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Standard Guide for Use of Expanded Polystyrene (EPS) Geof foam in Geotechnical Projects¹

This standard is issued under the fixed designation D7180/D7180M; 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.

^{ε1} NOTE—Units information was editorially corrected in July 2013.

1. Scope

1.1 This guide covers some of the basic considerations for the use of expanded polystyrene (EPS) geof foam in geotechnical projects.

1.2 This guide offers a collection of information and does not recommend a 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.

1.3 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.

1.4 The word “standard” in the title of this guide means only that this guide has been approved through the ASTM International consensus process.

1.5 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.

1.6 *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.*

¹ This guide is under the jurisdiction of ASTM Committee D35 on Geosynthetics and is the direct responsibility of Subcommittee D35.06 on Geosynthetic Specifications.

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2. Referenced Documents

2.1 *ASTM Standards*:²

D4439 Terminology for Geosynthetics

D6817 Specification for Rigid Cellular Polystyrene Geof foam

3. Terminology

3.1 *Definitions*—Terms used in this guide are defined in Terminology D4439.

3.1.1 *geof foam, n*—block or planar rigid cellular foam polymeric material used in geotechnical engineering applications.

3.2 *Definitions of Terms Specific to This Standard*:

3.2.1 *expanded polystyrene, n*—type of foamed plastic formed by the expansion of polystyrene resin beads in a molding process.

3.3 *Acronyms*:

3.3.1 *EPS, n*—expanded polystyrene.

3.3.2 *EPS geof foam, n*—rigid cellular polystyrene geof foam manufactured from EPS.

4. Summary of Guide

4.1 EPS geof foam is commonly used in geotechnical applications when an extremely lightweight material is required. This guide covers some of the considerations that must be evaluated in the design of these projects.

5. Significance and Use

5.1 This guide informs the user of design considerations in the use of EPS geof foam which assist in the determination of the appropriate EPS geof foam for geotechnical applications.

5.2 This guide does not preclude the judgment and practice of those competent in geotechnical design.

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.