



Designation: D 5147 – 01

Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material¹

This standard is issued under the fixed designation D 5147; 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 These test methods cover procedures for sampling and testing prefabricated, reinforced, polymer modified bituminous sheet materials designed for single- or multiple-ply application in roofing and waterproofing membranes. These products may use various surfacing materials on one side.

1.2 These test methods appear in the following order:

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1.3 *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 95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation²

D 228 Test Methods for Asphalt Roll Roofing, Cap Sheets, and Shingles³

D 573 Test Method for Rubber—Deterioration in an Air Oven⁴

D 751 Test Methods for Coated Fabrics⁵

D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials³

D 1204 Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature⁶

D 4073 Test Method for Tensile-Tear Strength of Bituminous Roofing Membranes³

D 4798 Test Method for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method)³

D 4977 Test Method for Granule Adhesion to Mineral Surfaced Roofing by Abrasion³

3. Sampling

3.1 From each shipment or fraction thereof, select at random a number of rolls equal to one half the cube root of the total number of rolls in the lot. If the calculated number is fractional, express it as the next highest whole number. For convenience, a table showing the number of rolls to be selected from the lots of various sizes, is given in Test Methods D 228. When mutually agreed upon by the concerned parties, other sampling frequencies may be used and reported within the framework of these procedures. The minimum sample shall consist of five rolls. The rolls so selected constitute the representative sample used for all subsequent observations and tests pertaining to the lot of material being examined.

4. Conditioning

4.1 Unless otherwise specified, condition test specimens for a minimum of 4 h at $73.4 \pm 3.6^\circ\text{F}$ ($23 \pm 3^\circ\text{C}$) and $50 \pm 5\%$ relative humidity before testing.

5. Thickness

5.1 Sheet materials shall be checked at five points across the roll width, to include the weathering surface. Measurements shall be made at two points, each being 6 ± 0.5 in. (150 ± 15 mm) from each edge, and at three points equally spaced between these two points. Compute the average thickness and the standard deviation of the thicknesses based on the total number of point measurements from all of the rolls taken in accordance with Section 1.2.

5.2 Report the individual point measurements, average, and estimated standard deviation.

⁶ Annual Book of ASTM Standards, Vol 08.01.

¹ These test methods are under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing, and Bituminous Materials and are the direct responsibility of Subcommittee D08.04 on Felts and Fabrics.

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² Annual Book of ASTM Standards, Vol 05.01.

³ Annual Book of ASTM Standards, Vol 04.04.

⁴ Annual Book of ASTM Standards, Vol 09.01.

⁵ Annual Book of ASTM Standards, Vol 09.02.