



Designation: D 2178 – 97a

Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing¹

This standard is issued under the fixed designation D 2178; 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 glass felts impregnated with varying degrees with asphalt intended to be used 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 construction of waterproofing systems.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

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 146 Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing²

D 312 Specification for Asphalt Used in Roofing²

D 449 Specification for Asphalt Used in Dampproofing and Waterproofing²

D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials²

3. Terminology

3.1 Definitions:

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

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.

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 D08.04 on Felts and Fabrics for Bituminous Roofing and Waterproofing.

Current edition approved July 10, 1997. Published January 1998. Originally published as D 2178 – 63 T. Last previous edition D 2178 – 97.

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

4. Classification

4.1 Asphalt-impregnated glass felts Types III, 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 50 and 140°F (10 and 60°C).

6.3 After extraction of the asphalt in accordance with Section 16 of Test Methods D 146, 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 77 ± 2°F (25 ± 1°C), 50 ± 5 % relative humidity, for at least 1 h and tested in a room maintained at the same temperature (immersion in water not required). Otherwise, follow Test Methods D 146, the paragraph on felts in the Pliability section.

7. Workmanship, Finish, and Appearance

7.1 The finished material shall be uniformly impregnated with asphalt of uniform thickness, and shall be free of visible defects such as ragged or untrue edges, breaks, cracks, tears, and protuberances.

7.2 Types III and IV shall contain closely spaced pinholes not over 1/32 in. (0.8 mm) in diameter over the entire area of the felt. Individual holes up to 1/4 in. (6.3 mm) in diameter shall be