Technical Bulletin

CANADIAN ASPHALT SHINGLE MANUFACTURERS' ASSOCIATION

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INSTALLATION OF ASPHALT SHINGLES ON LOW SLOPE ROOFS

[4:12 down to 2:12 (18.5° to 8.5°)]

Asphalt shingles are an effective roof covering material for sloped roofs. They can be successfully used on slopes as low as 2:12 (2" of vertical rise for every 12" of horizontal run, or 8.5º) as well as steeper pitches. With respect to shingle application, any roof slope between 2:12 and 4:12 is considered a low slope roof.

Asphalt shingles should never be applied to roof slopes below 2:12 (8.5°).

When asphalt shingles are used on slopes between 2:12 and 4:12, special underlayment application methods are required following the manufacturer's application instructions. Because of their lower slope, these roofs are more susceptible to water entry, primarily for two reasons: severe ice dams and wind-driven rain. Therefore, underlayment requirements are increased to enhance the water shedding property of the roof system as a whole. Underlayment requirements are described in the Canadian Standards Association asphalt shingle application standard CSA A123.51.

The acceptable underlayment installation options per CSA A123.51 are:

1. Cover the entire low-sloped roof area with a self-adhered modified bituminous membrane that will act as an ice and water protection, or
2. Cover the entire low-sloped roof area not already covered by an ice dam/eaves protection with two layers of underlayment (i.e. laid such that each course overlaps the preceding course by half the sheet width plus 25mm), or
3. Cover the entire low-sloped roof area with an SBS membrane cemented at the vertical laps.

For best roof performance CASMA recommends the use of self-adhering waterproofing membranes. Since ice dams can be more severe on lower slopes, the membrane should extend up to a minimum of 900 mm (36") beyond the interior face of the exterior wall. Apply the membrane according to the manufacturer's instructions.

It is important to note that if the entire roof area is covered with self-adhered waterproofing membranes, such membranes are typically effective vapour barriers. Consequently, the roof space beneath the covered roof area must be properly ventilated to mitigate condensation on the underside of the roof deck. Ventilation should be such that free air flow occurs throughout the entire attic space.

For additional installation details, please refer to the Manufacturer's installation instructions and the Canadian Standards Association (CSA) A123.51-14 Asphalt Shingle Application on Roof Slopes 1:6 and steeper.