



Designation: D6459 – 19

Standard Test Method for Determination of Rolled Erosion Control Product (RECP) Performance in Protecting Hillslopes from Rainfall-Induced Erosion¹

This standard is issued under the fixed designation D6459; 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 guidelines, requirements and procedures for evaluating the ability of Rolled Erosion Control Products (RECPs) to protect hillslopes from rainfall-induced erosion. Critical elements of this protection are the ability of the RECP to:

1.1.1 Absorb the impact force of raindrops, thereby reducing soil particle loosening through “splash” mechanisms;

1.1.2 Slow runoff and encourage infiltration, thereby reducing soil particle displacement and transport through “overland flow” mechanisms;

1.1.3 Absorb shear forces of overland flow; and,

1.1.4 Trap soil particles beneath.

1.2 This test method utilizes full-scale testing procedures, rather than reduced-scale (bench-scale) simulation, and is patterned after conditions typically found on construction sites at the conclusion of earthwork operations, but prior to the start of revegetation work. Therefore this considers only unvegetated conditions.

1.3 This test method provides a comparative evaluation of an RECP-to baseline bare soil conditions under controlled and documented conditions.

1.4 The values stated in SI units are to be regarded as standard. The values given in parentheses are mathematical conversions to inch-pound units, which are provided for information only and are not considered standard.

1.5 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice **D6026**, unless superseded by this standard.

1.5.1 The procedures used to specify how data are collected/recorded or calculated, in this standard are regarded as the industry standard. In addition, they are representative of the significant digits that generally should be retained. The proce-

dures used do not consider material variation, purpose for obtaining the data, special purpose studies, or any considerations for the user’s objectives; and it is common practice to increase or reduce significant digits of reported data to be commensurate with these considerations. It is beyond the scope of this standard to consider significant digits used in analytical methods for engineering design.

1.6 *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.* Also, the user must comply with prevalent regulatory codes, such as OSHA (Occupational Health and Safety Administration) guidelines, while using the test method.

1.7 *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

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D698 Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))

D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

D6026 Practice for Using Significant Digits in Geotechnical Data

D6475 Test Method for Measuring Mass per Unit Area of Erosion Control Blankets

¹ This test method is under the jurisdiction of ASTM Committee **D18** on Soil and Rock; Subcommittee **D18.25** on Erosion and Sediment Control Technology; and is the direct responsibility of Section .02 on Erosion Control Blankets (ECBs).

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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.

*A Summary of Changes section appears at the end of this standard