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: D6102 – 20

Standard Guide for Installation of Geosynthetic Clay Liners[1]

This standard is issued under the fixed designation D6102; 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 guide covers directions for the installation of geosynthetic clay liners (GCLs) under field conditions typically present in environmental lining applications.

1.2 This guide contains general installation guidelines. It is not intended to replace project-specific installation requirements as found in the contract drawings or specifications. In the event of a conflict, the requirement of the project specifications will supersede the requirements of this guide.

1.3 This guide does not purport to establish specific procedure for all climatic, geographical, hydraulic, or topographical conditions that may exist at a site. Appropriate installation procedures under atypical field conditions should be modified as necessary to maintain the integrity of the GCL and adjacent lining system components.

1.4 Different GCLs have different materials of construction with different physical properties. The procedures contained in this guide, therefore, may not be universally applicable to all GCLs under all field conditions.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *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.*

1.7 *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]

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D4439 Terminology for Geosynthetics

D5888 Guide for Storage and Handling of Geosynthetic Clay Liners

2.2 *GRI Document:*[3]

GRI-GCL-5 Standard Guide for Design Considerations for Geosynthetic Clay Liners (GCLs) in Various Applications

3. Terminology

3.1 *Definitions*—For definitions of other geosynthetic terms used in this guide, refer to Terminology D4439. For definitions of soils terms, refer to Terminology D653.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *fresh water, n*—water with a salinity less than 0.5 parts per thousand.

3.2.2 *geosynthetic clay liner (GCL), n*—a manufactured hydraulic barrier consisting of clay bonded to a layer or layers of geosynthetics.

4. Significance and Use

4.1 For optimum performance, GCLs must be installed in a manner that does not impact their physical, mechanical, or hydraulic properties.

4.2 This guide identifies the proper installation procedures and equipment for use by GCL designers, inspectors, and installers.

5. Procedure

5.1 The methods and equipment used for placement of the GCL can vary, but the primary objective of the process is to minimize the potential for GCL damage. The placement methods and equipment should be evaluated appropriately within this context.

[1] 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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[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.

[3] Available from Geosynthetic Institute, 475 Kedron Avenue, Folsom, PA 19033-1208, http://www.geosynthetic-institute.org.

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