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Revised:

## **COLD WEATHER RECOMMENDATIONS FOR APPLICATION OF ASPHALT ROOFING SHINGLES**

Asphalt roof shingles have been used successfully in North American and European cold climates for over ninety years. Improved application efficiency, and more importantly, enhanced long-term shingle performance can be achieved by following some of the cold weather application recommendations outlined below.

1. One must always be careful when working on pitched, sloped roofs. In winter applications, there may be ice or frost built up on the wood deck surface, making work even more hazardous. It may be advisable to wait until the roof surface is free of ice and frost for safer roof application.
2. Often, apparent roof leakage is actually due to condensation of moist home air drifting up into an improperly ventilated attic, resulting in condensation. To prevent this, ensure that adequate ventilation is provided.
3. As with most materials, asphalt shingles tend to become more brittle in cold weather ( $< 5^{\circ}\text{C}$ ). This is particularly true of the fibreglass reinforced asphalt shingles. Note that due to the cold, shingle bundles will tend to keep the shape of the surface where they are stacked. Use precaution when handling bundles of shingles and individual shingles in cold weather as they may crack, or in severe cases, break apart. Also, when nailing, make sure the shingles are flat, as the nail may break through the shingle surface. Never bend, throw or drop bundles of shingles in cold weather.
4. In regions susceptible to freezing winter temperatures, special eave protection must be used (National Building Code, Section 9.26.5) to avoid water backup from the dams at the eave of the roof. Although mineral surfaced or smooth surfaced rolled roofing may be used in warmer weather, in winter these products must be warmed to allow them to relax, removing any wrinkles or buckles which, if left, will show up later through the finished roofing material. It is recommended to use polymer modified self-adhering eave protector membranes which are more flexible in cold weather. These eave protector membranes are also suitable for protecting problem areas such as valleys, skylights, vents, and plumbing pipes.
5. Most asphalt shingles are manufactured with a thermally activated asphaltic sealant which bonds the shingles together once applied to the roof and exposed to a few weeks of sufficient heat from sunlight. In order to ensure wind protection until warmer weather occurs, winter applications of asphalt shingles should be hand sealed with an asphaltic plastic cement approved by the shingle manufacturer.

Normally every tab is sealed down with one or two 25 mm diameter spots of asphalt plastic cement. The top six courses of the roof and all rake courses are especially susceptible to wind blowoff if not sealed.

6. When finishing the top of the roof, the ridge cap shingles are bent over the intersecting roof planes. In order to ensure that the shingles do not crack during application over the ridge caps (note that thicker, heavier shingles are more susceptible to this cracking), it is suggested to leave one or two bundles of shingles in a warm area from which the ridge cap tabs may be cut.
7. When re-roofing over an existing roof in cold weather, one must take extra care to ensure that the roof surfaces are as smooth and flat as possible. Since the shingle will be affixed to the surface in cold weather, their uneven appearance may be "locked in" once they are sealed together. Even with the return to warmer weather, the shingles may not completely relax to a smooth looking finished roof.
8. If roof maintenance or inspection is required in cold weather, care must be taken when walking on shingles in the winter. (Shingles applied to an uneven surface, or that are slightly curled or buckled, are very susceptible to breakage underfoot in frigid weather.) The sealant bond between shingle courses also becomes very brittle in cold weather. It is likely that roof traffic may break the sealant bond. The shingles may then become susceptible to wind uplift or blow-off, if high winds occur prior to the sealant resealing in warm weather.
9. Certain North American regions receive very high snowfall amounts, requiring snow and ice removal from the roof during the winter. Extreme caution must be taken during snow removal from the roof, so that the shingles are not damaged by shovels, scrapers, or foot traffic. Damage to the shingles which may result from this snow removal is not covered under shingle manufacturer's limited warranties.

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***Canadian Asphalt Shingle Manufacturers' Association***