



Standard Test Methods for Coated and Laminated Fabrics for Architectural Use¹

This standard is issued under the fixed designation D4851; 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 These test methods cover the testing of coated and laminated fabrics made primarily for use in fabric roof systems. These coated and laminated fabrics are generally in either an air supported or tension supported construction of fabric roof systems.

1.2 These methods can be used for most fiber-based, coated and laminated architectural fabrics.

1.3 This standard includes the following sections that provide test procedures for coated and laminated architectural fabrics:

	Section
Fabric Count	8
Mass per Unit Area	9
Fabric Thickness	10
Fabric Width	11
Fabric Length	12
Fabric Bow	13
Adhesion of Coating to Fabric	14
Uniaxial Elongation Under Static Load	15
Fabric Breaking Force	16
Breaking Strength After Crease Fold	17
Elongation at Break	18
Fabric Trapezoid Tear Force	19
Resistance to Accelerated Weathering	20
Solar Optical Properties	21
Fabric Flame Resistance	22
Noise Reduction Coefficient	23

1.4 These test methods include only testing procedures and do not include specifications or tolerances. They are intended as a guide for specifications. Any of these methods may be used in material specifications to evaluate requirements for a specific end use as related to a particular job.

1.5 The values stated in either SI or inch-pound units are to be regarded separately as the standard. Within the text, the inch-pound units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other.

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 and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:²

- C423 Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
- D123 Terminology Relating to Textiles
- D751 Test Methods for Coated Fabrics
- D1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics
- D1776 Practice for Conditioning and Testing Textiles
- D1777 Test Method for Thickness of Textile Materials
- D2904 Practice for Interlaboratory Testing of a Textile Test Method that Produces Normally Distributed Data (Withdrawn 2008)³
- D2906 Practice for Statements on Precision and Bias for Textiles (Withdrawn 2008)³
- D3773 Test Methods for Length of Woven Fabric
- D3774 Test Method for Width of Textile Fabric
- D3775 Test Method for Warp (End) and Filling (Pick) Count of Woven Fabrics
- D3776 Test Methods for Mass Per Unit Area (Weight) of Fabric
- D3882 Test Method for Bow and Skew in Woven and Knitted Fabrics
- D4850 Terminology Relating to Fabrics and Fabric Test Methods
- D5035 Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)
- D5587 Test Method for Tearing Strength of Fabrics by Trapezoid Procedure
- E84 Test Method for Surface Burning Characteristics of Building Materials
- E108 Test Methods for Fire Tests of Roof Coverings
- E136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C

¹ These test methods are under the jurisdiction of ASTM Committee D13 on Textiles and are the direct responsibility of Subcommittee D13.59 on Fabric Test Methods, General.

Current edition approved July 1, 2015. Published September 2015. Originally approved in 1988. Last previous edition approved in 2011 as D4851–97(2011). DOI: 10.1520/D4851-07R15.

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.