



Standard Practice for Tests to Evaluate the Chemical Resistance of Geotextiles to Liquids¹

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1. Scope

1.1 This practice describes the procedures used for testing geotextiles for chemical resistance to liquids.

1.2 This practice describes test methods for measuring changes in planar dimensions, tensile properties, and other optional physical, mechanical, and hydraulic properties caused by immersion in test liquids which may be representative of anticipated end-use conditions. This practice may be used to assess the extent to which a product's as-manufactured properties are affected by such immersion.

1.3 This practice is intended to be used in conjunction with either Practices D 5322 or D 5496. The scope of this practice is limited to testing and reporting procedures for unexposed and exposed geotextile samples.

1.4 Evaluation or interpretation of test data is beyond the scope of this practice.

1.5 *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.* For specific warning statements, see Section 7.

2. Referenced Documents

2.1 ASTM Standards:

- D 76 Specification for Tensile Testing Machines for Textiles²
- D 123 Terminology Relating to Textiles²
- D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer³
- D 1776 Practice for Conditioning Textiles for Testing²
- D 3786 Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics—Diaphragm Bursting Strength Tester Method⁴
- D 3895 Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry⁵

¹ This practice is under the jurisdiction of ASTM Committee D-35 on Geosynthetics and is the direct responsibility of Subcommittee D35.02 on Endurance Properties.

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² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 08.01.

⁴ Discontinued 1996; Vol 07.02.

⁵ Annual Book of ASTM Standards, Vol 08.02.

D 4439 Terminology for Geotextiles⁶

D 4491 Test Methods for Water Permeability of Geotextiles by Permittivity⁶

D 4533 Test Method for Trapezoid Tearing Strength of Geotextiles⁶

D 4595 Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method⁶

D 4603 Test Method for Determining Inherent Viscosity of Poly(ethylene Terephthalate) (PET)⁷

D 4632 Test Method for Grab Breaking Load and Elongation of Geotextiles⁶

D 4716 Test Method for Determining the (In-Plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head⁶

D 4751 Test Method for Determining the Apparent Opening Size of a Geotextile⁶

D 4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products⁶

D 5199 Test Method for Measuring Nominal Thickness of Geotextiles and Geomembranes⁶

D 5261 Test Method for Measuring Mass per Unit Area of Geotextiles⁶

D 5322 Practice for Immersion Procedures for Evaluating the Chemical Resistance of Geosynthetics to Liquids⁶

D 5496 Practice for In-Field Immersion Testing of Geosynthetics⁶

D 5747 Practice for Tests to Evaluate the Chemical Resistance of Geomembranes to Liquids⁶

D 5885 Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High-Pressure Differential Scanning Calorimetry⁶

3. Terminology

3.1 Definitions:

3.1.1 *chemical resistance, n*—for geosynthetics, the extent to which a material or product retains its as-manufactured physical and chemical characteristics when subjected to immersion or contact with a foreign substance (see Practice D 5747).

3.1.2 *geosynthetic, n*—a planar product manufactured from polymeric material used with foundation soil, rock, earth, or

⁶ Annual Book of ASTM Standards, Vol 04.09.

⁷ Annual Book of ASTM Standards, Vol 08.03.