

To: GAF Commercial Sales, GAF Contractors, Field Services, Design Services,
CARE
From: GAF Commercial
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Cool Weather Application Precautions For Modified Bitumen & BUR Roofing Systems

Cool Weather Application

The application of modified bitumen and BUR roofing systems during cool weather presents considerations that need to be accommodated for during installation. By following proper procedures and exercising recommended precautions, cool weather applications can progress more efficiently and effectively, resulting in higher quality roof installations.

Follow the cool weather application instructions that are specific to the product or system you are installing. Acceptable weather conditions are based not only on the actual ambient temperature, but also the total combination of nature's elements (e.g. wind, humidity, snow, sleet, etc.).

Plan Carefully

Careful planning of work during cool weather can greatly improve the quality of the installation and can minimize problems associated with cool temperatures:

- There must be no ice or water on the roof substrate.
- Do not apply roofing materials during inclement or threatening weather.
- The roof substrate must be clean and dry.
- Protect all solvent-based products from freezing temperatures. Any solvent-based materials can be used once brought up to the correct dispensing temperature.

Complete each roof section daily. Application should be scheduled so that there are no partially completed portions of the roof left exposed.

Store materials in a weather-protected environment, clear of the ground and moisture, in accordance with GAF's standard instructions.

- Whenever possible store all materials in a heated warehouse.
- On the job site, store materials in warming boxes or use warming equipment specifically designed for the materials being stored.
- Use materials as soon as possible after they are removed from the weather-protected environment.
- Insulated piping and luggers may be necessary to maintain the required asphalt temperature at the point of application.
- Always keep adhesives and sealants from freezing.

Adhesives & Sealants

At low temperatures, adhesives and sealants can be difficult to apply properly and may not adhere or cure as they do in more temperate weather.

- Store adhesives and sealants as well as any specialty application equipment for **at least 24 hours** at room temperature or above 55°F (12.8°C) prior to application.
- Only apply adhesive when the adhesive, substrate, membrane and outside temperatures are all **above 45°F (7.2°C) and rising**.
- Some low-rise foam (LRF) adhesives come in a “**winter grade**” or have an application temperature lower than 40°F (4.4°C). Always check the specific adhesive for temperature usage and storage limits for that product, as well as any special application measures required for cold temperature application.
 - **Only apply when the outside temperature is above 0°F (-17.7°C) and rising:**
 - TPO LRF Adhesive M Low Temp Cartridges
 - TPO LRF Adhesive M LTA Cartridges
 - **Only apply when the outside temperature is above 20°F (-6.7°C) and rising:**
 - OlyBond500® Insulation Adhesive - SpotShot (Winter Grade)
 - **Only apply when the outside temperature is above 25°F (-3.9°C) and rising:**
 - OlyBond500® Insulation Adhesive (Winter Grade) - Bag in Box/Drum (Winter Grade)
 - TPO LRF Adhesive M - All packaging types
 - **Only apply when the outside temperature is above 32°F (0°C) and rising:**
 - LRF Adhesive XF - All packaging types
 - **Only apply when the outside temperature is above 40°F (4.4°C) and rising:**
 - OlyBond500® Canisters
 - OlyBond500® Insulation Adhesive - All packaging types
- Application **temperatures above 50°F (10°C) are recommended** to allow easier adhesive application.
- Allow adhesives to properly cure. **Note:** Drying times depend on the ambient temperature; colder weather usually requires longer drying time.
- Do not heat containers with torches or other high temperature devices.
- Do not attempt to thin these products.

Installation Practices

In cooler weather, unrolling and relaxing RUBEROID®/GAFGLAS® rolls and base sheets prior to installation will reduce the potential for wrinkles to form in the finished roof. The rolls can be cut into shorter lengths for easier handling when rerolling and installing. Special care is required when installing GAF roof membranes at temperature below 45°F (7.2°C):

- There must be no ice, dew or water on the roof substrate. The roof substrate must be clean and dry.
- All membrane rolls and adhesives must be stored overnight at a minimum temperature of 55°F (12.8°C) prior to their application.
- Remove all rolls from the heated storage only as they are being installed. Install membrane rolls immediately after removal from storage to avoid membrane cooling. Modified rolls must be at least 45°F (7.2°C) at time of application.
- For mop applied SBS membranes, the **asphalt temperature at point of application must be maintained at the asphalt's EVT or 425°F (218°C)** whichever is greater, with a rolling bank (puddle) of mopping asphalt across the full width of the roll.
- For non-modified glass felts, the asphalt temperature at the point of application must be maintained at the asphalt's EVT +/- 25°F (13.9°C). The use of insulated asphalt handling equipment is recommended in cold weather.
- Do not overheat the asphalt to try to offset the ambient temperature. If the proper asphalt application temperature cannot be consistently maintained, roofing MUST be discontinued. Be aware that cool, windy conditions will cause asphalt heat loss to occur at a rate equivalent to a lower ambient temperature.
 - If insulation is being set into mopping asphalt, it must be set quickly while the asphalt is still hot and fluid. Use the minimum insulation size available. At no time should boards larger than 4' x 4' (1.22 m x 1.22 m) be set in hot asphalt.
- In cooler weather, Matrix™ modified adhesives become more viscous and difficult to apply. Be careful to ensure that the adhesives are applied at the proper rate.
- Do not overheat RUBEROID® Heat-Weld or RUBEROID® Torch Grade rolls to compensate for cold ambient temperatures.
- Do not mop more than 5' (1.52 m) in front of the roll.

Questions?

GAF Design Services Can Assist You with these and other questions you may have. Design Services can be contacted at 877-423-7663 or DesignServices@gaf.com. The GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit www.gaf.com to find the latest information on our products and their installation.

Important: This document supersedes any prior GAF Technical Advisory Bulletins on this topic. Please always check www.gaf.com to make sure you have the most up to date information.