



Designation: D4028/D4028M – 13 (Reapproved 2021)

Standard Specification for Solar Screening Woven from Vinyl-Coated Fiber Glass Yarn¹

This standard is issued under the fixed designation D4028/D4028M; 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 requirements for vinyl-coated fiber glass solar screening, and should help users recognize the characteristics of acceptable vinyl-coated fiber glass solar screening. This specification is limited in application to vinyl-coated fiber glass solar screening that is produced with a ribbed pattern woven in the warp direction. The applicability of this specification to vinyl-coated fiber glass type solar screening of a non-rib, a double rib (ribs in both warp and filling direction), or a filling rib construction is not known.

1.2 This specification shows the definitions, general requirements, and physical requirements for commercial standard vinyl-coated fiber glass solar screening designed and woven for installation in any dwelling, building, or structure for the purpose of providing a significant reduction in solar heat gain, while providing outward view and interior light. Solar screening provides a structure that has insect-restraining capabilities equivalent to standard insect screening.

NOTE 1—For information on standard insect screening, see Specification [D3656/D3656M](#).

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 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.

1.4 The following precautionary caveat pertains only to the test method portion, Sections 8 – 21 of this specification: *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 standard-*

ization 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

[D76/D76M Specification for Tensile Testing Machines for Textiles](#)

[D123 Terminology Relating to Textiles](#)

[D3374/D3374M Specification for Vinyl-Coated Glass Yarns](#)

[D3656/D3656M Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns](#)

[D3773/D3773M Test Methods for Length of Woven Fabric](#)

[D3774 Test Method for Width of Textile Fabric](#)

[D3775 Test Method for End \(Warp\) and Pick \(Filling\) Count of Woven Fabrics](#)

[D4909 Test Method for Color Stability of Vinyl-Coated Glass Textiles to Accelerated Weathering \(Withdrawn 1996\)³](#)

[D4912/D4912M Test Method for Fabric Stability of Vinyl-Coated Glass Yarn Insect Screening and Louver Cloth](#)

[D4963/D4963M Test Method for Ignition Loss of Glass Fiber Strands and Fabrics](#)

[D5035 Test Method for Breaking Force and Elongation of Textile Fabrics \(Strip Method\)](#)

[D7018 Terminology Relating to Glass Fiber and Its Products](#)

2.2 AATCC Standard:⁴

[Evaluation Procedure 1 Grey Scale for Color Change](#)

2.3 ANSI/ASHRAE Standard:⁵

[Standard 74-1988 Method of Measuring Solar-Optical Properties of Materials](#)

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.

⁴ Available from American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709-2215, <http://www.aatcc.org>.

⁵ Available from American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, NE, Atlanta, GA 30329, <http://www.ashrae.org>.

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 July 1, 2021. Published September 2021. Originally approved in 1981. Last previous edition approved in 2013 as D4028/D4028M – 13. DOI: 10.1520/D4028_D4028M-13R21.