



Designation: D5432 – 93 (Reapproved 2000)<sup>ε1</sup>

# Standard Performance Specification for Blanket Products for Institutional and Household Use<sup>1</sup>

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 reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

<sup>ε1</sup> NOTE—Editorial corrections were made throughout in February 2001.

## 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 in Table 1 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 problems, 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:*<sup>2</sup>

- D123 Terminology Relating to Textiles<sup>2</sup>
- D629 Test Methods for Quantitative Analysis of Textiles<sup>2</sup>
- D1518 Test Method for Thermal Transmittance of Textile Materials<sup>2</sup>
- D2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics<sup>2</sup>
- D2905 Practice for Statements on Number of Specimens for Textiles<sup>3 2</sup>
- D3136 Terminology Relating to Care Labeling for Apparel, Textile, Home Furnishing, and Leather Products<sup>4</sup>
- D3786 Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method<sup>4</sup>

<sup>1</sup> 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 07.01.

<sup>3</sup> Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

<sup>4</sup> Discontinued: see 1997 *Annual Book of ASTM Standards*, Vol 07.02.

TABLE 1 Specification Requirements

Characteristic	Requirements		
	Knits/Flock	Woven/Nonwoven	Section
Breaking Force (CRT method) <sup>A</sup> each direction	...	89 N (20 lbf) min	7.1.1
Bursting force, (ball burst) <sup>A</sup>	345 kpa (50 psi) min		7.1.2
Dimensional change: After 5 launderings each direction			7.2.1
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 each direction			7.2.3
All fabrics	3.5 max	3.5 max	
Colorfastness: <sup>B</sup> Laundering:			7.3.1
Shade Change	Class 4 <sup>C</sup> min	Class 4 <sup>C</sup> min	
Staining	Class 3 <sup>D</sup> min	Class 3 <sup>D</sup> min	
Drycleaning			7.3.2
Shade Change	Class 4 <sup>C</sup> min	Class 4 <sup>C</sup> min	
Burnt Gas Fumes 2 cycles			7.3.3
Shade Change	Class 4 <sup>C</sup> min	Class 4 <sup>C</sup> min	7.3.4
Crocking: <sup>E1</sup> Dry	Class 4 <sup>E</sup> min	Class 4 <sup>E</sup> min	
Wet	Class 3 <sup>E</sup> min	Class 3 <sup>E</sup> min	
Light (20 AATCC SFU, xenon-arc <sup>A</sup> )	Step 4 <sup>C</sup> min	Step 4 <sup>C</sup> min	7.3.5
Flammability Thermal	Class I Acceptable <sup>F</sup>	Class I Acceptable <sup>F</sup>	7.4 7.5
Transmittance Laundered Appearance	Acceptable <sup>G</sup>	Acceptable <sup>G</sup>	7.6.1

<sup>A</sup>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 8).

<sup>B</sup>Class 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.

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

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

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

<sup>F</sup>7.5 Information.

<sup>G</sup>As agreed upon between the purchaser and the supplier.

D3787 Test Method for Bursting Strength of Textiles—  
Constant-Rate-of-Traverse (CRT) Ball Burst Test<sup>5</sup>

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 07.02.

**D3882** Test Method for Bow and Skew in Woven and Knitted Fabrics<sup>5</sup>

**D3993** NO TITLE<sup>5</sup>

**D3938** Guide for Determining or Confirming Care Instructions for Apparel and Other Textile Products<sup>5</sup>

**D4151** Test Method for Flammability of Blankets<sup>5</sup>

**D5034** Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

2.2 AATCC Methods:<sup>6</sup>

8 Colorfastness to Crocking

16A Colorfastness to Light: Carbon Arc Lamp Continuous Light

16E Colorfastness to Light: Water Cooled Xenon-Arc Lamp, Continuous Light

23 Colorfastness to Burnt Gas Fumes

61 Colorfastness to Washing, Domestic and Laundering Commercial, Accelerated

88B Appearance of Seams in Wash and Wear Items After Home Laundering

96 Dimensional Changes in Laundering of Woven and Knitted Fabrics Except Wool

97 Non-Cotton Content of Bleached Cotton Textiles

116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method

132 Colorfastness to Drycleaning

135 Dimensional Changes in Automatic Home Laundering of 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 UL Standard:<sup>7</sup>

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:

3.1.1 *blanket, n*—for bedding, an unquilted fabric designed primarily to provide thermal insulation.

3.1.1.1 *Discussion*—Blankets can be made in a variety of structures to provide thermal insulation, as follows:

(1) *conventional blanket, n*—usually woven in a plain or twill that is napped on both sides.

(2) *flocked blanket, n*—made with a fisnet-type scrim sandwiched between two thin layers of foam with flock adhered to the outside of the foam.

(3) *nonwoven blanket, n*—made by bonding or interlocking of fibers, or both, accomplished by mechanical, chemical, thermal, solvent means, or any combination thereof.

(4) *insulated thermal blanket, n*—a textured or leno weave that creates cells or openings in the fabric so that air warmed by the body is trapped between the yarns. This blanket may be napped or unnapped.

3.2 For definitions of other textile terms used in this specification, refer to individual ASTM standards and AATCC Test Methods, Terminology **D123** and Terminology **D3136**, or your dictionary.

### 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 **D3993** 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 A95 % 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.

<sup>6</sup> Available from American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709.

<sup>7</sup> Available from Underwriter’s Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062-0296.