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Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing[1]

This standard is issued under the fixed designation D 4869; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers asphalt-saturated organic felt for use as an underlayment with steep slope roofing.

1.2 The values stated in SI units are to be regarded as the standard.

1.3 The objective of this standard is to provide a finished product that will lie flat and resist wrinkling, puckering, and shrinking when left exposed to the sun, rain, frost, or dew for a period of two weeks after application.

1.4 The following safety hazards caveat pertains only to the test method portion, Section 8, of this specification: *This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 70 Test Method for Specific Gravity and Density of Semi-Solid Bituminous Materials (Pychnometer Method)[2]

D 146 Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing[3]

D 228 Test Methods for Sampling, Testing, and Analysis of Asphalt Roll Roofing, Cap Sheets, and Shingles Used in Roofing and Waterproofing[3]

D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials[3]

D 1922 Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method[4]

D 6136 Test Method for Kerosene Number of Unsaturated (Dry) Felt by the Vacuum Method[3]

F 1087 Test Method for Linear Dimensional Stability of a Gasket Material to Moisture[5]

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology D 1079.

4. Classification

4.1 Asphalt saturated felts covered by this specification are of four types:

4.1.1 *Type I*—#8 Underlayment,

4.1.2 *Type II*—#13 Underlayment,

4.1.3 *Type III*—#20 Underlayment, and

4.1.4 *Type IV*—#26 Underlayment.

5. Materials and Manufacture

5.1 In the process of manufacture, a single thickness of organic dry felt shall be uniformly saturated with an asphaltic saturant.

5.2 The felt shall be produced principally from organic fibers. The surface of the felt shall be uniform and relatively smooth. Upon splitting or tearing on the bias, the felt shall appear free of lumps or particles of foreign substances.

6. Physical Requirements

6.1 The material shall conform to the physical requirements prescribed in Table 1 and the dimensions and masses prescribed in Table 2.

6.2 The finished product shall not crack nor be so sticky as to cause tearing or other damage upon being unrolled at temperatures between 0 and 60°C (32 and 140°F).

6.3 The finished product shall pass the water shower exposure test described in 8.3, indicating resistance to liquid water transmission.

7. Workmanship, Finish, and Appearance

7.1 The felt shall be thoroughly and uniformly saturated, and shall show no unsaturated spots at any point upon cutting 50-mm (2-in.) wide strips at random across the entire sheet and splitting them open for their full length.

7.2 The saturated felt may be surfaced lightly on one side with talc or other finely comminuted mineral material to prevent sticking in the roll.

7.3 The finished material shall be free of visible external defects, such as holes, ragged or untrue edges, breaks, cracks, tears, protuberances, and indentations.

[1] This specification is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing and Bituminous Materials and is the direct responsibility of Subcommittee D08.02 on Prepared Roofings, Shingles and Siding Materials.

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[2] *Annual Book of ASTM Standards*, Vol 04.03.

[3] *Annual Book of ASTM Standards*, Vol 04.04.

[4] *Annual Book of ASTM Standards*, Vol 08.03.

[5] *Annual Book of ASTM Standards*, Vol 09.02.

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