



Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface¹

This standard is issued under the fixed designation D6298/D6298M; 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 fiberglass reinforced modified bituminous sheet materials that use styrene-butadiene-styrene (SBS) thermoplastic elastomer as the primary modifier and are surfaced with a factory applied continuous metal foil. These materials are intended for use in the fabrication of multiple ply roofing and waterproofing membranes and flashings.

1.2 This specification is intended as a material specification only. Questions regarding the suitability of the specific roof constructions or application techniques are beyond the scope of this specification.

1.3 The specified tests and property limits are intended to establish minimum properties. In place roof system design criteria such as fire resistance, field strength, impact/puncture resistance, material compatibility, uplift resistance, and others, are factors beyond the scope of this specification.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 The following precautionary statement pertains to the test method portion only, Section 8 of this Specification: *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.*

¹ This specification is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.04 on Felts, Fabrics and Bituminous Sheet Materials.

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2. Referenced Documents

2.1 *ASTM Standards*:²

D1079 Terminology Relating to Roofing and Waterproofing
D5147/D5147M Test Methods for Sampling and Testing
Modified Bituminous Sheet Material

D7051 Test Method for Cyclic Thermal Shock of SBS-
Modified Bituminous Roofing Sheets with Factory-
Applied Metal Surface

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology D1079.

4. Materials and Manufacture

4.1 In the process of manufacture, the fiberglass reinforcement is impregnated and coated on both sides with a SBS modified bituminous coating. The sheet is surfaced with a continuous metal foil except for any selvage. The SBS modified bituminous coating shall be permitted to be compounded with a mineral stabilizer.

4.2 The metal surfacing shall be omitted on any selvage. To prevent sticking in the roll, the reverse side and any selvage shall be permitted to be covered with a fine mineral surfacing or any other surfacing that will not interfere with adhesion or bonding of the lap during application.

4.3 Foil-faced products intended for use where the application is to be by heat welding (torching) shall meet the minimum back surface coating requirement found in Table 1.

5. Physical Properties

5.1 The sheet material shall conform to the physical properties prescribed in Table 1.

5.2 The finished product shall not crack nor be so sticky as to cause other material damage upon being unrolled at product temperatures between 4 and 60°C [40 and 140°F].

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

**TABLE 1 Properties of SBS Modified Bituminous Sheet Materials Surfaced With a Factory Applied Metal Foil**

Description			
Thickness, min, mm [mils]		3.4	[134]
Net mass per unit area, min, kg/m ² [lb./100 ft ²]		3.9	[80]
Back surface coating thickness, min, mm [mils]		1	[40]
Peak load, MD and XMD, min, kN/m [lbf/in.]	−18°C [0°F]	28.0	[160]
	23°C [73°F]	14.9	[85]
Elongation at peak load, MD and XMD, min, %	−18°C [0°F]	3	
	23°C [73°F]	5	
Ultimate elongation, MD and XMD, min, %	23°C [73°F]	25	
Tensile tear strength, MD and XMD, min kN [lbf]		0.53	[120]
Low temperature flexibility, max, °C [°F]		−18	[0]
Dimensional stability, max, %			0.2
Compound stability, min passing, °C [°F]		107	[225]
Cyclic thermal shock, max, mm/m, [%]		0.2	[2]
Water absorption, max, %			1.0
Moisture content, max, %			0.2

6. Dimensions, Mass, and Permissible Variations

6.1 The width of the roll shall be as agreed between the purchaser and the seller and shall not vary more than $\pm 1\%$.

6.2 The area of the roll shall not be less than as agreed upon between the purchaser and seller.

6.3 The selvage width shall be within ± 6.4 mm [$\frac{1}{4}$ in.] of the nominal value and shall not be less than 57 mm [2.25 in.].

7. Workmanship, Finish, and Appearance

7.1 The finished product shall be completely coated in a continuous, unbroken film and shall be free of such defects as holes, ragged or untrue edges, breaks, cracks, tears, protrusions, delaminations, and indentations.

7.2 The metal surface shall be uniform in surface and texture, that is, free from such defects as holes, breaks tears, protrusions, and indentations (except for intended factory embossing pattern).

7.3 The line of demarcation between the metal-surfaced portion of the weather side and any selvage shall be straight and parallel to the edge of the sheet.

7.4 When unrolled on a smooth plane, the sheet shall be flat, straight, and true so the lap will mate with the adjacent sheet within the tolerance of the lap without wrinkles, buckles, or fishmouths.

8. Sampling and Test Methods

8.1 Sample the material and determine the properties described in this specification in accordance with Test Method **D5147/D5147M** unless otherwise indicated.

8.2 *Cyclic Thermal Shock*—Sample and test the material in accordance with Test Method **D7051**.

9. Inspection

9.1 *Inspection*—Inspection shall be in accordance with the requirements of this specification.

9.2 *Inspection Alternatives*—Alternative inspection requirements shall be determined by and as agreed upon between the purchaser and supplier.

10. Rejection and Resubmittal

10.1 *Failure to Conform*—Failure to conform to any of the requirements as stated in this specification constitutes grounds for rejection.

10.2 *Rejection Redress*—The supplier shall have the right to inspect the rejected materials. The supplier and the purchaser shall agree to the quantity of rolls deemed unacceptable. The supplier shall then have the right to submit the same number of new rolls as replacement.

11. Packaging and Package Marking

11.1 The finished material shall be furnished as rolls. The rolls shall be securely wrapped to prevent shifting of material and to permit normal handling. There shall be no manufacturing splices in the roll, and there shall be no more than two pieces.

11.2 Unless otherwise agreed upon by the seller and purchaser, each product package shall be plainly marked with the supplier's name, the product brand, "SBS" or similar indication that the product is a SBS modified bitumen sheet material, the ASTM designation, and the net coverage area.

12. Keywords

12.1 glass reinforcement; metal foil surface; modified bituminous sheet; styrene-butadiene-styrene (SBS); thermoplastic elastomer



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