



Standard Specification for Silt Fence Materials¹

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1. Scope

1.1 This specification covers requirements and test methods for geotextile fabrics and associated components used in temporary silt fence applications. This is a material purchasing specification based on AASHTO M288.

1.2 This specification is applicable to the use of a geotextile as a vertical permeable interceptor designed to remove suspended soil from overland, nonconcentrated water flow. The function of a temporary silt fence is to trap and allow settlement of soil particles from sediment laden water. The purpose is to greatly limit the transport of eroded soil from the a construction site by water runoff.

1.3 The tests used to characterize the silt fence are intended to ensure good workmanship and quality and are not necessarily adequate for design purposes in view of the wide variety of possible sediments and performance objectives.

1.4 The values stated in SI units are to be regarded as the standard. The values in inch-pound units are provided for information only.

2. Referenced Documents

2.1 ASTM Standards:

- D 123 Terminology Relating to Textiles²
- D 276 Test Method for Identification of Fibers in Textiles²
- D 4354 Practice for Sampling of Geosynthetics for Testing³
- D 4355 Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)³
- D 4439 Terminology for Geosynthetics³
- D 4491 Test Methods for Water Permeability of Geotextiles by Permittivity³
- D 4632 Test Method for Grab Breaking Load and Elongation of Geotextiles³
- D 4751 Test Method for Determining Apparent Opening Size of a Geotextile³
- D 4759 Practice for Determining the Specification Conformance of Geosynthetics³
- D 4873 Guide for Identification, Storage and Handling of Geotextiles³

¹ This specification is under the jurisdiction of ASTM Committee D-18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 04.09.

D 5141 Test Method to Determine Filtering Efficiency and Flow Rate for Silt Fence Applications Using Site Specific Soils³

2.2 AASHTO Standard:

M288-96 Standard Specification for Geotextile Specification for Highway Applications⁴

3. Materials and Manufacture

3.1 Fibers used in the manufacture of geotextiles for silt fence, and the threads used in joining geotextiles by sewing, shall consist of long-chain synthetic polymers composed of at least 95 % by weight of polyolefins or polyester. They shall be formed into a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.

3.2 Geotextiles and related materials used for temporary silt fence shall conform with the physical requirements of Sections 7 and 8.

3.3 All property values, with the exception of apparent opening size (AOS), in this specification represent minimum average roll values (MARV) in the weakest principle direction (that is, average test results of any roll in a lot sampled for conformance or quality assurance testing shall meet or exceed the minimum value provided herein). Values for AOS represent maximum average roll values.

4. Sampling, Testing, and Acceptance

4.1 Silt fence shall be subject to sampling and testing to verify conformance with this specification. Sampling for testing shall be in accordance with Practice D 4354. Acceptance shall be based on testing of either conformance samples obtained using Procedure A of Practice D 4354, or based on manufacturer's certifications and testing of quality assurance samples obtained using Procedure B of Practice D 4354. A lot size for conformance or quality assurance sampling shall be considered to be the shipment quantity of the given product or a truckload of the given product, whichever is smaller.

4.2 Testing shall be performed in accordance with the test methods referenced in this specification for the indicated application. The number of specimens to test per sample is specified by each test method. Geotextile product acceptance shall be based on Practice D 4759. Product acceptance is

⁴ Available from American Association of State Highway and Transportation (AASHTO), 440 N. Capital Street NW, Washington, DC 2001.