Designation: ~~D4114 – 14~~ D4114 – 21

Standard Performance Specification for Woven Flat Lining Fabrics for Women's and Girls' Apparel[1]

This standard is issued under the fixed designation D4114; 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 performance specification covers woven flat fabrics comprised of any textile fiber or mixture of fibers to be used as linings for women's and girls' apparel.

1.2 This performance specification is not applicable to woven pile, woven fusible, fire-bonded fusible, sliver-knit pile, and sheepskin lining fabrics.

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

1.4 The following precautionary statement pertains only to the test methods portion, Section 7, of this performance 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~~ safety, health, and ~~health~~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 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
D434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam (Withdrawn 2003)[3]
D1336 Test Method for Distortion of Yarn in Woven Fabrics
D1424 Test Method for Tearing Strength of Fabrics by Falling-Pendulum (Elmendorf-Type) Apparatus
D2261 Test Method for Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure (Constant-Rate-of-Extension Tensile Testing Machine)
~~D2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Traverse Tensile Testing Machine) (Withdrawn 1995)[3]~~
D2724 Test Method for Bond Strength of Bonded, Fused, and Laminated Apparel Fabrics
D5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)
D7022 Terminology Relating to Apparel

[1] This performance specification is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.61 on Apparel.
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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.

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

2.2 *AATCC Test Methods:*[4]
8TM8 Colorfastness to Crocking: Crockmeter Method
15TM15 Colorfastness to Perspiration
16.2 Colorfastness to Light: Carbon-Arc
16.3TM16.3 Colorfastness to Light: Xenon-Arc
23TM23 Colorfastness to Burnt Gas Fumes
61TM61 Colorfastness to Laundering: Accelerated
116TM116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method
124TM124 Smoothness Appearance of Fabrics After Repeated Home Laundering
132TM132 Colorfastness to Drycleaning
TM 135 Dimensional Changes of Fabrics after Home Laundering
TM 172 Colorfastness to Powdered Non-Chlorine Bleach in Home Laundering
TM 188 Colorfastness to Sodium Hypochlorite Bleach in Home Laundering
Evaluation Procedure EP No. 1 Gray Scale for Color Change
Evaluation Procedure EP No. 2 Gray Scale for Staining
Evaluation Procedure EP No. 8 AATCC 9-Step Chromatic Transference Scale
M11 A Glossary of AATCC Standard Terminology

2.3 *Federal Standard:*[5]
16 CFR 1610 ,Chapter II–Consumer Product Safety Commission Subchapter D–Flammable Fabrics Act Regulations

2.4 *Military Standard:*[6]
MIL-STD-105D Sampling Procedures and Tables for Inspection by Attributes

NOTE 1—Reference to test methods in this performance 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 terminology related to apparel see Terminology D7022.

3.1.2 For definitions of textile terms used in this performance specification, refer to the individual ASTM and AATCC methods and to Terminology D123.

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

4. Specification Requirements

4.1 The properties of woven flat fabrics, to be used as linings in women's and girls' apparel, 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 performance 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 requirements listed in Table 1 may be modified upon agreement between the purchaser and the supplier.

5.2.1 In such cases, any references to the specification shall specify that: "This fabric meets ASTM Specification D4114 except for the following characteristic(s)."

5.3 Where no prepurchase agreement has been reached between the purchaser and the supplier, and in case of controversy, the

[4] Available from American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709, http://www.aatcc.org.
[5] Available from Superintendent of Documents, Government Printing Office, Washington, DC 20402.
[6] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

TABLE 1 Specification Requirements[A]

NOTE 1—~~Class~~ The grade for color ~~change, color transfer, and SA rating~~change and color transfer is based on a numerical scale of 5 for negligible or no color ~~change, color transfer, or wrinkle~~ change or color transfer to 1 for severe color ~~change, color transfer, or wrinkle.~~change or color transfer. A grade for fabric smoothness requirements is based on SA-5 for a very smooth, pressed, finished appearance to a grade of SA-1 crumpled, creased and severely wrinkled appearance.

Characteristic	Requirements	Section
~~*Breaking strength (load)(CRT)*~~	~~111 N (25 lbf), min~~	~~7.1~~
Breaking strength (load)(CRE)	111 N (25 lbf), min	7.1
Yarn slippage	6.3-mm (¼-in.) separation at 67 N (15 lbf), min	7.2
Tongue-tear strength	6.7 N (1.5 lbf), min	7.3
Yarn distortion		7.4
Satins	2.5 mm (0.10 in.), max	7.4
All other	1 mm (0.05 in.), max	
Dimensional change:		
After five launderings	3 %, max	7.5.1
After three dry cleanings	2% , max	7.5.2
Colorfastness:		
Burnt gas fumes—2 cycles:		7.6.1
Shade change, original fabric	Grade 4[B] , min	
Shade change after one laundering or one dry cleaning	Grade 4[B] , min	
Sodium Hypochlorite Bleach	Grade 4[B] , min	7.6.7
Powdered Non-Chlorine Bleach	Grade 4[B] , min	7.6.8
Laundering:[F]		7.6.2
Shade change	Grade 4[B] , min	
Staining	Grade 3[C] , min	
Dry cleaning:		7.6.3
Shade change	Grade 4[B] , min	
Crocking:[F]		7.6.4
Dry	Grade 4[D] , min	
Wet	Grade 3[D] , min	
Perspiration:[F]		7.6.5
Shade change	Grade 4[B] , min	
Staining	Grade 3[C] , min	
~~Light (10 AATCC Fading Units)(xenon-arc)~~	~~Grade 4[B] , min~~	~~7.6.6~~
Light (10 AFUs)(xenon-arc)	Grade 4[B] , min	7.6.6
Fabric smoothness appearance (see 7.7.1)	SA 3.5[E] , min	7.7
~~*Flammability*~~	~~pass~~	~~7.8~~
Flammability	Class 1	7.8

[A] There is more than one method that can be used to measure breaking strength (load), ~~tear strength, and lightfastness.~~ and tear strength. These methods cannot be used interchangeably since there may be no overall correlation between them (see Note 2~~, Note 4,~~ and Note ~~8~~3).
[B] AATCC Gray Scale for Color Change.
[C] AATCC Gray Scale for Staining.
[D] AATCC Chromatic Transference Scale.
[E] For durable-press fabrics only.
[F] See Note 7.

requirements listed in Table 1 are intended to be used as a guide only. As noted in 5.2, ultimate consumer demands dictate varying performance parameters for any particular style of fabric.

5.4 The uses and significance of particular properties and methods are discussed in the appropriate sections of the specified test methods.

6. Sampling

6.1 *Lot Sample*—As a lot sample for acceptance testing, take at random the number of rolls as directed in an applicable specification or other agreement between the purchaser and the supplier, such as an agreement to use MIL-STD-105D.

6.2 *Laboratory Sample*—From each roll or piece in the lot sample, cut two laboratory samples the full width of the fabric and at least 375 mm (15 in.) along the selvage.

7. Test Methods (See Note 1 **and Note 1 in** Table 1)

7.1 *Breaking Force*—Determine the dry breaking force, in the standard atmosphere for testing textiles, as directed in Test Method D5034, using a constant rate of ~~traverse (CRT)~~extension (CRE) tensile-testing machine with the speed of the pulling clamp at 300 ± 10 mm (12 ± 0.5 in.)/min.