

Recommendations for Installation of Asphalt Roofing Shingles in Cold Weather

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Asphalt shingles have been used successfully in cold climates for over one hundred years. Improved application efficiency, and more importantly, enhanced long-term shingle performance, can be achieved by following the cold weather application recommendations outlined below:

- Be sure to follow the manufacturer's installation instructions carefully, as most building codes require, including manufacturer recommendations about cold temperature application and proper storage and handling of accessory components used in the installation of an asphalt shingle roofing system.
- Be very careful when working on sloped roofs. In winter applications, there may be nearly invisible ice or frost build-up on the roof or deck surface, which can make work extremely hazardous. It is advisable to wait until the roof surface is free of ice and frost for safer shingle roof application.
- Use caution when handling bundles of shingles and individual shingles in cold weather as they may crack, or in severe cases, break apart. Choose an installation temperature where the shingles are sufficiently flexible to facilitate installation. As with most materials, asphalt shingles tend to become less flexible as temperature decreases. Refer to manufacturer instructions for specific directions related to cold weather installation temperature. Note that when cold, shingle bundles will tend to keep the shape of the surface upon which they are stacked. When nailing, make sure the shingles are flat; otherwise, the nail may break through the shingle surface during installation. Avoid bending, throwing, or dropping bundles of shingles in cold weather. For best results, store shingles indoors to keep them warm prior to application.
- Use extra care (including warming of shingles) in applications where lifting or bending the shingle is required, such as racking applications, hip and ridge shingles, or at valleys. Lifting or bending may cause the shingles to crack or break during or after installation.
- Most asphalt shingles include thermally activated asphalt sealant, which bonds the shingles together after they are applied to the roof. Sealing time will vary depending on the slope of the roof, its orientation, and the amount of sun/heat exposure that the shingles receive. To provide improved protection from wind blow-off in very cold weather, asphalt shingles can be hand-sealed with an approved asphalt roofing cement or other adhesive acceptable to the shingle manufacturer and in accordance with their

1 For more information on this topic, consult the ARMA Technical Bulletin, Ventilation and Moisture Control for Residential Roofing.

2 For more information on this topic, consult the ARMA Technical Bulletin, Preventing Damage from Ice Dams.

installation requirements.

- Consider the use of open metal valleys in cold weather. Woven and closed cut valleys require shingles to be bent, which may result in shingle damage.

Additional Considerations

- When re-roofing over an existing roof in cold weather, take extra care to ensure that the roof surface is smooth and flat. If shingles are affixed to an uneven surface in cold weather, that uneven appearance may be “locked in.” Even with the return to warmer weather, the shingles may not be able to completely relax to a smooth looking finished roof.
- Ensure that the attic space is adequately ventilated.¹
- Install polymer modified, self-adhering underlayment as ice dam protection in regions susceptible to ice damming. Self-adhering underlayment provide protection against damage from water backup from ice dams that can occur at the eaves of the roof.² Asphalt saturated felt may be used as an alternative ice dam protection when applied per the manufacturer’s application instructions and the requirements of the building code.
- If roof maintenance or inspection is required in cold weather, take special care when walking on shingles. Shingles applied to an uneven surface, or that are slightly curved or buckled, are very susceptible to breakage underfoot in frigid weather. For some sealants, the bond between courses becomes less flexible in cold weather and roof traffic may break the sealant bond. In such cases, it may be necessary to hand-seal these shingles.

Certain North American regions receive very high snowfall amounts, requiring snow and ice removal from the roof. Extreme caution must be taken when removing snow from the roof so that the shingles are not damaged by shovels, scrapers, or foot traffic.

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