



## Standard Performance Specification for Woven Umbrella Fabrics<sup>1</sup>

This standard is issued under the fixed designation D 4112; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This performance specification covers woven fabrics comprised of any textile fiber or mixture of fibers to be used in umbrellas.

1.2 These requirements apply to both the length and width directions for those properties where fabric direction is pertinent.

1.3 *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:

- D 123 Terminology Relating to Textiles<sup>2</sup>
- D 434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam<sup>2</sup>
- D 1284 Test Methods for Relaxation and Consolidation Dimensional Changes of Stabilized Knit Wool Fabrics<sup>2</sup>
- D 1336 Test Method for Distortion of Yarn in Woven Fabrics<sup>2</sup>
- D 1424 Test Method for Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus<sup>2</sup>
- D 2261 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Extension Tensile Testing Machine)<sup>2</sup>
- D 2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Traverse Tensile Testing Machine)<sup>2</sup>
- D 5034 Test Method for Breaking Force and Elongation of Textile Fabrics (Grab Test)<sup>3</sup>

#### 2.2 AATCC Test Methods:<sup>4</sup>

- 8 Colorfastness to Crocking: AATCC Crockmeter Method
- 16 Colorfastness to Light
- 22 Water Repellency: Spray Test
- 23 Colorfastness to Burnt Gas Fumes

35 Water Resistance: Rain Test

109 Colorfastness to Ozone in the Atmosphere Under Low Humidities

116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method

129 Colorfastness to Ozone in the Atmosphere Under High Humidities

Evaluation Procedure No. 1 Gray Scale for Color Change

Evaluation Procedure No. 2 Gray Scale for Staining

Evaluation Procedure No. 3 AATCC Chromatic Transference Scale

#### 2.3 Federal Standard:<sup>5</sup>

16 CFR, Chapter II—Consumer Product Safety Commission Subchapter D—Flammable Fabrics Act Regulations

#### 2.4 Military Standard:<sup>6</sup>

MIL-STD-105D Sampling Procedures and Tables for Inspection by Attributes

NOTE 1—Reference to test methods in this specification give only the permanent part of the designation of ASTM, AATCC, or other test methods. The current editions of each test method cited shall prevail.

### 3. Terminology

#### 3.1 Definitions:

3.1.1 For definitions of textile terms used in this specification refer to the individual ASTM and AATCC methods and to Terminology D 123.

3.1.2 Definitions found in a dictionary of common terms are suitable for this specification.

### 4. Specification Requirements

4.1 The properties of woven fabrics for umbrellas shall conform to the specification requirements in Table 1.

### 5. Significance and Use

5.1 Upon agreement between the purchaser and the supplier, fabrics intended for this end use should meet all of the requirements listed in Table 1 of this specification.

5.2 It is recognized that for purposes of fashion or aesthetics the ultimate consumer of articles made from these fabrics may find acceptable fabrics that do not conform to all of the requirements in Table 1. Therefore, one or more of the

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<sup>2</sup> Annual Book of ASTM Standards, Vol 07.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 07.02.

<sup>4</sup> Available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.

<sup>5</sup> Available from Superintendent of Documents, Government Printing Office, Washington, DC 20402.

<sup>6</sup> Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.