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Technical Advisory Bulletin

To: GAF Commercial Sales, GAF Contractors, Field Services, AIS, CARE

From: Technical Services Department

No: TAB-C-08

Cool Weather Application Precautions

General

The application of all roofing systems during cool weather poses special concerns. By following proper procedures and exercising recommended precautions, cold weather application can progress more efficiently and effectively, resulting in a higher quality roof installation.

Always follow any cool weather application instructions that may be specific to the product or system you are installing.

Plan Carefully...

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.) Careful planning of work during cool weather can greatly improve the quality of the installation. Laying out the roof area and placing materials where they will be needed prior to application will minimize problems associated with cold temperatures. **Do not apply roofing materials during inclement or threatening weather.**

Complete each roof section daily... application should be scheduled so that there are no partially completed portions of the roof left exposed. As the work progresses on a day-to-day basis, it is essential that each section of the roof be completed as specified. Additionally, "water cut-offs" should be provided at all exposed edges at the end of each day. Water cut-offs shall be removed prior to resuming construction of the roof assembly

Delivery, Storage & Protection

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 using 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 all water-based adhesives, coatings, sealants and caulks from freezing. Any water-based materials that have been frozen must be discarded.

*Adhesives,
Coatings &
Sealants*

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

- Store adhesives, coatings, sealants and caulks 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 water and solvent based adhesive when the adhesive, substrate, membrane and outside temperatures are all **above 40°F (4.4°C) and rising**.
- Low-rise foam (LRF) and certain other adhesives that come in a **“winter grade”** or have an application temperature lower than 40°F (4.4°C) may be utilized. For more details, please see specific product application guidelines.
- 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.

*Membrane
Application:
Modified
Bitumen & BUR*

In cooler weather, unrolling and relaxing of 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, adhesives and coatings must be stored overnight at a minimum temperature of 55°F (12.8°C) prior to their application.
- All water-based coatings must be protected from freezing at all times.
- 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.



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- 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' (1.22m x 1.22m) 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' in front of the roll.

Membrane

Application: TPO & PVC

In cooler weather, unrolling and relaxing EverGuard® TPO/PVC 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 EverGuard® 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, adhesives and coatings must be stored for at least overnight at a minimum temperature of 55°F (12.8°C) prior to their application. All water-based coatings must be protected from freezing at all times.
- 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.

Field Seaming

The correct speed and temperature settings for automatic welders are determined by preparing test welds at various settings. Many factors will affect the settings including overcast skies and lower air temperatures. This will generally require a slower speed. The slower speed provides additional heat energy to compensate for heat-draining conditions.

- **The test weld procedure should be conducted at the beginning of every work period** (e.g., morning and afternoon) and following a significant change in weather (e.g., air temperature, wind speed, cloud cover, etc.).

Questions?

GAF Technical Services Can Assist You... with these and other questions you may have regarding your new roof installation. Technical Support Services can be contacted at 800-766-3411. 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.