



Designation: D7745 – 19

Standard Practice for Testing Pultruded Composites¹

This standard is issued under the fixed designation D7745; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope*

1.1 This protocol summarizes the applicable ASTM and other standard test methods commonly used for pultruded composites. The individual performance requirements to these test methods are defined by specific customer specifications.

1.2 This protocol also defines appropriate specimen locations for sampling from the pultruded composites.

1.3 This protocol does not discuss all possible standard test methods that may be utilized for pultruded composites.

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.*

NOTE 1—There is no known ISO equivalent to this guide.

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

- D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
- D256 Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- D495 Test Method for High-Voltage, Low-Current, Dry Arc Resistance of Solid Electrical Insulation
- D570 Test Method for Water Absorption of Plastics

¹ This practice is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.18 on Reinforced Thermosetting Plastics.

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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.

- D635 Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
- D638 Test Method for Tensile Properties of Plastics
- D695 Test Method for Compressive Properties of Rigid Plastics
- D696 Test Method for Coefficient of Linear Thermal Expansion of Plastics Between –30°C and 30°C with a Vitreous Silica Dilatometer
- D732 Test Method for Shear Strength of Plastics by Punch Tool
- D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D883 Terminology Relating to Plastics
- D953 Test Method for Pin-Bearing Strength of Plastics
- D2291 Practice for Fabrication of Ring Test Specimens for Glass-Resin Composites
- D2343 Test Method for Tensile Properties of Glass Fiber Strands, Yarns, and Rovings Used in Reinforced Plastics
- D2344/D2344M Test Method for Short-Beam Strength of Polymer Matrix Composite Materials and Their Laminates
- D2583 Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
- D2584 Test Method for Ignition Loss of Cured Reinforced Resins
- D2734 Test Methods for Void Content of Reinforced Plastics
- D3039/D3039M Test Method for Tensile Properties of Polymer Matrix Composite Materials
- D3647 Practice for Classifying Reinforced Plastic Pultruded Shapes According to Composition
- D3846 Test Method for In-Plane Shear Strength of Reinforced Plastics
- D3914 Test Method for In-Plane Shear Strength of Pultruded Glass-Reinforced Plastic Rod
- D3916 Test Method for Tensile Properties of Pultruded Glass-Fiber-Reinforced Plastic Rod
- D3917 Specification for Dimensional Tolerance of Thermosetting Glass-Reinforced Plastic Pultruded Shapes
- D4065 Practice for Plastics: Dynamic Mechanical Properties: Determination and Report of Procedures
- D4385 Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products

*A Summary of Changes section appears at the end of this standard