



Designation: D6707 – 06

# Standard Specification for Circular-Knit Geotextile for Use in Subsurface Drainage Applications<sup>1</sup>

This standard is issued under the fixed designation D6707; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers circular-knit geotextiles for use on the outside of perforated pipes and Class B geocomposites per Specification [D7001](#) in drainage applications.

1.2 The tests used to characterize the geotextile are intended to ensure good workmanship and quality, and are not necessarily adequate for design purposes in view of the importance of environmental factors and specific performance objectives. Tests have been selected with essentially neutral aqueous systems in mind. Other tests may be necessary to establish chemical resistance and durability under the conditions of a particular application.

1.3 *This standard may involve hazardous materials, operations, and equipment. 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 requirements prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[D123 Terminology Relating to Textiles](#)

[D4439 Terminology for Geosynthetics](#)

[D4491 Test Methods for Water Permeability of Geotextiles by Permittivity](#)

[D4751 Test Method for Determining Apparent Opening Size of a Geotextile](#)

[D6241 Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe](#)

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee [D35](#) on Geosynthetics and is the direct responsibility of Subcommittee [D35.03](#) on Permeability and Filtration.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[D7001 Specification for Geocomposites for Pavement Edge Drains and Other High-Flow Applications](#)

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *circular knit*—a structure produced by interlooping one or more ends of yarn or comparable material in a continuously circular orientation around the fabric.

3.1.2 *filtration*—the equilibrium soil to geotextile system that allows for adequate liquid flow with limited soil loss across the plane of the geotextile over the service lifetime compatible with the application under consideration.

3.2 Definitions in this standard are in accordance with Terminology [D123](#) and [D4439](#), unless otherwise specified.

## 4. Classification

4.1 The circular-knit geotextiles covered by this specification are classified as follows:

4.1.1 Type A: fabric

4.1.2 Type H: fabric

4.2 The characteristics of the two types of geotextile are given in [8.1](#) below.

## 5. Significance and Use

5.1 Circular knit geotextiles have been used extensively for many years as filtration geotextiles in combination with subsurface drainage pipes.

5.2 The test procedures and recommendations referred to in this standard are considered adequate to determine the acceptable performance properties of these geotextiles and are recommended to specifiers and users of these products for acceptance testing.

## 6. Materials and Manufacture

6.1 The geotextile shall be manufactured from polymeric materials.

6.2 The geotextiles are manufactured by a circular knit process to ensure a consistent, continuous fabric without seams along its machine direction in order to envelope the perforated pipe without flaws.