



Designation: D4884/D4884M – 22

Standard Test Method for Strength of Sewn or Bonded Seams of Geotextiles¹

This standard is issued under the fixed designation D4884/D4884M; 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 test method covers the determination of the factory and field seam strength of geotextiles, using a wide specimen and wet and dry specimens.

1.2 The long-term performance of a seaming technique is not addressed by this test method. This test method will provide data to indicate the short-term seam strength that can be achieved for each particular geotextile and seam assembly construction. To assess the long-term performance of a seaming technique, it is possible to use Practice D6389, using this test method to determine the anticipated strength reduction in the initial, short-term wide-width tensile strength (Test Method D4595) results.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.4 *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.*

1.5 *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 test method is under the jurisdiction of ASTM Committee D35 on Geosynthetics and is the direct responsibility of Subcommittee D35.01 on Mechanical Properties.

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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.

D76/D76M Specification for Tensile Testing Machines for Textiles

D1776/D1776M Practice for Conditioning and Testing Textiles

D1777 Test Method for Thickness of Textile Materials

D4439 Terminology for Geosynthetics

D4595 Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method

D6389 Practice for Tests to Evaluate the Chemical Resistance of Geotextiles to Liquids

E178 Practice for Dealing With Outlying Observations

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

2.2 *Federal Standard*.³

Fed. Std. No. 751a Stitches, Seams, and Stitchings

3. Terminology

3.1 For definitions of terms relating to geotextiles, refer to Terminology D4439.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *adhered seam, n*—in geotextiles, a seam made by the application of an adhesive.

3.2.2 *seam weld, n*—the process by which a seam is formed through the thermal bonding of separate layers of geotextile.

3.2.3 *selvage, n*—the woven edge portion of a geotextile parallel to the machine direction.

3.2.4 *sewing thread, n*—a flexible, small diameter yarn or strand, usually treated with a surface coating, or lubricant, or both, intended to be used to stitch one or more pieces of material or an object to a material.

3.2.5 *stitch, n*—the repeated unit formed by the sewing thread in the production of seams in a sewn geotextile (see Fed. Std. No. 751a).

4. Summary of Test Method

4.1 Material is divided into lots and a lot sample taken as described in an applicable material specification, or as agreed upon between the purchaser and the supplier.

³ Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.