



Designation: D6817/D6817M – 17 (Reapproved 2021)

Standard Specification for Rigid Cellular Polystyrene Geofoam¹

This standard is issued under the fixed designation D6817/D6817M; 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 specification covers the types, physical properties, and dimensions of rigid cellular polystyrene intended for use as geofoam.

1.2 This specification does not cover the layout, placement, and workmanship for proper installation and performance of rigid cellular polystyrene geofoam.

1.3 Rigid cellular polystyrene geofoam covered by this specification may need protection from certain chemicals, environmental exposure, and concentrated loads. Additional design considerations may include thermal conductivity and buoyancy. Guidelines regarding these end-use considerations are included in [Appendix X1](#).

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

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

Current edition approved May 1, 2021. Published May 2021. Originally approved in 2002. Last previous edition approved in 2017 as D6817/D6817M – 17. DOI: 10.1520/D6817_D6817M-17R21.

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.

- [C165 Test Method for Measuring Compressive Properties of Thermal Insulations](#)
- [C203 Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation](#)
- [C303 Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation](#)
- [C390 Practice for Sampling and Acceptance of Thermal Insulation Lots](#)
- [C578 Specification for Rigid, Cellular Polystyrene Thermal Insulation](#)
- [D1621 Test Method for Compressive Properties of Rigid Cellular Plastics](#)
- [D1622/D1622M Test Method for Apparent Density of Rigid Cellular Plastics](#)
- [D2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics \(Oxygen Index\)](#)
- [D4439 Terminology for Geosynthetics](#)
- [D7557/D7557M Practice for Sampling of Expanded Polystyrene Geofoam Specimens](#)
- [E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods](#)
- [E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method](#)

3. Terminology

3.1 Definitions:

3.1.1 Terms used in this specification are defined in Terminology [D4439](#).

3.1.2 *geofoam*—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 *EPS, XX*—number designation for expanded polystyrene geofoam type(s) having a minimum density of XX kg/m³ [lb/ft³].

3.2.2 *RCPS*—letter designation for EPS and XPS rigid cellular polystyrene geofoam covered by this specification.

3.2.3 *XPS, XX*—number designation for extruded polystyrene geofoam type(s) having a minimum density of XX kg/m³ [lb/ft³].