

ROOFING UNDERLAYMENT TEST STANDARDS

In an asphalt shingle roof system, various eave protection and underlayment materials may be specified. Underlayments are recommended for various reasons (See CASMA Bulletin # 3) and are also referenced in almost all building codes.

When reviewing any test standard the correct specification should be selected for the appropriate application of the product. There is occasional confusion in roofing specifications since they are often written for multiple applications and uses.

The eave protection or underlayment materials will typically conform to one of the following standards, which will be shown on the product packaging;

CSA A123.3-05 (R2010): Asphalt Saturated Organic Roofing Felt. As with most long-established felt standards, this specification was originally intended to address heavier perforated felts used in built-up roof construction. Non-perforated grades were added to reflect the needs for shingle and wood shake underlayments.

CSA A123.22-08: Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection. This CSA standard is a Canadian adaptation of the ASTM D 1970 standard.

CGSB CAN2-51.32-M77: Sheathing, Membrane, Breather Type. This standard covers saturated Kraft paper, which is most often used as a water resistant “house wrap” membrane beneath wall cladding materials. Because the product is water-resistant and asphalt saturated, it has occasionally been used in roofing. Various weights and grades of saturated sheathing membrane are manufactured – generally only the heavier grades are suitable for use beneath asphalt shingles.

Various weights and grades of saturated sheathing membrane are manufactured but according to the National Building Code only grades of at least 125g/m² are suitable.

ASTM D 226-09: Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing. This standard is similar to the CSA A123.3 standard, in that it applies to both built-up roofing felts and other uses of felts such as underlayment in shingle roof assemblies.

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ASTM D 1970-11: Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection. This is the original ASTM standard which covers eave protection materials.

ASTM D 4869-05 (2011): Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing. This standard was the first written specifically to address only roofing underlayments. It covers four types (differentiated by weight) and includes a watershedding requirement (the 'shower test').

ASTM D 6757-07: Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing. This standard is similar to ASTM D4869 but references felt made in part with inorganic (glass) fibers. Products meeting this standard must also pass a dimensional stability test.

Underlayments which comply with other standards may be suitable – consult the shingle manufacturer for alternate materials that they may approve. Specifically, synthetic underlayments are now commonly used, but currently there is no established industry consensus standard for such products.

For more information on this subject or other asphalt shingle technical issues, you may contact CASMA by e-mail at casma@casma.ca, or visit our website: www.casma.ca. The information contained in this bulletin is for general education and is not intended to replace advice from a qualified contractor or direction on usage/installation from the manufacturer. Consumers should be aware of the safety hazards associated with work on roofs and, before doing so themselves, should consider following CASMA's advice of using qualified contractors. This bulletin may be reproduced with permission on condition that it be reproduced in whole, unedited, with attribution of copyright to CASMA.