Material storage and handling

by **Mark S. Graham**

Properly storing and handling roofing materials are important to installing quality roof assemblies. Unfortunately, many manufacturers, designers' specifications and roofing publications provide few guidelines to assist roofing contractors in this area. Following are some general considerations and guidelines that should help you provide proper material storage and handling.

Storage

All roofing materials that are susceptible to retaining moisture, may be damaged by moisture or have moisture-sensitive application processes should be protected and kept dry before installation. This applies to most common roofing materials, including underlayments, felts, polymer-modified bitumen sheets and insulation (except insulation products that are to be installed above roof membranes).

Indoor storage of moisture-sensitive roofing materials is preferred because it generally provides the greatest level of moisture protection, as well as protection from sunlight and temperature extremes.

When indoor storage of roofing materials is not possible, such as at most job sites, moisture-sensitive materials can be stored outdoors if they are placed on pallets or raised off a surface and are covered with properly secured water-resistant coverings. "Breathable" coverings, such as water-resistant canvas tarpaulins, are preferred because they do not trap moisture.

Bituminous roll goods, such as underlayments, felts and polymer-modified bitumen sheets, should be stored on end to prevent rolls from becoming deformed or otherwise damaged. Most single-ply membrane sheets should be stored with rolls lying horizontally or as recommended by their manufacturers.

Water-based roofing materials, such as emulsions, acrylic coatings and water-based adhesives, should be protected from freezing. Solvents, adhesives, foam components and sealants should be stored at proper temperatures and protected from extreme temperatures. Lids should be secured on all cans and containers of materials.

Handling

All roofing materials should be handled in ways that prevent damage to the materials, completed work and personal property.

Many roofing materials are relatively heavy when concentrated in their shipment packaging, so material-handling operations should not overburden or overload personnel, equipment or a building structure. For example, a pallet of heavyweight polymer-modified bitumen sheets can weigh more than 2,700 pounds (1215 kg), and a bundle of glass-faced gypsum board insulation can weigh about 3,200 pounds (1450 kg).

In many instances, loads of such magnitude can overload roof decks. Heavy materials should be removed from their original shipment packaging, divided into lighter units and distributed throughout a roof's field.

Shared responsibility

Although many assume material storage and handling to be solely a roofing contractor's responsibility, the responsibility is shared with manufacturers, suppliers, distributors and designers.

Roofing material manufacturers should package roofing materials in ways that will facilitate proper handling and not overload common roof decks. Also, moisture-sensitive materials should be packaged with moisture-resistant coverings suitable for transportation, handling and rooftop storage.

In addition, suppliers and distributors should properly handle materials to avoid damage and keep moisture-sensitive materials dry. If material manufacturers provide inadequate protection for moisture- or temperature-sensitive materials, suppliers and distributors should take measures to adequately protect these materials. Such measures may include indoor storage, storage in controlled-temperature conditions or coverage with tarpaulins. Properly handling and protecting materials during transportation also are important.

Roof system designers should consider material storage and handling in their designs and include provisions for proper material handling and storage in contract documents. Any specific storage and handling requirements should be delineated clearly in bid documents.

For additional information regarding material storage and handling, refer to *The NRCA Roofing and Waterproofing Manual, Fifth Edition*, and NRCA's Roof Application Training Program modules.

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