



Designation: D 5889 – 97 (Reapproved 2003)

Standard Practice for Quality Control of Geosynthetic Clay Liners¹

This standard is issued under the fixed designation D 5889; 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 covers the manufacturing quality control of geosynthetic clay liners (GCLs), describing types of tests, the proper test methods, and the minimum testing frequencies.

1.2 This practice is intended to aid manufacturers, suppliers, purchasers and users of GCLs in establishing a minimum level of effort for manufacturing quality control.

1.3 This practice does not address manufacturing quality assurance, product acceptance testing, or conformance testing. These are independent activities taken by organizations other than the GCL manufacturer.

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

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 Plastics²
- D 4354 Practice for Sampling of Geosynthetics for Testing³
- D 4439 Terminology for Geosynthetics³
- D 4632 Test Method for Grab Breaking Load and Elongation of Geotextiles³
- D 4759 Practice for Determining the Specification Conformance of Geosynthetics³
- D 5199 Test Method for Measuring Nominal Thickness of Geotextiles and Geomembranes³
- D 5261 Test Method for Measuring Mass per Unit Area of Geotextiles³
- D 5887 Test Method for Measurement of Index Flux

¹ This practice is under the jurisdiction of ASTM Committee D35 on Geosynthetics and Rock and is the direct responsibility of Subcommittee D35.04 on Geosynthetic Clay Liners.

Current edition approved Dec. 10, 1997. Published August 1998. Originally published as D 5889 – 95. Last previous edition D 5889 – 95.

² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 04.13.

Through Saturated Geosynthetic Clay Liner Specimens Using Flexible Wall Permeameter³

D 5890 Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners³

D 5891 Test Method for Fluid Loss of Clay Component of Geosynthetic Clay Liners³

D 5993 Test Method for Measuring the Mass Per Unit Area of Geosynthetic Clay Liners³

2.2 Government Document:

EPA/600/R-93/182 Technical Guidance Document Quality Assurance and Quality Control for Waste Containment Facilities⁴

3. Terminology

3.1 Definitions:

3.1.1 Geosynthetic Definitions:

3.1.1.1 *geomembrane, n*—an essentially impermeable geosynthetic composed of one or more synthetic sheets.

3.1.1.2 *geotextile, n*—a permeable geosynthetic comprised solely of textiles.

3.1.2 Organizational Definitions:

3.1.2.1 *installer, n*—the party who installs, or facilitates installation of, any materials purchased from manufacturers or suppliers.

3.1.2.2 *manufacturer, n*—the group, corporation, partnership, or individual that manufactures a product.

3.1.2.3 *purchaser, n*—the person, company, or organization that purchases any materials or work to be performed.

3.1.2.4 *supplier, n*—the party who supplies material or services.

3.1.3 Quality Definitions:

3.1.3.1 *quality assurance (QA), n*—all those planned or systematic actions necessary to provide adequate confidence that a material, product, system, or service will satisfy given needs.

3.1.3.2 *quality control (QC), n*—a planned system of activities whose purpose is to provide a level of quality that meets the needs of users; also, the use of such a system.

⁴ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.