ASPHALT ROOFING™
MANUFACTURERS ASSOCIATION

technical bulletin

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Recommendations for Installation of Asphalt Roofing Shingles in Cold Weather

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.

- 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 roof application.

- Ensure that the attic space is adequately ventilated.[1] Often, what appears to be a roof leak is actually condensation of moist interior air drifting up into a cold, improperly ventilated attic.

- Install polymer modified, self-adhering underlayment as an eave flashing in regions susceptible to freezing winter temperatures. Eave flashings 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 alternate eave flashing when applied per the manufacturer's application instruction and the requirements of the building code.

- Use caution when handling bundles of shingles and individual shingles in cold weather as they may crack, or in severe cases, break apart. As with most materials, asphalt shingles tend to become less flexible in cold weather (<40 degrees F). 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.

- Most asphalt shingles are manufactured with a thermally activated asphalt sealant, which bonds the shingles together once they are applied to the roof and exposed to a few weeks of sufficient heat from sunlight. In order 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 approved by the shingle manufacturer. Seal down every tab with one or two 1 inch (25 mm) diameter spot(s) of asphalt roofing cement. Ensure that the shingles are pressed into the asphalt cement causing it to be near the shingle

[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*.

edges, but not exposed. For laminated shingles, at least three spots of sealant may be used. Rakes and eaves of the roof are especially susceptible to wind blow-off if they are not sealed.

- 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. As an alternative, warm the shingles prior to application.

- To reduce the tendency that the hip and ridge cap shingles crack when bent during application in cold weather, leave them in a warm area until just prior to preparation and installation.

- 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.

- 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.