



Designation: D 3995 – 95

## Standard Performance Specification for Men's and Women's Knitted Career Apparel Fabrics: Dress and Vocational<sup>1</sup>

This standard is issued under the fixed designation D 3995; 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 the minimum performance requirements for men's and women's knitted fabrics for dress and vocational career apparel composed of any textile fiber or mixtures of textile fibers.

1.2 This performance specification is not applicable to career apparel fabrics such as those used in protective clothing, that do not patently fit the categories in 3.1.1 and 3.1.2. Minimum performance specifications for such fabrics should be as agreed between the purchaser and the seller.

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

1.4 The following precautionary statement pertains only to the test methods portion, Section 7, of this 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 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 Textiles<sup>2</sup>
- D 2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics<sup>2</sup>
- D 2905 Practice for Statements on Number of Specimens for Textiles<sup>2</sup>
- D 3786 Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics—Diaphragm Bursting Strength Tester Method<sup>3</sup>
- D 3787 Test Method for Bursting Strength of Knitted Goods—Constant-Rate-of-Traverse (CRT) Ball Burst Test<sup>3</sup>
- D 3887 Specification for Tolerances for Knitted Fabric<sup>3</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-13 on Textiles and is the direct responsibility of Subcommittee D13.56 on Performance Standards for Textile Fabrics.

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<sup>2</sup> Annual Book of ASTM Standards, Vol 07.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 07.02.

#### 2.2 AATCC Methods:<sup>4</sup>

- AATCC 8 Colorfastness to Crocking: AATCC Crockmeter Method
  - AATCC 15 Colorfastness to Perspiration
  - AATCC 16 Colorfastness to Light
  - AATCC 23 Colorfastness to Burnt Gas Fumes
  - AATCC 61 Colorfastness to Washing, Domestic Laundering, Commercial: Accelerated
  - AATCC 116 Colorfastness to Crocking, Rotary Vertical Crockmeter Method
  - AATCC 124 Appearance of Durable Press Fabrics After Repeated Home Launderings
  - AATCC 132 Colorfastness to Drycleaning
  - AATCC 135 Dimensional Change in Automatic Home Laundering of Durable Press Woven or Knit Fabrics
  - Evaluation Procedure 1 Gray Scale for Color Change
  - Evaluation Procedure 2 Gray Scale for Staining
  - Evaluation Procedure 3 Chromatic Transference Scale
- #### 2.3 Federal Standard:<sup>5</sup>
- 16 CFR 1610 Standard for Flammability of Clothing Textiles

NOTE 1—The specific dated editions of ASTM test methods that prevail in this standard are referenced in Section 7 on Test Methods.

### 3. Terminology

#### 3.1 Definitions:

3.1.1 *career apparel, n*—garments which are manufactured for a variety of end uses and for which performance requirements vary.

3.1.1.1 *Discussion*—The two major end uses for career apparel are dress apparel and vocational apparel.

3.1.2 *career apparel, dress, n*—a category of tailored uniform in which abusive wear is not common and in which appearance is much more important than durability (see also *career apparel, vocational career apparel*).

3.1.3 *career apparel, vocational, n*—a type of garment worn as a uniform in which abusive wear is common and durability is generally more important than appearance (see also *career apparel, dress career apparel*).

<sup>4</sup> Available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, N.C. 27709.

<sup>5</sup> Available from Superintendent of Documents, Government Printing Office, Washington, DC 20402.

3.1.4 *dimensional change in pressing and finishing, n*—the change in dimensions undergone by a fabric subjected to pressing and finishing during garment manufacturing.

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

### 3.2 Definitions of Terms Specific to This Standard:

3.2.1 *pressing and finishing, n*—this term takes into account a variety of industrial pressing and finishing treatments used in garment manufacturing.

NOTE 2—No standard method is available for reproducing on a laboratory level the results of industrial press or finishing treatments, or both, used in the manufacture of knitted apparel garments.

## 4. Specification Requirements

4.1 The properties of knitted fabric for men's and women's career apparel shall conform to the specification requirement in Table 1.

## 5. Significance and Use

5.1 Upon mutual agreement between the purchaser and the seller, 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 seller.

5.2.1 In such cases, any references to the specification shall specify that: "This fabric meets ASTM Specification D 3995 except for the following characteristic(s)."

5.3 Where no prepurchase agreement has been reached between the purchaser and the seller, 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.

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

## 6. Sampling

6.1 Tests shall be performed on the fabric as it will reach the consumer. Any "partially finished" or "post-finished" fabrics or those which will be pleated, creased, steamed, or pressed during manufacturing should be processed in accordance with the fabric manufacturer's instructions before tests are made.

6.2 Unless otherwise agreed upon, as when specified in an applicable material specification, take the number of specimens directed in each of the applicable test methods.

6.2.1 If there has been no prior agreement and the test method does not specify the number of specimens, use the procedures in Practice D 2905 to determine the number of specimens, such that the user may expect at the 95 % probability level that the test result is no more than 5 % of the average above or below the lot average (that is, the average that would be obtained by applying this method to the entire lot)

**TABLE 1 Specification Requirements**

NOTE 1—The classes of colorfastness and DP rating are 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.

Characteristics	Requirements		Section
	Career Dress Apparel	Career Vocational Apparel	
Bursting strength (ball burst)	60 lbf (267 N) min	60 lbf (267 N) min	7.1
Dimensional stability (each direction):			
Pressing and finishing	2 % max shrinkage, 0 % growth	2 % max shrink, 0 % growth	7.2.1
After 5 washes	3 % max	3 % max	7.2.2
After 3 drycleanings	3 % max	3 % max	7.2.4
Fabric smoothness	Class 4, DP, min	Class 3, DP, min	7.3
Flammability	Class 1 or Class 2	Class 1 or Class 2	7.4
Colorfastness:			
Laundering:			7.5.1
Color change	Class 4, min <sup>A</sup>	Class 4, min <sup>A</sup>	
Staining	Class 3 or 4, min, <sup>B</sup>	Class 3 or 4, min <sup>B</sup>	
Drycleaning:			7.5.3
Color change	Class 4, min, <sup>A</sup>	Class 4, min <sup>A</sup>	
Crocking			7.5.4
Dry	Class 4, min <sup>C</sup>	Class 4, min <sup>C</sup>	
Wet	Class 3, min <sup>C</sup>	Class 3, min <sup>C</sup>	
Burnt Gas Fumes—1 cycle:			7.5.5
Shade change, original fabric and after 1 laundering or 1 drycleaning	Class 4, min	Class 4, min <sup>A</sup>	
Light: (xenon-arc)			7.5.6
Outdoor (40 AATCC SFU)	Step 4, min <sup>A</sup>	Step 4, min <sup>A</sup>	
Indoor (20 AATCC SFU)	Step 4, min <sup>A</sup>	Step 4, min <sup>A</sup>	
Perspiration			7.5.7
Color change	Class 4, min <sup>A</sup>	Class 4, min <sup>A</sup>	
Staining	Class 3, min <sup>B</sup>	Class 3, min <sup>B</sup>	

<sup>A</sup> AATCC Gray Scale for Color Change.

<sup>B</sup> AATCC Gray Scale for Staining.

<sup>C</sup> AATCC Chromatic Transference Scale.