



Standard Specification for Asphalt Roll Roofing (Organic Felt) Surfaced with Mineral Granules; Wide Selvage¹

This standard is issued under the fixed designation D 371; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers asphalt roofing in sheet form, 36 in. (914 mm) in width, or other widths agreed upon between the purchaser and the supplier, composed of asphalt-saturated organic felt with approximately half the width of the weather side coated with asphalt and surfaced with mineral granules, for use as a cap sheet in the construction of built-up roofs.

1.2 *This standard does not purport to address all of the safety concerns, 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 146 Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing²
- D 228 Test Methods for Asphalt Roll Roofing, Cap Sheets, and Shingles²
- D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials²

3. Terminology

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

4. Classification

4.1 Material covered by this specification is of two types:

- 4.1.1 *Type I*, having a minimum mass per unit area of 37.0 lb/100 ft² (1806 g/m²).
- 4.1.2 *Type II*, having a minimum mass per unit area of 46.3 lb/100 ft² (2260 g/m²).
- 4.1.3 *Type III*, having a minimum mass per unit area of 35.5 lb/100 ft² (1733 g/m²).
- 4.1.4 *Type IV*, having a minimum mass per unit area of 42.8 lb/100 ft² (2090 g/m²).

¹ This specification is under the jurisdiction of ASTM Committee D-8 on Roofing, Waterproofing and Bituminous Materials, and is the direct responsibility of Subcommittee D08.02 on Prepared Roofing, Shingles, and Siding Materials.

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² *Annual Book of ASTM Standards*, Vol 04.04.

5. Materials and Manufacture

5.1 In the process of manufacture, a single thickness of dry felt shall first be saturated with asphalt; then approximately half the width of the weather side shall be coated with asphaltic material and surfaced with mineral granules. The reverse side of the sheet may or may not be coated; if coated, it shall be covered with a suitable material to prevent sticking in the roll.

5.2 The felt shall be produced from vegetable or animal fibers, or mixtures thereof. 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 or particles of foreign substances.

5.3 The asphaltic material used to coat the sheet may be compounded with a fine mineral stabilizer substantially insoluble in water.

6. Physical Requirements

6.1 The finished product shall neither crack nor be so sticky as to cause tearing or material damage upon being unrolled at ambient temperatures above 50°F (10°C).

6.2 *Pliability at 77°F (25°C)*—At least eight strips out of ten from the granule-surfaced portion of the sheet shall not crack when tested in accordance with Test Methods D 228, Section 17.

6.3 *Behavior on Heating to 176°F (80°C) for 2 h*—There shall be no more than 1.5 % volatile loss, and the granular surfacing shall not slide more than 1/16 in. (2 mm) when tested in accordance with Test Methods D 228, Section 18.

7. Dimensions, Mass, and Permissible Variations

7.1 *Width*—The material shall be put up in rolls and shall be 36 in. (914 mm) \pm 0.7 % wide, unless another width is agreed upon between the purchaser and the supplier.

7.1.1 The coated and granule-surfaced portion of the weather side shall have a uniform, minimum width of 17 in. (432 mm) for the standard 36-in. (914-mm) wide sheet, or as agreed upon between the purchaser and the supplier. For other sheet widths, the coated and granule-surfaced portion shall have a minimum width of one half the sheet width minus 1 in. (25 mm).

7.1.2 When the surfaced portion of the weather side exceeds the minimum width, the sheet shall be marked with a conspicuous mopping line located from the exposed weather edge a

distance equal to one half the sheet width minus 1 in. (25 mm).

7.2 *Area*—The standard 36-in. (914-mm) wide roll shall contain $108 \text{ ft}^2 (10.0 \text{ m}^2) \pm 1\%$ of sheet, which is sufficient material to cover $50 \text{ ft}^2 (4.65 \text{ m}^2)$ of the roof surface.

7.3 The roofing shall conform to the masses prescribed in Table 1.

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 2-in. (50-mm) wide strips at random across the entire sheet and splitting them open to their full length.

8.2 Each portion of the surface of the weather side shall be uniform in finish and texture. The mineral granules on the surfaced portion shall be uniformly distributed in a smooth layer and shall be firmly embedded in the asphalt coating.

8.3 The line of demarcation between the surfaced and unsurfaced portions of the weather side shall be straight and parallel to the edges of the sheet.

8.4 If the reverse side of the sheet is coated, the coating and material applied to prevent sticking in the roll shall be uniform over the entire area of the sheet.

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

9. Sampling and Test Methods

9.1 Sample the material and determine the properties enumerated in this

specification in accordance with Test Methods D 228.

9.2 *Moisture Content*—See the Moisture section of Test Methods D 146.

10. Inspection

10.1 Inspection of the material shall be agreed upon between the purchaser and the supplier as part of the purchase contract.

11. Rejection and Resubmittal

11.1 Material that fails to conform to the requirements of this specification may be rejected. Rejection should be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a rehearing.

12. Packaging and Marking

12.1 The material shall be put up in rolls. The rolls shall be tightly wound, and shall be securely wrapped with a substantial grade of paper completely encircling each roll and pasted at the overlap in such a manner as to prevent shifting from position. No roll shall contain more than two pieces, nor shall there be more than 3 % of the rolls containing two pieces in any shipment.

12.2 Special packaging shall be agreed upon between the purchaser and the supplier as part of the purchase contract.

12.3 Each roll shall be plainly marked with the name and brand of the producer or supplier, and the ASTM designation of the product.

TABLE 1 Masses of Wide-Selvage Asphalt Roll Roofing Surfaced with Mineral Granules^A

	All Types	Type I	Type II	Type III	Type IV
	Max	Min	Min	Min	Min
Average mass per 36-in. (914-mm) wide roll, exclusive of wrapping and packaging material, lb (kg)	...	42 (19.1)	52 (23.6)	42 (19.1)	48.5 (22.0)
Mass of roofing, lb/100 ft ² (g/m ²)	...	37.0 (1806)	46.3 (2260)	35.5 (1733)	42.8 (2090)
Mass of desaturated felt, lb/100 ft ² (g/m ²)	...	6.6 (322)	10.0 (488)	6.6 (322)	4.0 (440)
Mass of asphalt saturant based on the mass of the desaturated felt, %	...	140	160	140	150
Mass of weather-side coating, lb/100 ft ²	32.4 (1582)	18.5 (903)	18.5 (903)	18.5 (903)	18.5 (903)
Mass of weather-side mineral matter passing a 3.35-mm (No. 6) sieve and retained on a 212- μ m (No. 70) sieve, lb/100 ft ² (g/m ²) ^B	...	18.5 (903)	18.5 (903)	18.5 (903)	18.5 (903)
Mass of weather-side mineral matter retained on an 850- μ m (No. 20) sieve based on the mass of mineral matter passing a 3.35-mm (No. 6) sieve and retained on a 212- μ m (No. 70) sieve, %	...	55.0	55.0	55.0	55.0
Mass of weather-side mineral matter passing a 425- μ m (No. 40) sieve based on the mass of mineral matter passing a 3.35-mm (No. 6) sieve and retained on a 212- μ m (No. 70) sieve, %	5.0	...	...	...	...
Mass of weather-side mineral matter passing a 212- μ m (No. 70) sieve based on the mass of the weather-side coating asphalt and the mineral matter passing the 212- μ m (No. 70) sieve, %	60.0	...	...	...	...
Moisture, at time of manufacture, mass, %	3	...	...	...	...

^A Test for compliance to this specification prior to application. Types cannot be differentiated after installation.

^B Granule-surfaced portion only.

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