



Designation: D 3996 – 02

Standard Performance Specification for Knit Swimwear Fabrics¹

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1. Scope

1.1 This performance specification covers circular and warp knitted fabrics for use in knit swimwear, composed of any textile fiber or mixture of textile fibers.

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

1.3 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:²

- D 123 Terminology Relating to Textiles
- D 2905 Practice for Statements on Number of Specimens for Textiles
- D 3786 Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics—Diaphragm Bursting Strength Tester Method
- D 3787 Test Method for Bursting Strength of Knitted Goods—Constant-Rate-of-Traversal (CRT) Ball Burst Test

2.2 AATCC Methods:³

- 8 Colorfastness to Crocking: AATCC Crockmeter Method
- 15 Colorfastness to Perspiration
- 16 Colorfastness to Light
- 23 Colorfastness to Burnt Gas Fumes
- 61 Colorfastness to Washing, Domestic, and Laundering, Commercial: Accelerated
- 106 Colorfastness to Water: Sea
- 107 Colorfastness to Water

- 116 Colorfastness to Crocking: Rotary Vertical Crockmeter Method
 - 129 Colorfastness to Ozone in the Atmosphere Under High Humidities
 - 135 Dimensional Changes in Automatic Home Laundering of Durable Press Woven or Knit Fabrics
 - Evaluation Procedure No. 1 Gray Scale for Color Change
 - Evaluation Procedure No. 2 Gray Scale for Staining
 - Evaluation Procedure No. 3 AATCC Chromatic Transference Scale
 - 162 Colorfastness to Water Chlorinated Pool
 - 172 Colorfastness to Non-Chlorine Bleach in Home Laundering
 - 188 Colorfastness to Sodium Hypochlorite Bleach in Home Laundering
- 2.3 Federal Standard:⁴
- 16 CFR 1610 Standard for Flammability of Clothing Textiles

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 Definition:

- 3.1.1 *swimwear*—textile garments intended for wear in fresh, chlorinated, or salt water.
- 3.2 For definitions of textile terms used in this specification, refer to the individual ASTM and AATCC test methods and Terminology D 123.

4. Specification Requirements

4.1 The properties of fabrics for knitted swimwear shall conform to the specification requirements 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

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.

⁴ Available from Superintendent of Documents, Government Printing Office, Washington, DC 20407.