



Designation: D4029/D4029M – 23

Standard Specification for Finished Woven Glass Fabrics¹

This standard is issued under the fixed designation D4029/D4029M; 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 specification covers finished fabrics woven from “E” electrical glass fiber yarns that are intended as a reinforcing material in laminated plastics for structural use. This specification can also be applied to fabrics made of other glass types as agreed upon between the purchaser and the supplier.

1.2 This specification specifies the terminology, definitions, general requirements, and physical requirements for finished woven glass fabrics. This specification permits the application of sizing materials to the glass fiber yarn during manufacture that helps facilitate weaving. These organic materials are typically removed from the greige fabric and replaced with a finish that is compatible with the resin matrix specified in the contracting document.

NOTE 1—Sizing materials on glass fiber yarns, in most cases, are removed by various cleaning procedures as a first stage in preparing a finished fabric. When these yarn sizing materials are removed during a cleaning procedure they need not be compatible with the subsequent resin matrix.

1.3 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 exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems will result in non-conformance with the standard.

1.4 This specification is one of a series to provide a substitute for Military Specifications: MIL-Y-1140 Yarn, Cord, Sleeve, Cloth, and Tape-Glass; and MIL-C-9084 Cloth, Glass Finished for Resin Laminates.

1.5 Additional ASTM specifications in this series have been drafted and appear in current editions of the Annual Book of ASTM Standards. These include greige glass fabrics, glass tapes, glass sleeveings, glass cords, glass sewing threads, and finished laminates made from finished glass fabrics.

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

D123 Terminology Relating to Textiles

D578/D578M Specification for Glass Fiber Strands

D1059 Test Method for Yarn Number Based on Short-Length Specimens

D1423/D1423M Test Method for Twist in Yarns by Direct-Counting

D1776/D1776M Practice for Conditioning and Testing Textiles

D1777 Test Method for Thickness of Textile Materials

D2408 Test Method for Finish Content of Woven Glass Fabric, Cleaned and After-Finished With Amino-Silane-Type Finishes, for Plastic Laminates (Withdrawn 1988)³

D2409 Test Method for Finish Content of Woven Glass Fabric, Cleaned and After-Finished With Vinyl-Silane-Type Finishes, for Plastic Laminates (Withdrawn 1988)³

D2410 Test Method for Finish Content of Woven Glass Fabric, Cleaned and After-Finished With Chrome Complexes, for Plastic Laminates (Withdrawn 1988)³

D2660 Test Method for Finish Content of Woven Glass Fabric, Cleaned and After-Finished with Acrylic-Silane-Type Finishes, for Plastic Laminates (Withdrawn 1988)³

D3098 Test Method for Finish Content of Woven Glass Fabrics, Cleaned and After-Finished with Epoxy-Functions Silane Type Finishes for Plastic Laminates (Withdrawn 1988)³

D3773/D3773M Test Methods for Length of Woven Fabric

¹ This specification is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.18 on Glass Fiber and its Products.

Current edition approved June 1, 2023. Published August 2023. Originally approved in 1981. Last previous edition approved in 2016 as D4029 – 16. DOI: 10.1520/D4029-23.

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 The last approved version of this historical standard is referenced on www.astm.org.