



Designation: D6364 – 06 (Reapproved 2018)

Standard Test Method for Determining Short-Term Compression Behavior of Geosynthetics¹

This standard is issued under the fixed designation D6364; 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 procedures for evaluation of the deformations of a geosynthetic or combination of geosynthetics (that is, geocomposite (excluding geotextiles, geomembranes, and geosynthetic clay liners)) under short-term compressive loading. This test method is strictly an index test method to be used to verify the compressive strength consistency of a given manufactured geosynthetic(s). Results from this test method should not be considered as an indication of actual or long-term performance of the geosynthetic(s) in field applications.

1.2 Since these geosynthetics may experience multidirectional compressive loadings in the field, this test method will not show actual field performance and should not be used for this specific objective. The evaluator of the results should also recognize that the determination of the short-term single-plane compressive behavior of geosynthetics does not reflect the installed performance of synthetic drainage systems and, therefore, should not be used as the only method of product specification or performance with respect to synthetic drainage systems.

1.3 The values in SI units are to be regarded as the standard. Values in inch-pound units are provided in parentheses for information.

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.*

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. 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

D5199 Test Method for Measuring the Nominal Thickness of Geosynthetics

D7001 Specification for Geocomposites for Pavement Edge Drains and Other High-Flow Applications

3. Terminology

3.1 Definitions:

3.1.1 *compressive deformation, [L], n*—the decrease in gage length produced in the test specimen by a compressive load.

3.1.2 *compressive strain, [nd], n*—the ratio of compressive deformation to the gage length of the test specimen.

3.1.3 *gage length, [L], n*—in compression testing, the measured thickness of the test specimen under specified compressional force, expressed in units of length prior to compressive loading. (D5199)

3.1.4 *geocomposite, n*—a product fabricated from any combination of geosynthetics with geotechnical materials or other synthetics that is used in a geotechnical application.

3.1.5 *geosynthetic, n*—a planar product manufactured from polymeric material used with foundation, soil, rock, earth, or any other geotechnical engineering-related material as an integral part of a man-made project, structure, or system. (D4439)

3.1.6 *index test, n*—a test procedure that may contain a known bias but that may be used to establish an order for a set of specimens with respect to the property of interest. (D4439)

3.1.7 *yield point, n*—the first point on the load-deformation curve at which an increase in deformation occurs without a corresponding increase in load.

3.1.7.1 *Discussion*—Some geosynthetics do not exhibit an exact yield point. The tested geosynthetic may exhibit a less

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.