



Designation: D4118 – 01(Reapproved 2008)

Standard Performance Specification for Women's Woven Coverall, Dungaree, Overall, and Shop Coat Fabrics¹

This standard is issued under the fixed designation D4118; 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 fabrics, composed of any textile fiber or mixture of textile fibers, to be used in the manufacture of women's coveralls, dungarees, overalls and shop coats.

1.2 This performance specification recognizes two levels of wearing severity relative to performance requirements for these fabrics.

1.3 This performance specification is not applicable to woven fabrics intended for use in the manufacture of industrial-protective clothing.

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

1.5 *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

D123 Terminology Relating to Textiles

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Traverse Tensile Testing Machine) (Withdrawn 1995)³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 Methods for Bonded, Fused, and Laminated Apparel Fabrics
D5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

2.2 AATCC Test Methods:⁴

8 Colorfastness to Crocking: AATCC Crockmeter Method

15 Colorfastness to Perspiration

16 Colorfastness to Light

23 Colorfastness to Burnt Gas Fumes

61 Colorfastness to Washing, Domestic, and Laundering, Commercial: Accelerated

96 Dimensional Changes in Laundering of Woven and Knitted Textiles Except Wool

116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method

124 Appearance of Durable Press Fabrics After Repeated Home Launderings

132 Colorfastness to Drycleaning

135 Dimensional Changes in Automatic Home Laundering of Woven or Knit Fabrics

172 Colorfastness to Non-chlorine Bleach in Home Laundering

188 Colorfastness to Chlorine Bleach in Home Laundering Evaluation Procedure No. 1 Gray Scale for Color Change Evaluation Procedure No. 2 Gray Scale for Staining Evaluation Procedure No. 3 Chromatic Transference Scale.

2.3 Federal Standard:⁵

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

2.4 Military Standard:⁶

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

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.

⁴ AATCC Technical Manual, 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.

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 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 of Terms Specific to This Standard:

3.2.1 *Type I apparel*—designed for generally heavy work. It may be subjected to severe exposure to breaking and tearing stresses indoors or out.

3.2.2 *Type II apparel*—designed for light work or leisure activities. It may not be expected to undergo severe physical stresses.

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

4. Specification Requirements

4.1 The properties of fabrics for women’s coverall, dungaree, overall, and shop coats 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 D4118 except for the following characteristic(s).”

TABLE 1 Specification Requirements

NOTE 1—Class for colorfastness and DP rating is based on a numerical scale of 5 for negligible or no color change, color transfer, or wrinkle to 1 for very severe color change, color transfer, or wrinkle. The numerical rating in Table 1 or a higher numerical rating is acceptable.

Characteristic	Requirements	Section
<i>Breaking strength (load) (CRT):</i>		7.1
Type I	222 N (50 lbf), min	
Type II	178 N (40 lbf), min	
<i>Tongue-tear strength (CRT):</i>		7.2
Type I	11 N (2.5 lbf), min	
Type II	9 N (2.0 lbf), min	
<i>Dimensional change</i>		
Pressing and Finishing (DP fabrics)	2 % max	7.3.1
Laundering (DP fabrics)	2.5 % max	7.3.2
Laundering (non-DP fabrics)	3.0 % max	7.3.2.1
Drycleaning	2.5 % max	7.3.3
<i>Colorfastness:</i>		
Non-Indigo Dyed		
Indigo-Dyed		
Burnt gas fumes—2 cycles:		7.4.1
Shade change, original fabric	Class 4 ^A , min	Class 4 ^A , min
Shade change, after 1 laundering or drycleaning	Class 4 ^A , min	Class 4 ^A , min
Laundering:		7.4.2
Shade change	Class 4 ^A , min	Class 2 ^A , min
Staining	Class 3 ^B , min	Class 2 ^B , min
Crocking:		7.4.3
Dry	Class 4 ^C , min	Class 3 ^C , min
Wet	Class 3 ^C , min	Class 2 ^C , min
Perspiration:		7.4.4
Shade change	Class 4 ^A , min	Class 3 ^A , min
Staining	Class 3 ^B , min	Class 3 ^B , min
Light (20 AATCC FU) (xenon-arc)	Step 4 ^A , min	Step 4 ^A , min
Drycleaning		
Shade change	Class 4 ^A , min	Class 3 ^A , min
Chlorine Bleach	Class 4 ^A , min	Class 4 ^A , min
Non-chlorine Bleach	Class 4 ^A , min	Class 4 ^A , min
Fabric appearance (see 7.5.1.1)	DP 3.5 min	DP 3.5 min
Flammability	pass	pass

^A AATCC Gray Scale for Color change.
^B AATCC Gray Scale for Staining.
^C AATCC Chromatic Transference Scale.