# COLD WEATHER APPLICATION GUIDELINES

## RubberGard™ EPDM

Firestone has always been committed to manufacturing roofing materials that can be installed in various and changing weather conditions and are engineered for long-term performance and service. There are some basic precautions to be taken to ensure ease of installation and satisfactory performance of the completed roofing system when installation needs to take place in colder temperatures and/or unstable weather conditions.

All the below information is given as guidance to assist the installer in determining roofing materials' applicability during the winter months. As always, no roofing work should be performed during any form of precipitation (e.g., rain or snowfall).

### SUBSTRATE PREPARATION

All traces of snow, ice or moisture must be removed from the deck before installing the roofing system. Any moisture present at the installation time may result in poor adhesion of the membrane or any other layer of the roofing system to the roof deck or other components and compromise the installation.

### MEMBRANE PREPARATION

Before installation, unroll and unfold the EPDM membranes and allow them to relax for a minimum of 30 minutes. Cold weather can affect the membranes' workability and extend the time required for the membrane to relax, especially when folds are present (45 minutes).

### ADHESIVES, PRIMERS, SEALANTS, AND ACCESSORIES

#### PREPARATION

- Store, for as long as possible, all adhesives, primers, and sealants in a clean, dry location at a temperature of 10-15°C.
- Make sure the QuickSeam accessories are also stored at a temperature of 10-15°C to maintain a certain level of tackiness and ensure proper adhesion.
- Organize roofing activities in a way that materials are close to 15°C when dispensed.
- Be creative! Assemble a small heated storage area on the roof. You can install pallets in an appropriate location (verify the loadbearing capacity of the structure). Ensure the area is enough to store products equal to the number to be installed during one working day. Cover the storage area and keep the covered space at about 15°C with a hot air blower.
- In case the organization of a heated storage area on the roof is not feasible, install a small office container near the site and use it as a heated storage area. The quantity of adhesives that are brought onto the roof should be limited and kept in insulated boxes.
- Always thoroughly mix adhesives, primers and sealants to a smooth, uniform state before and during use. Follow instructions available for each product. Do not use mixing equipment that could generate a spark, which could ignite flammable material.

- If the products' properties and application characteristics begin to change during cold weather application, restore them to room temperature.
- When spray bonding adhesives are stored in colder conditions, gently shake it to improve the components' mixing. To warm up the canister, remove it from the carton and place it in a bucket of warm water for 15 minutes. Keep the canister inside its carton packaging as much as possible during application. Please refer to the winter edition of Tips & Tricks for Firestone Spray Adhesives for more detailed information.

**PRECAUTIONS**

- Drying times of adhesives and primers depend on ambient conditions. Cold and overcast conditions lengthen drying times. Expect and plan for longer drying times in cold weather before mating the surfaces.
- When a two-side contact application is needed, apply the adhesives first onto the substrate and then onto the membrane as the drying time will generally be shorter on the membranes.
- Allow the adhesives to flash off until tacky (time depending on ambient air conditions) before mating the surfaces. Test the adhesives for their dryness using the touch-push test procedure. Refer to the Firestone guidelines for specific installation instructions.
- Blisters may occur when membranes are installed using solvent-based adhesives or primers that have not sufficiently dried.
- Do not use heat guns or open flames to accelerate drying times.
- Do not apply water-based products when freezing temperatures are expected within 24 hours after application.
- Because the drying time of adhesives and primers may be significantly extended, the roofing crew should organize the work differently: prepare bigger sections for adhesion, prepare multiple seams and/or details.
- Certain combinations of temperature and humidity may cause water condensation to form on areas of drying adhesive and primer. To determine if condensation has occurred, the following test can be performed: In areas to be more sensitive to condensation (e.g., covered shady areas), approximately 5 minutes after applying the adhesive or primer, touch the adhesive with a clean, dry finger. If the adhesive is tacky to the touch, there is no condensation. If moisture is present, the adhesive will not stick to the finger. If this condition occurs, work must stop until the ambient air conditions no longer cause condensation. This situation must be monitored continuously as work progresses. The gap between the ambient temperature and the dew point is typically narrower in the early morning and late afternoon, so midday is often the optimal time to use adhesives and primers when applying Firestone products in cold weather conditions. Greater exposure to sunlight at any time of the day decreases the risk of condensation.


Firestone Building Products EMEA BVBA I Ikaroslaan 75 I 1930 Zaventem I Belgium
T. +32 (0)2 711 44 50 I info@fbpe.be I www.firestonebpe.com

## TIPS & TRICKS FOR QUALITY INSTALLATION

EPDM membranes can be unrolled and unfolded at temperatures as low as -45°C. However, at very low temperatures, there are a couple of points to be considered to achieve quality installation.

### FULLY ADHERED EPDM SYSTEMS

- During cold weather, folded membrane panels require more time to relax, especially with adhered systems. For the fully adhered systems, narrow panels are therefore recommended, reducing the number of factory folds. Firestone offers RubberGard EPDM membranes in 3.05m and 5.08m width with no-fold. Winter reduces the time available for bonding and seaming due to condensation risk. Some additional steps have to be taken into account – Please refer to the adhesives precautions statements above. In extreme weather conditions, alternative systems such as mechanically attached system (MAS) could be considered.

### MECHANICALLY ATTACHED EPDM SYSTEMS

- RMA system can also be affected by cold weather, as the attachment of the EPDM membrane to the RMA strips depends on the application of primer. When confronted with longer periods of higher humidity and/or rainfall, a good alternative may be to switch to the MAS system. In this system, the EPDM membranes can be fixed with batten bars on top. The final waterproofing, covering the batten bars with QS Batten Cover Strip, can be done at a time when climate conditions allow.

### BALLASTED EPDM SYSTEMS

- Although Ballasted systems are less affected by cold weather, Firestone recommends that the maximum panel width should not exceed 9.15m to avoid heavy creasing, especially in seam areas.

## SAFETY

The risk of accidents increases in cold weather due to ice, snow, less daylight, etc. Roof substrates might be very slippery. Therefore, extra care should be taken when working during cold weather conditions.

Please refer to the latest Firestone Technical Information Sheets (TIS) for specific storage and application recommendations. For further information or assistance, please contact your Firestone Regional Technical Manager.

**Dr. Antigoni Katsiki**
Roofing Systems Expert
Firestone Building Products EMEA