



Designation: D4759 – 11 (Reapproved 2024)

Standard Practice for Determining the Specification Conformance of Geosynthetics¹

This standard is issued under the fixed designation D4759; 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 practice covers a procedure for determining the conformance of geosynthetic properties to standard specifications.

1.2 *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.*

1.3 *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

D4354 Practice for Sampling of Geosynthetics and Rolled Erosion Control Products (RECPs) for Testing

D4439 Terminology for Geosynthetics

D4533/D4533M Test Method for Trapezoid Tearing Strength of Geotextiles

D7273/D7273M Guide for Acceptance Testing Requirements for Geonets and Geonet Drainage Geocomposites

3. Terminology

3.1 For general definitions used in this document, refer to Terminology **D4439**.

3.2 Definitions of Terms Specific to This Standard:

¹ This practice is under the jurisdiction of ASTM Committee **D35** on Geosynthetics and is the direct responsibility of Subcommittee **D35.01** on Mechanical Properties.

Current edition approved Nov. 1, 2024. Published November 2024. Originally approved in 1988. Last previous edition approved in 2018 as D4759 – 11 (2018). DOI: 10.1520/D4759-11R24.

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.

3.2.1 *test result, n*—a value obtained by a given test method, expressed as a single determination or a specified combination of a number of determinations.

4. Significance and Use

4.1 This practice provides a means by which the purchaser can determine the conformance of geosynthetic properties as applied to the acceptance or rejection of a material in regards to a material specification.

4.2 This practice has been developed with strong emphasis on practicality and the realization that all geosynthetics are subjected to a vigorous quality control program prior to shipping.

NOTE 1—It is suggested that the user obtain the mean, standard deviation, and/or the coefficient of variation for given physical/mechanical properties of a product directly from the manufacturer. If this data is unavailable, it is suggested that users of this practice begin to accumulate data that can be used to estimate product averages and standard deviations for each product.

NOTE 2—The risk to the purchaser of buying out-of-specification materials is minimal when conformance requirements are detailed in the purchase specification and adequate conformance testing is performed. It is the producer's responsibility to perform thorough quality control testing for all properties requiring certification. The producer's risk of rejection is minimal with the performance of this thorough quality control testing.

5. Summary of the Test Procedure

5.1 *Procedure A*—This procedure determines the conformance of geosynthetic materials properties to acceptable specifications values.

NOTE 3—Conformance testing is done by the purchaser or designated person/organization. It is usually done as the geosynthetics are brought to the project site and to justify the payment of the billing (Practice **D4354**). Typically, testing is performed on the final product and no components to produce or assemble the final geosynthetic material need to be conformance tested.

5.2 *Procedure B*—This procedure determines the conformance of geocomposite geosynthetic material properties to a set of acceptable specification values. Typically, multiple individual components need to be tested together with the final geocomposite product to show conformance with the acceptable material specification. Since those individual components might or might not be altered during production/assembly,