AMERICAN NATIONAL STANDARD ANSI/ASTM D 250 - 77ε

Standard Specification for ASPHALT-SATURATED ASBESTOS FELT USED IN ROOFING AND WATERPROOFING[1]

This Standard is issued under the fixed designation D 250; 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.

ε NOTE 1—The title was editorially changed in February 1978.
NOTE 2—Table 1 was corrected editorially in January 1979.

1. Scope

1.1 This specification covers asphalt-saturated asbestos felts, with or without perforations, for use with asphalts conforming to the requirements of Specification D 312 in the construction of built-up roofs, and with asphalts conforming to the requirements of Specification D 449 in the membrane system of waterproofing.

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

2. Applicable Documents

2.1 *ASTM Standards:*

D 146 Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing[2]

D 312 Specification for Asphalt Used in Roofing[2]

D 449 Specification for Asphalt Used in Dampproofing and Waterproofing[2]

D 1079 Definitions of Terms Relating to Roofing, Waterproofing, and Bituminous Materials[2]

2.2 *Federal Standard:*

Fed. Std. No. 123 Marking for Domestic Shipment (Civilian Agencies)[3]

2.3 *Military Standards:*[4]

MIL-R-3423 Packaging of Roofing Felt in Rolls

MIL-STD-129 Marking for Shipment and Storage

2.4 *American Trucking Association, Inc.:*

National Motor Freight Classification[5]

2.5 *Uniform Classification Committee:*

Uniform Freight Classification[6]

3. Classification

3.1 Asphalt-saturated asbestos felts covered by this specification are of two types:

3.1.1 *Type I*—Nominal 730 g/m² (15 lb/square), plain or perforated.

3.1.2 *Type II*—Nominal 1460 g/m² (30 lb/square), plain only.

4. Definitions

4.1 For definitions of terms such as "felt," "built-up roofing," and "square," see Definitions D 1079.

4.2 For the purpose of sampling, a lot shall consist of the same type and size of roofing felt offered for delivery at one time.

5. Ordering Information

5.1 Orders for material purchased under this specification shall include the following:

5.1.1 Designation of this specification,

5.1.2 Type of material (3.1), and whether plain or perforated,

[1] This specification is under the jurisdiction of ASTM Committee D-8 on Roofing, Waterproofing, and Bituminous Materials.

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[2] *Annual Book of ASTM Standards*, Part 15.

[3] Available from General Services Administration, Washington, D.C. 20402.

[4] Available from Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, Pa. 19120.

[5] Available from American Trucking Association, Inc., 1616 P St. N.W., Washington, D.C. 20036.

[6] Available from Uniform Classification Committee, 212 Union Station, Chicago, Ill. 60606.

5.1.3 Quantity of rolls,

5.1.4 Special sampling, inspection, and certification procedures, if required, and

5.1.5 Special packaging, packing, and marking procedures (13.3 and 13.5), if required.

6. Materials and Manufacture

6.1 The felt shall be produced from at least 85 % by mass of asbestos fiber. The surface of the felt shall be uniform and relatively smooth. Upon splitting or tearing on the bias, the felt shall appear reasonably free of lumps.

6.2 In the process of manufacture, a single thickness of asbestos felt shall be saturated with an asphaltic saturant.

7. Physical Requirements

7.1 Asphalt-saturated asbestos felt shall neither crack nor be so sticky as to cause tearing or other damage upon being unrolled at ambient temperatures above 10°C (50°F).

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

7.3 Plain and perforated felts shall conform to the same requirements as the imperforate (plain) type except that the perforations shall be uniformly spaced.

8. Workmanship, Finish, and Appearance

8.1 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.

8.2 The surface of the felt shall not be coated or covered with talc or other substance that would tend to interfere with adhesion between the felt and plying cement.

8.3 The finished material shall be free of visible external defects, such as holes, ragged or untrue edges, breaks, cracks, tears, protuberances and indentations, except for intentionally provided perforations and the associated protuberances.

9. Sampling and Test Methods

9.1 Sample the material and determine the properties enumerated in this specification in accordance with Methods D 146.

9.2 Determine the openness of the perforations in saturated felts by the following method:

9.2.1 Cut three adjacent 305-mm (12-in.) ± 0.5 % square specimens across the width of the felt. Determine the number of perforations per specimen by multiplying the number of perforations per row by the number of rows. Correct for differences when rows are off-set from each other. Calculate the average number of perforations per unit area.

9.2.2 Place the specimen on a sheet of white paper with the smoother side up (side from which the needling or perforating device enters the felt). Use a 50-mm (2-in.) wide natural or nylon bristle paint brush to apply uniformly 15 to 20 cm^3 of SAE No. 10 or 10W grade motor oil to each specimen. Apply the oil with smooth strokes and without undue pressure on the brush. Complete the initial application in one minute and continue to brush out the oil on the surface for an additional minute.

9.2.3 Lift the perforated felt from the paper upon completion of brushing and count the oil spots showing on the white paper beneath as open perforations. Calculate the decimal fraction of holes open on the basis of the total number of holes determined in 9.2.1. Average the results of three determinations and report.

9.2.4 Measure the size of the perforations using an optical comparitor. If round, record diameter of the holes. If square or rectangular, record appropriate dimensions. Calculate the average area of the perforations.

9.2.5 Determine the average venting area by the formula:

$$V = P \times A \times H$$

where:

V = vented area, mm^2/m^2 ($in.^2/ft^2$),

P = average number of holes/m^2 (average number of holes/ft^2),

A = average area at one hole, mm^2 ($in.^2$), and

H = decimal fraction of open holes (dimensionless).

10. Inspection

10.1 Unless otherwise specified in the purchase contract, the supplier is responsible for inspection and may use his own or any other