This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D5887/D5887M – 23

Standard Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens Using a Flexible Wall Permeameter[1]

This standard is issued under the fixed designation D5887/D5887M; 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 test method covers an index test that covers laboratory measurement of flux through saturated geosynthetic clay liner (GCL) specimens using a flexible wall permeameter.

1.2 This test method is applicable to GCL products having geotextile backing(s). It is not applicable to GCL products with geomembrane backing(s), geofilm backing(s), or polymer coating backing(s).

1.3 This test method provides a measurement of flux under a prescribed set of conditions that can be used for manufacturing quality control. The test method can also be used to check conformance. The flux value determined using this test method is not considered to be representative of the in-service flux of GCLs.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D374/D374M Test Methods for Thickness of Solid Electrical Insulation

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D2216 Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

D4439 Terminology for Geosynthetics

D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

E145 Specification for Gravity-Convection and Forced-Ventilation Ovens

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Terminology

3.1 *Definitions:*

3.1.1 *flux, n*—the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a GCL specimen.

3.1.2 *geosynthetic clay liner (GCL), n*—a factory-manufactured geosynthetic hydraulic barrier consisting of clay supported by geotextiles or geomembranes, or both, that are held together by needling, stitching, or chemical adhesives.

3.1.3 *index test, n*—a test procedure that may contain a bias, but that may be used to establish an order for a set of specimens with respect to the property of interest.

3.1.4 For definitions of other terms used in this test method, see Terminologies D653 and D4439.

4. Summary of Test Method

4.1 This test method involves permeation of a 100 mm [4 in.] diameter GCL test specimen. The specimen is set up in

[1] This test method 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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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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