



Standard Test Method for Measuring the Resiliency of Turf Reinforcement Mats (TRMs)¹

This standard is issued under the fixed designation D6524/D6524M; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This test method covers the resiliency or recovery of turf reinforcement mats (TRMs) after they have been subjected to three cycles of loading at 689 kPa [100 psi] for 1 min/per cycle.

1.2 This test method does not provide resiliency values for TRMs under variable normal compressive stresses. This test method determines nominal resiliency.

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 may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[D123 Terminology Relating to Textiles](#)

[D4354 Practice for Sampling of Geosynthetics and Rolled Erosion Control Products\(RECPs\) for Testing](#)

[D4439 Terminology for Geosynthetics](#)

3. Terminology

3.1 *Definitions:*

3.1.1 *pressure, n*—the force or load per unit area.

3.1.2 *thickness*—(1) the distance between one planar surface and its opposite parallel and planar surface; (2) for TRMs, the

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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.

distance between the upper and lower surfaces of the material, measured under a specified pressure and time.

3.1.3 *turf reinforcement mat (TRM), n*—a long-term nondegradable rolled erosion control product composed of UV stabilized, nondegradable, synthetic fibers, nettings, or filaments, or combination thereof, processed into three-dimensional reinforcement matrices.

3.2 For definitions of other textile terms used in this test method, refer to Terminology [D123](#).

3.3 For definitions of other terms relating to geotextiles and geomembranes used in this test method, refer to Terminology [D4439](#).

4. Summary of Test Method

4.1 The nominal resiliency of TRMs is determined by observing the thickness of the TRM before and after it is subjected to three cycles of loading at 689 kPa [100 psi] for 1 min/cycle.

5. Significance and Use

5.1 Resiliency may be used to control the quality of many TRMs. Resiliency may be indicative of a TRM's ability to retain original configuration after exposure to the stresses which may be exerted during manufacture, shipping, and installation. Resiliency is not generally indicative of field performance.

5.2 The resiliency of TRMs may vary considerably depending on the pressure applied to the specimen during loading cycles. To minimize variation, specific sample size and applied pressure are indicated in this test method to ensure all results are comparable.

5.3 To determine the effect of different pressure loadings on the final thickness of TRMs, use this test method.

5.4 This test method may be used for acceptance testing of commercial shipments of TRMs, but caution is advised since information on between-laboratory precision is incomplete. Comparative tests, in accordance with [5.4.1](#) may be advisable.

5.4.1 In a case of a dispute arising from differences in reported test results when using this test method for acceptance testing of commercial shipments, the purchaser and the supplier should conduct comparative tests to determine if there is