



Designation: D7351/D7351M – 21

Standard Test Method for Determination of Sediment Retention Device (SRD) Effectiveness in Sheet Flow Applications¹

This standard is issued under the fixed designation D7351/D7351M; 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 establishes the guidelines, requirements and procedures for evaluating the ability of Sediment Retention Devices (SRDs) to retain sediment when exposed to sediment-laden water “sheet” flows.

1.2 This test method is applicable to the use of an SRD as a vertical permeable interceptor designed to remove suspended soil from overland, nonconcentrated water flow. The function of an SRD is to trap and allow settlement of soil particles from sediment laden water. The purpose is to reduce the transport of eroded soil from a disturbed site by water runoff.

1.3 The test method presented herein is intended to indicate representative performance and is not necessarily adequate for all purposes in view of the wide variety of possible sediments and performance objectives.

1.4 *Units*—The values stated in either SI units or inch-pound units [given in brackets] are to be regarded separately as standard. Only SI units are used in equations and appendixes. 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 nonconformance with the standard. Reporting of test results in units other than SI shall not be regarded as nonconformance with this standard.

1.5 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026.

1.5.1 The procedures used to specify how data are collected/recorded and calculated in this standard are regarded as the industry standard. In addition, they are representative of the significant digits that should generally be retained. The procedures used do not consider material variation, purpose for obtaining the data, special purpose studies, or any consideration for the user’s objectives; and it is common practice to

increase or reduce significant digits of reported data to commensurate with these considerations. It is beyond the scope of this standard to consider significant digits used in analysis 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.*

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
- D4318 Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- D4491/D4491M Test Methods for Water Permeability of Geotextiles by Permittivity
- D4632/D4632M Test Method for Grab Breaking Load and Elongation of Geotextiles
- D4751 Test Methods for Determining Apparent Opening Size of a Geotextile
- D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

¹ This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

Current edition approved Aug. 15, 2021. Published August 2021. Originally approved in 2007. Last previous edition approved in 2019 as D7351 – 19. DOI: 10.1520/D7351_D7351M-21.

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