Designation: D 3562 – 99

Standard Performance Specification for Woven Drycleanable Coat Fabrics[1]

This standard is issued under the fixed designation D 3562; 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 drycleanable topcoats, overcoats, and dress 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, interlinings, rainwear garments, and all-purpose, water-repellent garments nor is this performance specification applicable to bonded or laminated fabrics.

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

1.4 When a fabric requires special treatment, specific methods will be described as they are developed for that material, and such special tests will have precedence over these general requirements.

1.5 The following precautionary caveat pertains only to the test method portion, Section 7, of this performance 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[2]

D 434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam[2]

D 1424 Test Method for Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf) Apparatus[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 2905 Practice for Statements on Number of Specimens for Textiles[2]

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

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 Durable Press Woven or Knit Fabrics

Evaluation Procedure 1: Gray Scale for Color Change

Evaluation Procedure 2: 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 *ASQ Standard:*

ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes[6]

NOTE 1—Reference to test methods in this 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 *Definitions*—For definitions of textile terms used in this specification, refer to the individual ASTM and AATCC test methods and to Terminology D 123.

3.1.1 *pressing and finishing, n*—this term takes into account all of the industrial pressing and finishing treatments used in garment production.

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

[1] 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.

Current edition approved Sept. 10, 1999. Published January 2000. Originally published as D 3562 – 77. Last previous edition D 3562 – 95a.

[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, N.C. 27709.

[5] Available from Superintendent of Documents, Government Printing Office, Washington, DC 20402.

[6] Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036

TABLE 1 Specification Requirements for Woven Drycleanable Coat Fabrics

Characteristic	Requirements		Section
	Men's & Boy's	Women's & Girl's	
Breaking strength (load) (CRT)	133 N (30 lbf), min	133 N (30 lbf), min	7.1
Napped fabrics:			
Length	—	111 N (25 lbf), min	
Width	—	89 N (20 lbf), min	
Resistance to yarn slippage:			7.2
All fabrics, ¼ in. (6 mm) separation	111 N (25 lbf), min	—	
Cross-dyed fabrics,	—	89 N (20 lbf), min	
⅛ in. (3 mm) separation	—	89 N (20 lbf), min	
Solid shades, ¼ in. (6 mm) separation	—	89 N (20 lbf), min	
Tongue tear strength	13 N (3 lbf), min	13 N (3 lbf), min	7.3
Dimensional change (each direction):			
Pressing	2 % max shrinkage & 0 % growth		7.4.1
After 3 dry cleanings	2 % max shrinkage & 0 % growth		7.4.2
Colorfastness to:			
Burnt gas fumes			
Alteration in shade: 1 cycle each on original & after 1 cleaning	Class 4, min	Grade 4, min	7.5.1
Dry cleaning			7.5.2
Shade change	Grade 4, min	Grade 4, min	
Crocking			7.5.3
Dry	Grade 4, min	Grade 4, min	
Wet	Grade 3.5, min	Grade 3, min	
Perspiration			7.5.4
Shade change	Grade 4, min	Grade 4, min	
Staining	Grade 3.5, min	Grade 3, min	
Light (xenon-arc)			7.5.5
20 AATCC fading units	Grade 4, min	Grade 4, min	
Fabric appearance (see 7.6.1.1)	SA 4, min	See 7.6.1	7.6
Flammability (16 CFR 1610)	Class I	Class I	7.7

4. Significance and Use

4.1 Upon mutual agreement between the purchaser and the seller, woven fabrics intended for this end use should meet all of the requirements listed in Table 1 of this specification.

4.2 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 may be modified by mutual agreement between the purchaser and the seller.

4.2.1 In such cases, any references to the specification shall specify that: This fabric meets ASTM Specification D 3562 except for the following characteristic(s).

4.3 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 4.2, ultimate consumer demands dictate varying performance parameters for any particular style of fabric.

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

5. Sampling

5.1 *Acceptance Testing Lot*—Unless there is prior agreement consider as a lot for acceptance testing all material of a single item received as a single shipment.

5.2 *Lot Sample*—As a lot sample for acceptance testing, take at random the number of rolls as directed in an applicable specification or other agreement between the purchaser and the seller, such as an agreement to use ASQ Z1.4.

5.3 *Laboratory Sample*—From each roll or piece in the lot sample, cut two laboratory samples the full width of the fabric and at least 375 mm (15 in.) along the selvage.

5.4 *Test Specimens*—Take the number of specimens directed in each of the applicable test methods. Perform the tests on the fabric as it will reach the consumer. Any "partially-finished" or "post-finished" fabrics should be processed in accordance with the fabric manufacturer's instructions.

5.5 If the applicable test method does not specify per laboratory sampling unit. Use a reliable estimate of the variability of individual observations on similar materials in the user's laboratory, a 95 % probability level, and an allowable difference of 5 % of the average between the test results on laboratory sampling units and the average for the laboratory sampling unit. The average for a laboratory sampling unit is the average that would be obtained by applying the test to all of the potential specimens from that laboratory sampling unit.

6. Specification Requirements

6.1 The properties of fabrics for woven drycleanable coats shall conform to the specification requirements in Table 1.

7. Test Methods (Note 1)

7.1 *Breaking Force*—Determine the dry breaking force in the standard atmosphere for testing textiles, as directed in Test Method D 5034, using a constant rate of traverse (CRT) tensile testing machine with the speed of the pulling jaw at 0 ± 10 mm (12 ± 0.5 in.)/min.

NOTE 3—If preferred, the use of a constant-rate-of-extension (CRE) tensile testing machine is permitted. The crosshead speed should be as agreed between the purchaser and the seller. There may be no overall correlation between the results obtained with the CRT machine and CRE machine. Consequently, these two breaking load testers cannot be used interchangeably. In the case of controversy, the CRT method, Test Method D 1682, shall prevail.

7.2 *Resistance to Yarn Slippage*—Determine the resistance

to yarn slippage as directed in Test Method D 434.

NOTE 4—The precision of Test Method D 434 is being established and it may not be suitable for fabrics with low yarn counts (see 4.2) in terms of ends and picks per inch.

7.3 *Tongue Tear Strength*—Determine the tongue tear strength as directed in Test Method D 2262.

NOTE 5—If preferred, use of Test Method D 1424 is permitted with existing requirements as given in this specification. There may be no overall correlation between the results obtained with the tongue tear machine and the Elmendorf machine. Consequently, these two tongue tear testers cannot be used interchangeably. In the case of controversy, Test Method D 2262 shall prevail.

7.4 *Dimensional Change*:

7.4.1 *Pressing and Finishing During Garments Manufacturing*—Mark specimens as directed in 4.3.1 of AATCC Method 135. Press and finish specimens as agreed by the purchaser and the seller with respect to time cycles, temperature, steam, vacuum, and mechanical pressure of the press head. Measure the specimens and calculate the dimensional change as directed in Sections 8 and 9 of AATCC Method 135 (see Note 2).

7.4.2 *Drycleaning*—Press the specimen as agreed by the purchaser and the seller prior to drycleaning. Determine the maximum dimensional change after three drycleanings as directed in 10.1.1 through 10.1.6 of Method D 2724.

NOTE 6—Specimens prepared for 7.4.1 may be used for 7.4.2 if desired. When this is done, subtract the pressing dimensional change from the total dimensional change to obtain that portion due to dry-cleaning.

7.5 *Colorfastness*:

7.5.1 *Burnt Gas Fumes*—Determine the colorfastness to burnt gas fumes on the original fabric and after one drycleaning as directed in AATCC Test Method 23.

7.5.2 *Drycleaning*—Determine the colorfastness to drycleaning as directed in AATCC Test Method 132.

7.5.3 *Crocking*—Determine the colorfastness to dry and wet crocking as directed in AATCC Test Method 8 for solid shades or AATCC Test Method 116 for prints, or as agreed between the purchaser and the seller.

7.5.4 *Perspiration*—Determine the colorfastness to perspiration as directed in AATCC Test Method 15 (acid phase).

7.5.5 *Light*—Determine the colorfastness to light as directed in AATCC Test Method 16A or 16E.

NOTE 7—There is a distinct difference in spectral distribution between the xenon fading lamp apparatus and the enclosed carbon-arc (not sunshine-carbon arc). Consequently, these two fading lamp apparatus cannot be used interchangeably since there is no overall correlation between them. In case of controversy, AATCC Test Method 16E shall prevail.

7.6 *Fabric Appearance*—Determine the fabric appearance as directed in AATCC Test Method 124, after drycleaning as specified in 7.4.2.

7.6.1 For fabrics not intended for use in “Durable Press” garments, determine the fabric appearance after pressing as specified in 10.2.5 of Test Method D 2724.

7.7 *Flammability*—The flammability requirements shall be as agreed between the purchaser and the seller, except when regulated by applicable government mandatory standards.

8. Keywords

8.1 drycleaning; fabric; overcoat; performance; specification