



Designation: D2178/D2178M – 13a

Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing¹

This standard is issued under the fixed designation D2178/D2178M; 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 U.S. Department of Defense.

1. Scope

1.1 This specification covers glass felts impregnated to varying degrees with asphalt intended to be used with asphalts conforming to the requirements of Specifications D312 or D7654 in the construction of built-up roofs, and with asphalts conforming to the requirements of Specification D449 in the construction of waterproofing systems.

1.2 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.

1.3 *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:*²

D146 Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing

D312 Specification for Asphalt Used in Roofing

D449 Specification for Asphalt Used in Dampproofing and Waterproofing

D1079 Terminology Relating to Roofing and Waterproofing

D7654 Specification for Asphalt Used in Roofing Measured by Dynamic Shear Rheometer

3. Terminology

3.1 *Definitions:*

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 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.

3.1.1 For definitions of terms used in this specification, refer to Terminology D1079.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *net dry mass*—the mass of the asphalt-impregnated glass felt exclusive of wrapping and packing material, after drying to constant weight and after removing all detached comminuted surfacing material as described in 8.2.

4. Classification

4.1 Asphalt-impregnated glass felts Types IV and VI are covered by this specification.

5. Materials and Manufacture

5.1 The felt shall be a thin, porous sheet of uniformly distributed glass fibers, with or without the addition of reinforcing stranded glass yarns, and bonded with a water-resistant resinous binder.

5.2 In the process of manufacture, the felt shall be impregnated with asphalt which shall be permitted to contain a mineral stabilizer so that the individual glass fibers are coated and the asphalt is evenly distributed throughout.

5.3 The impregnated glass felt shall be surfaced with a material to prevent sticking in the roll. The nature and quantity of the surfacing material shall not interfere with adhesion between the plies of a membrane.

6. Physical Properties, Dimensions, and Masses

6.1 The material shall conform to the physical properties, dimensions, and masses prescribed in Table 1 and 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 10 and 60°C [50 and 140°F].

6.3 After extraction of the asphalt in accordance with Section 16 of Test Methods D146, the desaturated felt shall remain flat and unbuckled, shall retain its original shape and dimensions, and individual fibers shall remain firmly set in place.

6.4 The pliability specimen shall be conditioned in air at 25 ± 1°C [77 ± 2°F], 50 ± 5 % relative humidity, for at least 1 h and tested in a room maintained at the same temperature