



Designation: D 6495 – 01

## Standard Guide for Acceptance Testing Requirements for Geosynthetic Clay Liners<sup>1</sup>

This standard is issued under the fixed designation D 6495; 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 guide covers guidelines for the acceptance testing requirements for geosynthetic clay liner (GCL) materials, describing types of tests, test methods, and recommended verifications.

1.2 This guide is intended to aid purchasers, installers, contractors, owners, operators, designers and agencies in establishing a minimum level of effort for product acceptance testing and verification. This is intended to assure that the supplied GCL rolls meet accepted material specifications.

1.3 The values stated in SI units are to be regarded as the standard.

1.4 *This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This guide cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This guide is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this guide be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this guide means only that the guide has been approved through the ASTM consensus process.*

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.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 638 Test Method for Tensile Properties of Plastics<sup>2</sup>
- D 882 Test Methods for Tensile Properties of Thin Plastic Sheeting<sup>2</sup>
- D 792 Test Methods for Density and Specific Gravity (Relative Density) and Density of Plastics by Displacement<sup>2</sup>

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee D35 on Geosynthetics and is the direct responsibility of Subcommittee D35.04 on Geosynthetic Clay Liners.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 08.01.

- D 4595 Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method<sup>3</sup>
- D 4632 Test Method for Grab Breaking Load and Elongation of Geotextiles<sup>3</sup>
- D 5199 Test Method for Measuring Nominal Thickness of Geosynthetics<sup>3</sup>
- D 5887 Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens and Handling of Geosynthetic Clay Liners<sup>3</sup>
- D 5888 Guide for Storage and Handling of Geosynthetic Clay Liners<sup>3</sup>
- D 5889 Practice for Manufacturing Quality Control Of Geosynthetic Clay Liners<sup>3</sup>
- D 5890 Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners<sup>3</sup>
- D 5891 Test Method for Fluid Loss of Clay Component of Geosynthetic Clay Liners<sup>3</sup>
- D 5993 Test Method for Measuring the Mass per Unit Area of Geosynthetic Clay Liners<sup>3</sup>
- D 6072 Guide for obtaining Samples of Geosynthetic Clay Liners<sup>3</sup>
- D 6243 Test Method for Determining the Internal and Interface Shear Resistance of Geosynthetic Clay Liner by the Direct Shear Method<sup>3</sup>
- D 6496 Test Method for Determining Average Bonding Peel Strength Between the Top and Bottom Layers of Needle-Punched Geosynthetic Clay Liners<sup>3</sup>

#### 2.2 United States EPA Document:

- EPA/600/R-93/182 Technical Guidance Document Quality Assurance and Quality Control for Waste Containment Facilities<sup>4</sup>

### 3. Terminology

#### 3.1 Geosynthetic Definitions:

- 3.1.1 *geomembrane, n*—an essentially impermeable geosynthetic composed of one or more synthetic sheets.
- 3.1.2 *geosynthetic clay liner, n*—a manufactured hydraulic barrier consisting of clay bonded to a layer or layers of geosynthetics.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.09.

<sup>4</sup> Available from Superintendent of Documents, US Government Printing Office, Washington, DC 20402.