



Designation: D173/D173M – 03 (Reapproved 2024)

Standard Specification for Bitumen-Saturated Cotton Fabrics Used in Roofing and Waterproofing¹

This standard is issued under the fixed designation D173/D173M; 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.
This standard replaces Federal Specification SS-C-450.*

1. Scope

1.1 This specification covers woven cotton fabrics saturated with either asphalt or coal-tar pitch intended to be used with asphalts conforming to Specification **D312/D312M** or **D449/D449M**, coal-tar pitches conforming to Specification **D450/D450M**, or appropriate solvent bearing bituminous materials in the construction of roofing and waterproofing systems.

1.1.1 Asphalt-saturated cotton fabric shall be used with asphalt base plying cement; typical ones are mopping asphalts conforming to Specification **D312/D312M** or **D449/D449M** or appropriate solvent bearing asphaltic compounds.

1.1.2 Coal-tar-saturated cotton fabric shall be used with coal-tar based plying cements; a typical one is coal-tar pitch conforming to Specification **D450/D450M** or appropriate solvent bearing coal-tar compounds.

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 nonconformance with the standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

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.

Current edition approved July 1, 2024. Published July 2024. Originally approved in 1923. Last previous edition approved in 2018 as D173/D173M – 03 (2018). DOI: 10.1520/D0173_D0173M-03R24.

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

D146/D146M Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing
D312/D312M Specification for Asphalt Used in Roofing
D449/D449M Specification for Asphalt Used in Dampproofing and Waterproofing
D450/D450M Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing
D1079 Terminology Relating to Roofing and Waterproofing
D3775 Test Method for End (Warp) and Pick (Filling) Count of Woven Fabrics

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 dry cotton fabric shall be thoroughly and uniformly saturated with bitumen. This shall be accomplished by passing the fabric through the saturant or by spraying with saturant, calendering in the presence of heat, and then cooling before winding on a core.

4.2 If fabric with a selvage is used, the selvage shall not be more than 16 mm [$\frac{5}{8}$ in.] wide.

4.3 The fabric shall be woven entirely from cotton fibers, but customary sizing materials not exceeding 8 % by weight of the moisture-free cotton shall be permitted to be used.

5. Physical Properties

5.1 The material shall conform to the physical requirements prescribed in **Table 1** and the dimensions and masses prescribed in **Table 2**.

5.2 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. Workmanship, Finish, and Appearance

6.1 The meshes of the fabric shall not be completely closed or sealed by the process of saturation. There shall be sufficient