M, S |
| 15. Cost to obtain | For Brai Supreme BUR: 5 years: \$6/square; 10 years: \$7.50 square; 12 years: \$8/square; 15 years: \$10/square; 20 years: \$15/square For Brai Supreme APP: 5 years: no charge; 10 years: no charge; 12 years: no charge; 15 years: no charge; 20 years: no charge For Brai Supreme SBS: 5 years: no charge; 10 years: no charge; 12 years: no charge; 15 years: \$10/square; 20 years: \$15/square |

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| 16. Minimum charge | <p>For Brai Supreme APP: none</p> <p>For Brai Supreme BUR: 5 years: \$600.00; 10 years: \$750.00; 12 years: \$800.00</p> <p>For Brai Supreme BUR and SBS: 15 years: \$1,000.00; 20 years: \$1,500.00</p> |
| 17. Ineligible structure or building use | U.S. Intec states to consult the U.S. Intec Application and Specification Manual |
| 18. Pre-construction notice and approval requirements | Contractor provides notice to U.S. Intec by submittal prior to job start. |
| 19. Approved, authorized or licensed requirements | Yes; roof must be installed by a U.S. Intec All Star Platinum or All Star Gold roofing contractor. |
| 20. Job inspection policy | Roofing protection services representative makes on-site inspection after completion prior to issuance of warranty and two-years after issuing warranty; no charge. |
| 21. Contractor's post-installation obligation | Contractor is obligated to make repairs to all leaks and materials and workmanship for 2 years after completion of the roof. |
| 22. Backed by name insurance or surety | No; U.S. Intec does not carry insurance covering its guarantee obligations. |
| 23. Issuing entity manufacturers and/or sells products | U.S. Intec manufactures and sells product. |
| 24. Conditions for renewal or extension | <p>Guarantee may be eligible for extension for up to 5 years depending upon specification. Owner must (1) notify U.S. Intec in writing 6 months before or up to 12 months after the expiration date; (2) pay a \$300 inspection fee; and (3) make any repairs to the U.S. Intec materials or other roofing or building components that are identified by U.S. Intec as necessary to preserve the integrity of the U.S. Intec materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof and notify U.S. Intec that it is complete.</p> |
| 25. Assignability | Guarantee is assignable to another owner of the building for the remaining term only if: (1) the request is in writing within 30 days after ownership transfer; (2) the membrane is inspected and any requested repairs are completed at owner's expense; and (3) an assignment fee of \$500 is paid to U.S. Intec. Guarantee is not otherwise assignable, directly or indirectly. |
| 26. Special features/conditions | <p>If investigation reveals that leak is not covered by the guarantee, owner pays an investigation cost of \$500. Guarantee will be cancelled if owner fails to pay this cost within 30 days.</p> <p>Owner must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at owner's expense so that U.S. Intec can make inspections. Owner must make repairs to the building or roof components not covered under the guarantee. Guarantee will be cancelled if owner fails to do so in a timely manner. In an emergency, Owner may authorize or perform temporary repairs at its expense to minimize damage to the building or its contents. Such repairs will not result in the cancellation of the guarantee provided that the temporary repairs are reasonable and customary, and do not result in permanent damage to the U.S. Intec roofing materials.</p> <p>No representative, employee, or agent of U.S. Intec, or any other person, has any authority to assume for U.S. Intec any additional or other liability or responsibility in connection with the roof. U.S. Intec shall not be responsible for or liable for any change or amendment to the U.S. Intec roof specifications in regard to the construction of the roof, unless the change or amendment to the specifications is approved in writing by an authorized U.S. Intec contractor services manager.</p> <p>Any controversy or claim relating to the guarantee shall first be submitted to mediation. In the event that mediation is unsuccessful, any law suit or proceeding shall be before the appropriate state or federal court in the State of New Jersey. Guarantee shall be governed by New Jersey laws. Each party irrevocably consents to the jurisdiction and venue of the New Jersey state or federal court.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | | |
|-----|---|--|
| 1. | Identity of issuing entity | W.P. Hickman Systems, Inc. |
| 2. | Title, original publication date, and identifying symbol, if any | Performance Roof Assembly Warranty; January 2002 |
| 3. | Product, specification, or system covered | Built-up Roofing Specifications; Modified Bitumen Specifications; Cold-Process BUR Specifications; Single-Ply Specifications |
| 4. | Scope of coverage | Material and workmanship; Hickman guarantees that it will repair or cause to be repaired leaks in the Hickman Roof Assembly System including the Hickman flashing assembly. Loss or erosion of surfacing materials, including reflective coatings, granules or aggregate is not covered. |
| 5. | Length of coverage | 10, 15 or 20 years depending upon the system installed. |
| 6. | Nature of remedy | Hickman will inspect the roof and, if leak is within the coverage of the warranty, Hickman will at its own expense make or cause to be made all necessary repairs to the Hickman Roof Assembly to put it into watertight condition. Hickman's sole responsibility is to make repairs that may be required to return the membrane assembly into a watertight condition. (See Special Features/Conditions) |
| 7. | Monetary limitations | None stated |
| 8. | Notification requirements | Written notification within 10 days after discovery of a leak in the roofing system or flashing assembly |
| 9. | Exclusive or additional remedy | Seeks to exclude and limit UCC implied warranties |
| 10. | Inclusion of consequential damages | No |
| 11. | Determination of warranty applicability | Neutral (Hickman inspects roof) |
| 12. | Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 10, 11, 13, 17, 18, 22 |
| 13. | Wind coverage/exclusion | Warranty excludes hurricane rated winds. Hickman indicates warranty covers roof damage resulting from wind speeds up to 72 miles per hour. |
| 14. | Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, F |
| 15. | Cost to obtain | Varies based on term and system. |
| 16. | Minimum charge | 10 years:\$750; 15 years: \$1,350; 20 years: \$1,725 |
| 17. | Ineligible structure or building use | Private residence |
| 18. | Pre-construction notice and approval requirements | Contractor required to give verbal or written notice to schedule pre-job conference. |
| 19. | Approved, authorized or licensed requirements | Yes |
| 20. | Job inspection policy | Hickman field representative makes on-site inspections prior to, during, and after application as well as two years after completion; no charge. |
| 21. | Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |

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| 22. Backed by name insurance or surety | No; Hickman indicates it carries product liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Hickman manufactures and sells the product. |
| 24. Conditions for renewal or extension | Warranty can be extended for five (5) years by paying current restoration warranty fee at time of conversion. Owner must notify Hickman no later than 90 days prior to expiration of the original warranty. Hickman will inspect the roof and advise owner of corrections that must be made prior to issuing a restoration warranty. |
| 25. Assignability | Warranty 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. |
| 26. Special features/conditions | <p>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.</p> <p>Hickman indicates this warranty includes a 2-year free maintenance program.</p> |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|--|
| 1. Identity of issuing entity | W.P. Hickman Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Restoration Warranty; January 2002 |
| 3. Product, specification, or system covered | Restoration of BUR and Modified Bitumen |
| 4. Scope of coverage | Material and workmanship; Hickman guarantees that it will repair or cause to be repaired leaks in the Hickman Roof Assembly System including the Hickman flashing assembly. Loss or erosion of surfacing materials, including reflective coatings, granules or aggregate are not covered. |
| 5. Length of coverage | 5 years |
| 6. Nature of remedy | Hickman will inspect the roof and, if leak is within the coverage of the warranty, Hickman will at its own expense make or cause to be made all necessary repairs to the Hickman Roof Assembly to put it into watertight condition. Hickman's sole responsibility is to make repairs that may be required to return the membrane assembly into a watertight condition. (See Special Features/Conditions) |
| 7. Monetary limitations | Hickman's total liability during the first year shall not exceed the installed contract price of the Hickman roofing system as inserted on the warranty at time of issuance. After first year, Hickman's maximum liability is prorated on a straight line declining basis over the life of the warranty. |
| 8. Notification requirements | Written notification within 10 days after discovery of a leak in the roofing system or flashing assembly |
| 9. Exclusive or additional remedy | Seeks to exclude and limit UCC implied warranties |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (Hickman inspects roof) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 10, 11, 13, 17, 18, 22 |
| 13. Wind coverage/exclusion | Warranty excludes hurricane rated winds. Hickman indicates warranty covers roof damage resulting from wind speeds up to 72 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, F |
| 15. Cost to obtain | \$500. In order to obtain convertible restoration warranty to extend the warranty for an additional 5 years (5 + 5), there is a minimum \$750 fee for roofs under 75 squares or \$10.00/square. |
| 16. Minimum charge | \$500 if less than 75 squares; \$750 for 5 + 5 convertible restoration warranty. |
| 17. Ineligible structure or building use | Private residence |
| 18. Pre-construction notice and approval requirements | Contractor required to give verbal or written notice to schedule pre-job conference. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Hickman field representative makes on-site inspections prior to, during, and after application as well as two years after completion; no charge. |

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| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years |
| 22. Backed by name insurance or surety | No; Hickman indicates it carries product liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Hickman manufactures and sells the product. |
| 24. Conditions for renewal or extension | For five years additional coverage per convertible restoration warranty, owner must notify Hickman no later than 90 days prior to expiration of original warranty. Hickman will inspect the roof and advise owner of corrections that must be made prior to issuing a new restoration warranty. |
| 25. Assignability | Warranty 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. |
| 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. |
| 27. Executed by owner | No |

Roof Membrane Warranties (Built-up, Modified Bitumen and Single-ply)

| | |
|---|--|
| 1. Identity of issuing entity | W.P. Hickman Systems, Inc. |
| 2. Title, original publication date, and identifying symbol, if any | Roof Assembly Warranty; January 2002 |
| 3. Product, specification, or system covered | Built-up Roofing Specifications; Modified Bitumen Specifications; Cold-Process BUR Specifications; Single-Ply Specifications |
| 4. Scope of coverage | Material and workmanship; Hickman guarantees that it will repair or cause to be repaired leaks in the Hickman Roof Assembly System including the Hickman flashing assembly. Loss or erosion of surfacing materials, including reflective coatings, granules or aggregate is not covered. |
| 5. Length of coverage | 5 years |
| 6. Nature of remedy | Hickman will inspect the roof and, if leak is within the coverage of the warranty, Hickman will at its own expense make or cause to be made all necessary repairs to the Hickman Roof Assembly to put it into watertight condition. Hickman's sole responsibility is to make repairs that may be required to return the membrane assembly into a watertight condition. (See Special Features/Conditions) |
| 7. Monetary limitations | None stated |
| 8. Notification requirements | Written notification within 10 days after discovery of a leak in the roofing system or flashing assembly |
| 9. Exclusive or additional remedy | Seeks to exclude and limit UCC implied warranties |
| 10. Inclusion of consequential damages | No |
| 11. Determination of warranty applicability | Neutral (Hickman inspects roof) |
| 12. Specific exclusions from coverage (item 12 in Introduction) | 1, 2, 3, 4, 5, 6, 8, 10, 11, 13, 17, 18, 22 |
| 13. Wind coverage/exclusion | Warranty excludes hurricane rated winds. Hickman indicates warranty covers roof damage resulting from wind speeds up to 72 miles per hour. |
| 14. Specific conditions to make warranty ineffective or null and void (item 14 in Introduction) | C, F |
| 15. Cost to obtain | No charge if project is over 75 squares. Jobs under 75 squares have a minimum \$650 charge. |
| 16. Minimum charge | \$650 for jobs under 75 squares |
| 17. Ineligible structure or building use | Private residence |
| 18. Pre-construction notice and approval requirements | Contractor required to give verbal or written notice to schedule pre-job conference. |
| 19. Approved, authorized or licensed requirements | Yes |
| 20. Job inspection policy | Hickman field representative makes on-site inspections prior to, during, and after application as well as two years after completion; no charge. |
| 21. Contractor's post-installation obligation | Contractor obligated to make repairs to workmanship deficiencies for two years. |

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|--|--|
| 22. Backed by name insurance or surety | No; Hickman indicates it carries product liability insurance. |
| 23. Issuing entity manufacturers and/or sells products | Hickman manufactures and sells the product. |
| 24. Conditions for renewal or extension | Warranty can be extended for five (5) years by paying current restoration warranty fee at time of conversion. Owner must notify Hickman no later than 90 days prior to expiration of the original warranty. Hickman will inspect the roof and advise owner of corrections that must be made prior to issuing a restoration warranty. |
| 25. Assignability | Warranty 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. |
| 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. |
| 27. Executed by owner | No |

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National Roofing Contractors Association

LOW-SLOPE

Roofing Materials Guide
2004-05



INCOMPLETE DATA

Index to Incomplete Data

| Incomplete Data | |
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| CERTAINTED ROOFING PRODUCTS 750 E. Swedesford Road P.O. Box 860 Valley Forge, PA 19482 800/233-8990 FAX: 610/341-7055 E-mail: Web site: www.certaanteed.com | 906 |
| COOLEY ENGINEERED MEMBRANE INC. 50 Esten Avenue Box 939 Pawtucket, RI 02862-0939 410/724-0490 FAX: 410/726-8731 E-mail: Web site: www.cooleygroup.com | 906 |
| ECOLOGY ROOF SYSTEMS 505 N. Tustin Avenue #188 Santa Ana, CA 92705 714/972-1001 FAX: 714/972-1079 E-mail: Web site: www.ecologyroofsystems.com | 906 |
| FIELDS COMPANY, LLC 2240 Taylor Way Tacoma, WA 98421 253/627-4098 FAX: 253/383-2181 E-mail: Web site: | 906 |
| GARLAND COMPANY INC. 3800 E. 91st Street Cleveland, OH 44105 216/641-7500 FAX: 216/641-0633 E-mail: Web site: | 906 |
| HONEYWELL INDUSTRIES, INC. 2000 Regency Parkway, Suite 255 Cary, NC 27511 800/221-6490 FAX: 919/461-4720 E-mail: Web site: www.honeywellroofs.com | 907 |

| Incomplete Data | |
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| IKO INDUSTRIES 120 Hay Road Wilmington, DE 19809 302/764-3100 FAX: 302/764-5852 E-mail: Web site: www.iko.com | 907 |
| TOPCOAT DIV OF GAF MATERIALS 1361 Alps Road Wayne, NJ 07470 800/766-3411 FAX: 973/628-3451 E-mail: Web site: www.gaf.com | 905 |
| UNITED COATINGS 19011 E. Cataldo Greenacres, WA 99016 509/926-7143 FAX: 509/928-1116 E-mail: info@unitedcoatings Web site: www.unitedcoatings.com | 906 |
| U.S. INTEC INC 1361 Alps Road Wayne, NJ 07470 800/766-3411 FAX: 973/628-3451 E-mail: Web site: www.usintec.com | 904 906 |
| W.P. HICKMAN SYSTEMS INC. 30700 Solon Industrial Parkway Solon, OH 44139 440/248-7760 FAX: 440/248-6524 E-mail: wphickman@wphickman Web site: www.wphickman.com | 906 |

Incomplete Data

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 other than to adhere to the prescribed reporting format. Any manufacturer of a product in the product categories included in the *Guide* can be listed by submitting their information in accordance with procedures developed for this purpose.

Product manufacturers included in the *Guide* are encouraged to provide NRCA with listing information for their products that is as complete as possible for publication in the *Guide*. Beginning with the 2000 edition of the *Guide*, in situations where manufacturers have submitted product information (e.g., test results) that is deemed to be incomplete, these specific products have been omitted from the detailed listing sections of the *Guide*. Manufacturers and products with incomplete product listing information are included in this new section of the *Guide*, entitled Section 6: Incomplete Data.

NRCA has established this policy regarding manufacturers' product listings with incomplete data at the request of users of the *Guide*, who are clearly seeking detailed and complete product information from the *Guide* and the companies listed.

Users of the *Guide* who are interested in specific product information on a manufacturer's product that is included in Section 6: Incomplete Data are encouraged to contact the specific product manufacturer directly. Manufacturers' contact information is provided in the index section of the *Guide*.

For the 2004-2005 edition of the *Guide*, incomplete product data was provided by the following manufacturers for the specific products indicated.

ROOF COVERINGS (Section 1)

Built-Up Roofing

| Manufacturer | Products |
|--------------|----------|
| None | None |

Modified Bitumen

| Manufacturer | Products |
|--------------|--|
| U.S. Intec. | Liberty Base Liberty MA Base Liberty Cap |

PVC

| Manufacturer | Products |
|--------------|----------|
| None | None |

EPDM

| Manufacturer | Products |
|--------------|----------|
| None | None |

CSPE

| Manufacturer | Products |
|--------------|----------|
| None | None |

PIB

| Manufacturer | Products |
|--------------|----------|
| None | None |

TPO

| Manufacturer | Products |
|--------------|----------|
| None | None |

Other Prefabricated Sheet-applied Membranes

| Manufacturer | Products |
|--------------|----------|
| None | None |

Spray Polyurethane Foam-Based Systems

| Manufacturer | Products |
|--------------|----------|
| None | None |

ROOF CEMENTS, ADHESIVES AND COATINGS (Section 4)

| Manufacturer | Products |
|-----------------------------------|---|
| Topcoat Division of GAF Materials | MP-300 MB Priming System Flexseal SB-900 Flashing Grade Skylite |

| Manufacturer | Products |
|---------------------------|--|
| United Coatings | Acrylex 400 Adhere-it EPDM Primer Alumiseal Primer Berm 500 Elastron 858 Uniseal Uni-tile Sealer Unibase Primer |
| U.S. Intec | Matrix 157 Monster Grip Insulation Adhesive Matrix 205 Sure Grip Flashing Cement Matrix 301 System Pro Fibered Aluminum Coating Matrix 302 System Pro Non-Fibered Alum Coating Matrix 303 Select Fibered Aluminum Roof Coating Matrix 304 Select Non-Fibered Alum Roof Coating Matrix 305 Select Asphalt Emulsion Matrix 307 Asphalt Primer Matrix 322 White Elastomeric Roof Coating Matrix 531 Wheathercote Elastomeric Matrix 602 SB Coating Matrix 715 MB Coating |
| W.P. Hickman Systems Inc. | #10 Mastic White HK ARM HK Elastic HK Elastic Plus HK TRM Pika Ply Adhesive Rapid Dry Primer, WB Wet Patch |

ROOF MEMBRANE WARRANTIES (Volume 2)

| Manufacturer | Products |
|---------------------------------|--|
| Certainteed Roofing Products | No warranty information was provided for any product or system |
| Cooley Engineered Membrane Inc. | No warranty information was provided for any product or system |
| Ecology Roof Systems | No warranty information was provided for any product or system |
| Fields Company, LLC | No warranty information was provided for any product or system |
| Garland Company, Inc. | No warranty information was provided for any product or system |
| Honeywell International | No warranty information was provided for any product or system |

| Manufacturer | Products |
|----------------|--|
| IKO Industries | No warranty information was provided for any product or system |
| Karnak Corp. | No warranty information was provided for any product or system |