



Designation: D6321/D6321M – 13

Standard Practice for the Evaluation of Machine Washable T-Shirts¹

This standard is issued under the fixed designation D6321/D6321M; 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 practice covers test methods and procedures used to evaluate important characteristics of machine washable T-shirts. T-shirts may be made of knitted fabric composed of any textile fiber(s) or blend of fibers and intended to be used as underwear or as an outer garment.

1.2 T-shirts' characteristics may be assessed either as a final product or at any intermediate processing stage.

1.3 This practice excludes T-shirts intended for hand washing or dry cleaning care.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

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

2. Referenced Documents

2.1 ASTM Standards:²

D123 Terminology Relating to Textiles

D1776 Practice for Conditioning and Testing Textiles

D3786 Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method

D3787 Test Method for Bursting Strength of Textiles—Constant-Rate-of-Traversal (CRT) Ball Burst Test

D3887 Specification for Tolerances for Knitted Fabrics

D3940 Test Method for Bursting Strength (Load) and Elongation of Sewn Seams of Knit or Woven Stretch Textile

Fabrics (Withdrawn 1995)³

D4154 Performance Specification for Men's and Boys' Knitted and Woven Beachwear and Sports Shirt Fabrics

D4156 Performance Specification for Women's and Girls' Knitted Sportswear Fabrics

D7022 Terminology Relating to Apparel

2.2 AATCC Test Methods:⁴

Evaluation Procedure 1, Gray Scale for Color Change

Evaluation Procedure 2, Gray Scale for Staining

Evaluation Procedure 7, Instrumental Assessment of the Change in Color of a Textile Specimen

Method 107, Colorfastness to Water

Method 150, Dimensional Changes of Garments after Home Laundering

Method 172, Colorfastness to Powered Non-Chlorine Bleach in Home Laundering

Method 179, Skewness Change in Fabric and Garment Twist Resulting from Automatic Home Laundering

2.3 Other Documents:

A Glossary of AATCC Standard Terminology⁴

Standardization of Home Laundry Test Conditions⁴

3. Terminology

3.1 For all terminology relating to D13.61 refer to Terminology D7022.

3.1.1 The following terms are relevant to this standard: T-shirt.

3.1.2 For definitions of other textile terms used in this standard, refer to terminology in Terminology D123 and Glossary of AATCC Standard Terminology.

4. Significance and Use

4.1 This practice may be used to evaluate pertinent characteristics of washable T-shirts.

4.2 T-shirts may be subject to extra processes such as garment dyeing, garment washing, printing, application of embroidery or trims. An individual process or combination of processes may affect the performance of the final product.

¹ This practice is under the jurisdiction of ASTM Committee D13 on Textiles, and is the direct responsibility of Subcommittee D13.61 on Apparel.

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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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from AATCC, PO Box 12215, Research Triangle Park, NC 27709.