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Standard Guide for Selection of Test Methods for Prefabricated Vertical Drains (PVD)[1]

This standard is issued under the fixed designation D6917; 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 provides recommendations for the selection of appropriate test methods for prefabricated vertical geocomposite drains (sometimes referred to as wick drains) used in geotechnical engineering applications to provide consistency in data reporting.

1.2 This guide includes test methods for all types of prefabricated geocomposite drains manufactured in a plant and consisting of a polymeric core structure with a synthetic fabric (geotextile) jacket for filtration.

1.3 This guide is intended to aid all personnel involved in the selection, manufacture, installation, or evaluation of prefabricated vertical drains.

1.4 *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.*

1.5 *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]

D4491/D4491M Test Methods for Water Permeability of Geotextiles by Permittivity

D4533/D4533M Test Method for Trapezoid Tearing Strength of Geotextiles

D4632/D4632M Test Method for Grab Breaking Load and Elongation of Geotextiles

D4716/D4716M Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head

D4751 Test Methods for Determining Apparent Opening Size of a Geotextile

D4884/D4884M Test Method for Strength of Sewn or Bonded Seams of Geotextiles

D5101 Test Method for Measuring the Filtration Compatibility of Soil-Geotextile Systems

D5199 Test Method for Measuring the Nominal Thickness of Geosynthetics

D5322 Practice for Laboratory Immersion Procedures for Evaluating the Chemical Resistance of Geosynthetics to Liquids

D5493 Test Method for Permittivity of Geotextiles Under Load

D5567 Test Method for Hydraulic Conductivity Ratio (HCR) Testing of Soil/Geotextile Systems

D5819 Guide for Selecting Test Methods for Experimental Evaluation of Geosynthetic Durability

D6241 Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

D6364 Test Method for Determining Short-Term Compression Behavior of Geosynthetics

D6389 Practice for Tests to Evaluate the Chemical Resistance of Geotextiles to Liquids

D6918 Test Method for Testing Vertical Strip Drains in the Crimped Condition

D7498/D7498M Test Method for Vertical Strip Drains Using a Large Scale Consolidation Test

3. Terminology

3.1 *Definitions:*

3.1.1 *geocomposite, n*—a product composed of two or more materials, at least one of which is a geosynthetic.

3.1.2 *geosynthetic, n*—a planar product manufactured from polymeric material used with soil, rock, earth, or other geotechnical engineering related material as an integral part of a manmade project, structure, or system.

[1] This guide is under the jurisdiction of ASTM Committee D35 on Geosynthetics and is the direct responsibility of Subcommittee D35.03 on Permeability and Filtration.

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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.