



Designation: D 4232 – 95a

Standard Performance Specification for Men's and Women's Dress and Vocational Career Apparel Fabrics¹

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1. Scope

1.1 This specification covers the performance requirements for woven fabrics for men's and women's dress and vocational career apparel.

1.2 This specification is not applicable to career apparel fabrics 3.1.1.2 that do not patently fit the categories in 3.1.1.1 and 3.1.2. Performance specifications for such fabrics should be as agreed to between the purchaser and the seller. This specification is not applicable to overcoat or topcoat uniform fabrics.

1.3 These requirements apply to both 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:

- D 123 Terminology Relating to Textiles²
- D 434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam²
- D 1424 Test Method for Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus²
- D 2261 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single-Rip) Method (Constant-Rate-of-Extension Testing Machine)²
- D 2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single-Rip) Method (Constant-Rate-of-Traverse Tensile Testing Machine)²
- D 2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics²
- D 2905 Practice for Statements on Number of Specimens for Textiles²
- D 5034 Test Method for Breaking Force and Elongation of

Textile Fabrics (Grab Test)³

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
- 116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method
- 124 Appearance of Durable Press Fabrics After Repeated Home Launderings
- 132 Colorfastness to Drycleaning
- 135 Dimensional Change in Automatic Home Laundering of Woven or Knit Fabrics
- Evaluation Procedure 1 AATCC Gray Scale for Color Change
- Evaluation Procedure 2 AATCC Gray Scale for Staining
- Evaluation Procedure 3 AATCC 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 Procedures and Tables for Inspection by Attributes

NOTE 1—Reference to test methods in this standard 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 *career apparel, n.*—garments, usually of a specified design, for on-the-job wear by business or professional employees.

3.1.1.1 *career dress apparel, n.*—career apparel which is not generally subject to abusive wear and for which appearance

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² *Annual Book of ASTM Standards*, Vol 07.01.

³ *Annual Book of ASTM Standards*, Vol 07.02.

⁴ AATCC Technical Manual, available from the American Association of Textile Chemists and Colorists, P. O. Box 12215 Research Triangle Park, NC 27709.

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.

is a more important attribute than durability.

(1) *Discussion*—Fabrics for career dress apparel are usually categorized as heavyweight, mediumweight, or lightweight. The uses of these fabrics vary with weight as follows:

Category	Mass (Weight)	Typical End-Uses
I—Heavy-weight	200 g/m ² (6.0 oz/yd ²) and above	Pants, suits, blazer, waiter-type jackets, vests, coveralls, etc.
II—Medium-weight	150 g/m ² (4.5 oz/yd ²) and above, but less than 200 g/m ² (6.0 oz/yd ²)	Pants, jackets, dresses, shirts and blouses, gowns, smocks, lab coats, etc.
III—Light-weight	Below 150 g/m ² (4.5 oz/yd ²)	Tops (shirts, blouses) and dresses

3.1.1.2 *career vocational apparel, n.*—career apparel which is generally subject to abusive wear and for which durability is a more important attribute than appearance.

(1) *Discussion*—Fabrics for career dress apparel are usually categorized as heavyweight, mediumweight, or lightweight.

The uses of these fabrics vary with weight as follows:

Category	Mass (Weight)	Typical End-Uses
I—Heavy-weight	270 g/m ² (8.0 oz/yd ²) and above	Pants, jackets, lab coats, coveralls, etc.
II—Medium-weight	150 g/m ² (4.5 oz/yd ²) and above, but less than 270 g/m ² (8.0 oz/yd ²)	Shirts, smocks, aprons, lab coats, nurses dresses, etc.
III—Light-weight	Below 150 g/m ² (4.5 oz/yd ²)	Light duty shirts, blouses, dresses, smocks, etc.

3.2 For definitions of other textile terms used in this specification, refer to Terminology D 123.

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

4. Specification Requirements

4.1 The properties of woven fabrics for men's and women's

TABLE 1 Specification Requirements

NOTE 1—Class in colorfastness and durable press requirements are based on a numerical scale of 5 for negligible color change, color transfer, or durable press rating, and to 1 for very severe color change, color transfer, or durable press rating.

Characteristics	Career Dress Apparel Fabric Requirements	Career Vocational Apparel Fabric Requirements	Section
Breaking strength (load) (CRT):			
Category I	267 N (60 lbf), min	312 N (70 lbf), min	7.1
Category II	178 N (40 lbf), min	222 N (50 lbf), min	
Category III	156 N (35 lbf), min	178 N (40 lbf), min	
Yarn slippage, 6-mm, (¼-in.) separation:			
Category I	111 N (25 lbf), min	111 N (25 lbf), min	7.2
Category II	89 N (20 lbf), min	89 N (20 lbf), min	
Category III	67 N (15 lbf), min	67 N (15 lbf), min	
Tongue tear strength:			
Category I	20 N (4.5 lbf), min	27 N (6.0 lbf), min	7.3
Category II	16 N (3.5 lbf), min	18 N (4.0 lbf), min	
Category III	11 N (2.5 lbf), min	11 N (2.5 lbf), min	
Dimensional stability:			
Pressing and finishing	2 % shrink, 0.5 % gain, max	2 % shrink, 0.5 % gain, max	7.4.1
After 5 washes	2.5 % max	2.5 % max	7.4.2
After 3 drycleanings	2.5 % max	2.5 % max	7.4.3
Fabric Appearance (see 7.5.1.1):			
Category I	D.P., 3.5 min	D.P., 3.0 min	7.5
Category II	D.P., 3.5 min	D.P., 3.0 min	
Category III	D.P., 3.0 min	D.P., 3.0 min	
Flammability	pass	pass	7.6
Colorfastness to:			
Laundering			
Shade change	Class 4, min ^A	Class 4, min ^A	7.7.1
Staining	Class 3, min ^B	Class 3, min ^B	
Drycleaning			
Shade change	Class 4, min ^A	Class 4, min ^A	7.7.2
Crocking			
Dry	Class 4, min ^C	Class 4, min ^C	7.7.3
Wet	Class 3, min ^C	Class 3, min ^C	
Burnt gas fumes—2 cycles			
Shade change, original fabric	Class 4, min ^A	Class 4, min ^A	7.7.4
Shade change, after one laundering or one drycleaning	Class 4, min ^A	Class 4, min ^A	
Light (xenon-arc)			
Outdoor (40 AATCC FU)	Step 4, min ^A	Step 4, min ^A	7.7.5
Indoor (20 AATCC FU)	Step 4, min ^A	Step 4, min ^A	
Perspiration			
Shade change	Class 4, min ^A	Class 4, min ^A	7.7.6
Staining	Class 3, min ^B	Class 3, min ^B	
Ozone—2 cycles	Class 4 ^A	Class 4 ^A	7.7.7

^A AATCC Gray Scale for Color Change.

^B AATCC Gray Scale for Staining.

^C AATCC Chromatic Transference Scale.