



Designation: D3393 – 91 (Reapproved 2022)

Standard Specification for Coated Fabrics—Waterproofness¹

This standard is issued under the fixed designation D3393; 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 sets forth the minimum requirements for hydrostatic resistance of fabrics coated with rubber or plastics. Coated fabrics satisfying these requirements are considered to be *waterproof*.

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

1.3 The following precautionary caveat pertains only to the test method portion 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *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
[D751 Test Methods for Coated Fabrics](#)
[D1566 Terminology Relating to Rubber](#)

3. Terminology

3.1 *Definitions*:

3.1.1 *merrow seam*—a sewn seam made to unite fabric pieces for coating; not to be included in the finished product.

3.1.2 *waterproofness*—the property of impenetrability by liquid water. (See Terminology [D1566](#).)

¹ This specification is under the jurisdiction of ASTM Committee D11 on Rubber and Rubber-like Materials and is the direct responsibility of Subcommittee D11.37 on Coated Fabrics, Rubber Threads and Seals.

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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.

3.1.3 *water repellency*—the property of being resistant to wetting by liquid water. (See Terminology [D1566](#).)

3.1.4 *water resistance*—the property of retarding both penetration and wetting by liquid water. (See Terminology [D1566](#).)

4. Summary of Test Method

4.1 Circular specimens of the coated fabric to be tested for waterproofness are exposed to a specific hydrostatic pressure, as detailed in Sections 6 – 9, and the upper exposed surface is examined visually for penetration of water.

4.2 Records to document compliance with this specification shall be maintained by producers and fabricators. Statistically based sampling plans may be utilized. In cases where results are in dispute, additional sampling and testing as agreed upon between the purchaser and the seller may be necessary.

5. Significance and Use

5.1 The purpose of this specification is to establish a recognized criterion for “waterproofness” in terms of a minimum hydrostatic resistance. The necessary definitions to provide a common understanding of the meaning of this characteristic when it is used to describe a fabric coated with rubber or plastics are also given. The specification does not cover requirements for water repellency or water resistance of fabrics coated with rubber or plastics.

TEST METHOD

6. Apparatus

6.1 *Hydrostatic Tester*, capable of applying within 6 s a pressure of 207 kPa (30 psi) on the specimen with an accuracy of ± 7.0 kPa (1.0 psi). The apparatus shall be equipped with two concentric ring clamps, having an inner diameter of 31.5 ± 0.5 mm (1.24 ± 0.02 in.) between which the specimens can be clamped in order to avoid slippage. The inside edges of the ring clamps that come into contact with the test specimen shall be rounded to 0.3 to 0.5 mm (0.01 to 0.02 in.) to avoid cutting the specimen. A seal shall be fitted on the lower clamp to prevent leakage during the test.

6.2 A type of equipment suitable for performing this test is described in more detail in Section 37 of Test Methods [D751](#).