



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

This standard is issued under the fixed designation D 6388; 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 practice describes procedures for testing geonet products for chemical resistance with liquid wastes, prepared chemical solutions, or leachates, or both, derived from solid wastes.

1.2 This practice describes test methods for measuring changes in mass, dimensions, tensile and hydraulic properties and other optional physical and mechanical properties caused by immersion in test solutions, 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 Practices D 5322 or D 5496. The scope of this practice is limited to testing and reporting procedures for unexposed and exposed geonet 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.* See Section 7 for specific hazards statements.

2. Referenced Documents

2.1 ASTM Standards:

- D 123 Terminology Relating to Textiles²
- D 792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement²
- D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer³
- D 1621 Test Method for Compressive Properties of Rigid Cellular Plastics³
- D 4439 Terminology for Geotextiles⁴
- D 4595 Test Method for Tensile Properties of Geotextiles by Wide Width Strip Method⁴

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.

Current edition approved Feb. 10, 1999. Published May 1999.

² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 08.01.

⁴ Annual Book of ASTM Standards, Vol 04.09.

D 4716 Test Method for Determining the (In-Plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head⁴

D 5035 Test Method for Breaking Strength and Elongation of Textile Fabrics (Strip Test)⁵

D 5199 Test Method for Measuring Nominal Thickness of Geotextiles and Geomembranes⁴

D 5322 Practice for Immersion Procedures for Evaluating the Chemical Resistance of Geosynthetics to Liquids⁴

D 5496 Practice for In-Field Immersion Testing of Geosynthetics⁴

D 5747 Practice for Tests to Evaluate the Chemical Resistance of Geomembranes to Liquids⁴

2.2 EPA Standards:

EPA/600/2-88/052 Lining of Waste Containment and Other Impoundment Facilities⁶

EPA 9090 Compatibility Test for Wastes and Membrane Liners⁷

3. Terminology

3.1 Definitions:

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

3.1.2 *geonet, n*—a geosynthetic consisting of integrally connected parallel sets of ribs overlying similar sets at various angles for planar drainage of liquids or gases (see Terminology D 4439).

3.1.3 *geosynthetic, n*—a planar product manufactured from polymeric material used with soil, rock, earth, or other geotechnical engineering related material as an integral part of a manmade project, structure, or system (see Terminology D 4439).

3.1.4 *specimen, n*—a specific portion of a material or laboratory sample upon which a test is performed or which is taken for that purpose (see Terminology D 4439).

3.1.5 For definitions of terms used in this practice, refer to Terminologies D 123 and D 4439.

⁵ Annual Book of ASTM Standards, Vol 07.02.

⁶ Available from the National Technical Information Service, PB-89-129670.

⁷ Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.