



Designation: D4769 – 12 (Reapproved 2024)

Standard Specification for Woven and Warp Knitted Comforter Fabrics¹

This standard is issued under the fixed designation D4769; 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 specification covers woven and warp knitted comforter fabrics, composed of any textile fiber, or mixture of fibers.

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

1.3 The following safety hazards caveat pertains only to the test methods described in 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

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)

D2724 Test Method for Bond Strength of Bonded, Fused, and Laminated Apparel Fabrics

D2905 Practice for Statements on Number of Specimens for

Textiles (Withdrawn 2008)³

D3786/D3786M Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method
D5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

D6797 Test Method for Bursting Strength of Fabrics Constant-Rate-of-Extension (CRE) Ball Burst Test
D7023 Terminology Relating to Home Furnishings

2.2 AATCC Methods:⁴

Test Method 8 Colorfastness to Crocking: Crockmeter Method

Test Method 16.1 Colorfastness to Light: Carbon-Arc

Test Method 16.3 Colorfastness to Light: Xenon-Arc

Test Method 61 Colorfastness to Laundering: Accelerated
Test Method 116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method

Test Method 124 Smoothness Appearance of Fabrics After Repeated Home Launderings

Test Method 132 Colorfastness to Drycleaning

Test Method 135 Dimensional Changes of Fabrics after Home Laundering

Evaluation Procedure 1 Gray Scale for Color Change

Evaluation Procedure 2 Gray Scale for Staining

Evaluation Procedure 8 9-Step Chromatic Transference Scale

NOTE 1—References to documents in this specification give only the permanent part of the designation of ASTM, AATCC, or other test methods and standards. The current editions of each test method cited shall prevail.

3. Terminology

3.1 Definitions:

3.1.1 For all terminology related to Home Furnishings see Terminology **D7023**.

3.1.2 The following terms are relevant to this standard: comforter, fill leakage.

3.1.3 For definitions of all other textile terms refer to Terminology **D123**.

¹ This specification is under the jurisdiction of ASTM Committee **D13** on Textiles and is the direct responsibility of Subcommittee **D13.63** on Home Furnishings.

Current edition approved June 1, 2024. Published June 2024. Originally approved in 1988. Last previous edition approved in 2018 as D4769 - 12(2018)^{ε1}. DOI: 10.1520/D4769-12R24.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. 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 Available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.

4. Specification Requirements

4.1 The properties of woven comforter fabrics shall conform to the specification requirements in [Table 1](#).

5. Significance and Use

5.1 Upon mutual agreement between the purchaser and seller, fabrics intended for this end use should meet all 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 seller.

5.2.1 If any of the requirements in [Table 1](#) are modified by mutual agreement between purchaser and seller, any reference to the specification shall state that: “This fabric meets ASTM Specification D4769, except for the following characteristic(s).”

5.3 Where no prepurchase agreement has been reached between the purchaser and seller, and in case of controversy, the requirements listed in [Table 1](#) are intended to be used as a guide only. As stated 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.

TABLE 1 Specification Requirements

NOTE 1—Class in A, B, and C, and D.P. rating is based on a numerical scale of 5 for no color change, color transfer, or wrinkle, to 1 for severe color change, color transfer, or wrinkle.

Characteristic	Woven Fabrics	Warp Knit Fabrics	Section
Breaking Strength (Load)	133 N (30 lbf) min	NA	7.2
Bursting Strength (Motor-Driven Diaphragm Tester)	NA	35 psi (155 kPa)	7.2
Tear Strength	6.7 N (1.5 lbf) min	NA	7.3
Dimensional Change:			
Laundering	±3 % max	±5 % max	7.4.1
Drycleaning	±3 % max	±5 % max	7.4.2
Fabric Appearance	SA 3.5 min	SA 3.5 min	7.5
Colorfastness			7.6
Laundering:			
Shade Change	Grade 4 ^A min	Grade 4 ^A min	7.6.1
Staining	Grade 3 ^{B,C} min	Grade 3 ^{B,C} min	7.6.1
Drycleaning:			
Shade Change	Grade 4 ^A min	Grade 4 ^A min	7.6.2
Crocking:			
Dry	Grade 4 ^{B,C} min	Grade 4 ^{B,C} min	7.6.3
Wet	Grade 3 ^{B,C} min	Grade 3 ^{B,C} min	7.6.3
Light (20 AFU)	Grade 4 ^A min	Grade 4 ^A min	7.6.4

^A AATCC Gray Scale For Color Change.

^B AATCC Gray Scale For Staining.

^C AATCC 9-Step Chromatic Transference Scale.

6. Sampling

6.1 *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.

6.2 *Lot Samples and Laboratory Samples*—For acceptance testing, take lot samples and laboratory samples as directed in each of the applicable test methods.

6.3 *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 customer. Any “partially finished” or “post-finish” fabrics should be processed in accordance with the fabric manufacturer’s instructions.

6.4 If the applicable test method does not specify the number of specimens, use the procedures in Practice [D2905](#) to determine the number of specimens per laboratory sampling unit. Use (1) a reliable estimate of the variability of individual observations on similar materials in the user’s laboratory, (2) a 95 % probability level, and (3) 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 method to all of the potential specimens from that laboratory sampling unit.

7. Test Methods (See [Note 1](#))

7.1 *Breaking Strength*—Determine the breaking strength as directed in Test Method [D5034](#), using a constant-rate-of-extension (CRE) tensile-testing machine.

NOTE 2—If preferred, the use of a constant-rate-of-traverse (CRT) tensile testing machine is permitted. There may be no overall correlation between the results obtained with the CRT machine and the CRE machine. Consequently, these two breaking force testers cannot be used interchangeably. In case of controversy, the CRE method (Test Method [D5034](#)) shall prevail.

7.2 *Bursting Strength*—Determine the bursting strength of knit fabrics in the standard atmosphere for testing textiles, as directed in Test Method [D3786/D3786M](#), or Test Method [D6797](#) as agreed between the purchaser and seller.

NOTE 3—There is no overall correlation between the results obtained with the CRE machine equipped with a bursting attachment and the diaphragm bursting tester. Consequently, these two bursting testers cannot be used interchangeably. In case of controversy, the motor-driven diaphragm tester method (Test Method [D3786/D3786M](#)) shall prevail.

NOTE 4—The precision of the bursting strength testers has not been established. The methods are accordingly not recommended for acceptance testing unless preceded by an interlaboratory check in the laboratories of the purchaser and seller, using randomized replicate specimens of the material to be evaluated.

7.3 *Tear Strength*—Determine the tear strength of woven fabrics as directed in Test Method [D1424](#).

NOTE 5—If preferred, the use of Test Methods [D2261](#) is permitted, with existing requirements as given in this specification. There may be no overall correlation between the results obtained with the tongue tear method (Test Method [D2261](#)), and the Elmendorf machine ([D1424](#)). Consequently, these three testers cannot be used interchangeably. In case of controversy, Test Method [D1424](#) shall prevail.