



Designation: D5432 – 24

Standard Performance Specification for Blanket Products for Institutional and Household Use¹

This standard is issued under the fixed designation D5432; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification covers the evaluation of specific performance characteristics of importance in thermal woven, conventional woven, flocked, nonwoven, and knitted blanket products for use in institutional and household environments.

1.2 This specification may be used by mutual agreement between the purchaser and the supplier to establish purchasing specification requirements.

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

1.4 This specification does not include requirements for electric blankets. Electric blankets are specified under UL 964 requirements dictated by the Underwriter's Laboratories.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *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

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Textiles (Withdrawn 2008)³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 Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method

D4151 Test Method for Flammability of Blankets

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 Standards:⁴

TM8 Test Method for Colorfastness to Crocking: Crockmeter

TM16.3 Test Method for Colorfastness to Light: Xenon-Arc

TM61 Test Method for Colorfastness to Laundering: Accelerated

TM96 Test Method for Dimensional Changes in Commercial Laundering of Woven and Knitted Fabrics Except Wool

TM97 Test Method for Extractable Content of Textiles

TM116 Test Method for Colorfastness to Crocking: Rotary Vertical Crockmeter

TM132 Test Method for Colorfastness to Drycleaning

TM135 Test Method for Dimensional Changes of Fabrics after Home Laundering

TM158 Test Method for Dimensional Changes on Drycleaning in Perchloroethylene: Machine

EP1 Evaluation Procedure for Gray Scale for Color Change

EP2 Evaluation Procedure for Gray Scale for Staining

EP8 Evaluation Procedure for AATCC 9-Step Chromatic Transference Scale

2.3 UL Standard:⁵

UL 964 Electrically Heating Bedding

NOTE 1—Reference to test methods in this specification give only the pertinent part of the designation of ASTM, AATCC, or other test methods. The current edition of each test method shall prevail.

3. Terminology

3.1 Definitions:

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 (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709.

⁵ Available from Underwriter's Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062-0296.

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.

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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.

3.1.1 For all terminology related to Home Furnishings see Terminology [D7023](#).

3.1.2 The following terms are relevant to this standard: blanket, *for bedding*.

3.1.3 For definitions of all other textile terms see Terminology [D123](#).

4. Significance and Use

4.1 Upon mutual agreement between the purchaser and the supplier, woven products 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 products 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 supplier.

4.2.1 In such cases, any references to the specification shall specify that: This product meets Specification D5432 except for the following characteristic(s).

4.3 Where no prepurchase agreement has been reached between the purchaser and the supplier, 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.

4.4 The significance and use 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 as a single shipment.

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

5.3 *Specimens*—Take the number of specimens directed in each of the applicable test methods. Perform the tests on the product as it reaches the customer. Any “partially finished” or “post-finish” fabrics should be processed in accordance with the fabric manufacturer’s instructions.

5.4 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 sample unit.

5.4.1 Use a reliable estimate of the variability of individual observations on similar materials in the user’s laboratory,

5.4.2 A 95 % probability level, and

5.4.3 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.

6. Specification Requirements

6.1 *Fabrics*—The properties of fabrics for institutional and household conventional woven, thermal woven, flocked, nonwoven, and knitted blankets shall conform to the specification requirements in [Table 1](#).

6.2 *Product*—The properties to be evaluated and the acceptance criteria assigned to these areas shall be set by mutual agreement between the purchaser and the supplier.

7. Testing For Household and Institutional Use

7.1 *Test Methods: Fabric*—The physical and colorfastness properties of the fabric in the products shall be evaluated as directed as follows:

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

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

7.1.2 *Bursting Strength (Knit and Flocked Fabrics Only)*—Determine the bursting strength in the standard method.

TABLE 1 Specification Requirements

Characteristic	Requirements		
	Knits/Flock	Woven/Nonwoven	Section
Breaking Force (CRT method) ^A	...	89 N (20 lbf) min	7.1.1
each direction			
Bursting force, (ball burst) ^A	345 kpa (50 psi) min		7.1.2
Dimensional change:			
After 5 launderings			7.2.1
each direction			
Wool (50 % or more)	±6.0 % max	±6.0 % max	
Cotton	±5.0 % max	±5.0 % max	
All others	±3.5 % max	±3.5 % max	
After 3 drycleanings			7.2.3
each direction			
All fabrics	±3.5 % max	±3.5 % max	
Colorfastness: ^B			
Laundering:			7.3.1
Shade Change	Grade 4 ^C min	Grade 4 ^C min	
Staining	Grade 3 ^D min	Grade 3 ^D min	
Drycleaning			7.3.2
Shade Change	Grade 4 ^C min	Grade 4 ^C min	
Crocking:			7.3.3
Dry	Grade 4 ^{D,E} min	Grade 4 ^{D,E} min	
Wet	Grade 3 ^{D,E} min	Grade 3 ^{D,E} min	
Light (20 AFU) ^A	Step 4 ^C min	Step 4 ^C min	7.3.4
Flammability	Class I	Class I	7.4
Laundered Appearance	Acceptable ^F	Acceptable ^F	7.5.1

^A There is more than one standard method that can be used to measure breaking force, bursting force, and lightfastness. These methods cannot be used interchangeably since there may be no overall correlation between them (see [Notes 2-5](#), and [Note 6](#)).

^B Grade for color change and color transfer is based on a numerical scale of 5 for negligible or no color change or color transfer to 1 for severe color change or color transfer. The numerical rating in [Table 1](#) or higher is acceptable.

^C AATCC EP1 Gray Scale for Color Change.

^D AATCC EP2 Gray Scale for Staining.

^E EP8 AATCC 9-Step Chromatic Transference Scale.

^F As agreed upon between the purchaser and the supplier.