



Designation: D 3779 – 02

Standard Performance Specification for Women's and Girls' Woven Rainwear and All-Purpose, Water-Repellent Coat Fabrics¹

This standard is issued under the fixed designation D 3779; 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 women's and girls' woven rainwear and all-purpose water-repellent coat outer fabrics composed of any textile fiber or mixture of textile fibers.

1.2 This performance specification is not applicable to woven fabrics used for linings and interlinings, nor is this performance specification applicable to bonded or laminated fabrics.

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

1.4 *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

- D 123 Terminology Relating to Textiles
- D 434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam
- D 1424 Test Method for Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus
- D 2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Travel Tensile Testing Machine)
- D 2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics
- D 2905 Practice for Statements on Number of Specimens for Textiles

¹ This 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.

D 5034 Test Method for Breaking Force and Elongation of Textile Fabrics (Grab Test)

2.2 AATCC Test Methods:³

- 8 Colorfastness to Crocking: AATCC Crockmeter Method
- 15 Colorfastness to Perspiration
- 16 Colorfastness to Light
- 22 Water Repellency: Spray Test
- 23 Colorfastness to Burnt Gas Fumes
- 35 Water Resistance: Rain Test
- 61 Colorfastness to Washing, Domestic, and Laundering, Commercial: Accelerated
- 96 Dimensional Changes in Laundering of Woven and Knitted Textiles Except Wool
- 107 Colorfastness to Water
- 116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method
- 119 Color Change Due to Flat Abrasion (Frosting): Screen Wire Method
- 124 Appearance of Durable Press Fabrics After Repeated Home Launderings
- 132 Colorfastness to Dry Cleaning
- 135 Dimensional Changes in Automatic Home Laundering of Durable Press Woven or Knit Fabrics
- 172 Colorfastness to Non-Chlorine Bleach in Home Laundering
- 188 Colorfastness to Chlorine Bleach in Home Laundering Evaluation Procedure 1 Gray Scale for Color Change Evaluation Procedure 2 Gray Scale for Staining Evaluation Procedure 3 AATCC Chromatic Transference Scale

NOTE 1—The specified dated editions of the ASTM test methods that prevail in this specification are referenced in Section 7.

3. Terminology

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

³ Available from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.

4. Specification Requirements

4.1 The properties of fabrics for women's and girls' woven rainwear and all-purpose, water-repellent coats shall conform to the specification requirements in Table 1.

5. Significance and Use

5.1 Upon mutual agreement between the purchaser and the supplier, woven 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

requirements listed in Table 1 may be modified by mutual 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 D 3779 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 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.

TABLE 1 Specification Requirements

NOTE 1—Class in colorfastness and DP requirements is based on a numerical scale of 5 for negligible or no color change, color transfer, or fabric wrinkle to 1 for severe color change, color transfer, or fabric wrinkle.

Characteristic	Requirements	Section
Breaking strength (load) (CRT)	178 N (40 lbf), min	7.1
Yarn slippage	6.3-mm (¼-in.) separation at 25 111 N (25 lbf), min	7.2
Tongue tear strength	13 N (3 lbf), min	7.3
Dimensional change:		
Pressing and finishing	2 % max	7.4.1
After five launderings	3 % max	7.4.2
After three dry cleanings	2 % max	7.4.3
Colorfastness:		
Burnt gas fumes—2 cycles:		
Shade change, original fabric	Class 4 ^A , min	7.5.1
Shade change after one laundering or one dry cleaning	Class 4 ^A , min	
Chlorine Bleach	Class 4 ^A , min	7.5.9
Non-Chlorine Bleach	Class 4 ^A , min	7.5.10
Laundering:		7.5.2
Shade change	Class 4 ^A , min	
Staining	Class 3 ^B , min	
Dry cleaning (shade change)	Class 4 ^A , min	7.5.3
Crocking:		7.5.4
Dry	Class 4 ^C , min	
Wet	Class 3 ^C , min	
Water:		7.5.5
Shade change	Class 4 ^A , min	
Staining	Class 4 ^B , min	
Perspiration:		7.5.6
Shade change	Class 4 ^A , min	
Staining	Class 3 ^B , min	
Light (20 AATCC FU)	Step 4 ^A , min	7.5.7
Frosting	Class 4 ^A , min	7.5.8
Water resistance (categories based on minimum time for 1-g weight increase at following head pressures):		
2 ft (600 mm)	30 s (shower)	7.6
2 ft (600 mm)	2 minutes (rain)	
3 ft (915 mm)	5 minutes (storm)	
Water repellence:		
Smooth-textured fabrics:		
Original	90, min	7.7
After five launderings or three dry cleanings	70, min	
Rough-textured:		
Original	80, min	7.8
After five launderings or three dry cleanings	70, min	
Fabric appearance (see 7.8.1.17.8.1.1)	DP 3.5 min ^D	7.8
Flammability	pass	7.9.9

^A AATCC Gray Scale for Color Change.

^B AATCC Gray Scale for Staining.

^C AATCC Chromatic Transference Scale.

^D For durable-press fabrics only.