



Designation: ~~D4118-01~~ Designation: D 4118 – 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 D 4118; 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

D 123 Terminology Relating to Textiles

D 1424 Test Method for Tearing Strength of Fabrics by Falling-Pendulum Type (Elmendorf) Apparatus

D 2261 Test Method for Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure (Constant-Rate-of-Extension Tensile Testing Machine)

D 2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Traverse Tensile Testing Machine)³

D 2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics

~~D 2905 Practice for Statements on Number of Specimens for Textiles~~

D 5034 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

¹ This specification is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.61 on Apparel. Current edition approved May 10, 2001. Published July 2001. Originally published as D4118-82. Last previous edition D4118-95a.

² This performance specification is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.61 on Apparel. Current edition approved Aug. 1, 2008. Published October 2008. Originally approved in 1982. Last previous edition approved in 2001 as D 4118 – 01.

³ 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.

⁴ Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

⁵ 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>.

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

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 D 123.

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 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

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> | | |
| 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.