



**Designation: D3181 – 15 (Reapproved 2024)**

## Standard Guide for Conducting Wear Tests on Textiles<sup>1</sup>

This standard is issued under the fixed designation D3181; 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.

### 1. Scope

1.1 This guide is intended to provide guidance for the design of an experiment for the purpose of developing a prediction of expected wear performance of apparel and textile products when exposed to actual use conditions.

1.2 This guide recommends the use of a product for which a history of its performance is known from laboratory testing and consumer use as the basis for statistical significance of new product's performance, however, other design or experimental approaches may be used.

1.3 The wide variety of textile products and the conditions under which consumers will use products prevents the inclusion of all types of wear trial experiments for research and development, product innovation studies, and special needs such as those for healthcare industry or military.

1.4 *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.*

1.5 *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:<sup>2</sup>

##### 2.1.1 Fabric and Apparel Tests:

**D2051** Test Method for Durability of Finish of Zippers to Laundering

**D2052** Test Method for Colorfastness of Zippers to Dry-cleaning

**D2057** Test Method for Colorfastness of Zippers to Laundering

**D2058** Test Method for Durability of Finish of Zippers to Drycleaning

**D3511/D3511M** Test Method for Pilling Resistance and Other Related Surface Changes of Textile Fabrics: Brush Pilling Tester

**D3512/D3512M** Test Method for Pilling Resistance and Other Related Surface Changes of Textile Fabrics: Random Tumble Pilling Tester

**D3514/D3514M** Test Method for Pilling Resistance and Other Related Surface Changes of Textile Fabrics: Elastomeric Pad

**D3884** Guide for Abrasion Resistance of Textile Fabrics (Rotary Platform Abrader Method)

**D3885** Test Method for Abrasion Resistance of Textile Fabrics (Flexing and Abrasion Method)

**D3886** Test Method for Abrasion Resistance of Textile Fabrics (Inflated Diaphragm Apparatus)

**D3938** Guide for Determining or Confirming Care Instructions for Apparel and Other Textile Products

**D4157** Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)

**D4231** Practice for Evaluation of Launderable Woven Dress Shirts and Sports Shirts

**D4390** Practice for Evaluation of the Performance of Terry Bathroom Products for Household Use (Withdrawn 1994)<sup>3</sup>

#### 2.1.2 Other ASTM Standards:

**D123** Terminology Relating to Textiles

**D4850** Terminology Relating to Fabrics and Fabric Test Methods

**D7022** Terminology Relating to Apparel (Withdrawn 2022)<sup>3</sup>

#### 2.2 AATCC Standards:<sup>4</sup>

##### 2.2.1 Colorfastness and Physical Properties:

**8** Colorfastness to Crocking: AATCC Crockmeter Method

**15** Colorfastness to Perspiration

**16** Colorfastness to Light

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.60 on Fabric Physical Test Methods B.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

<sup>4</sup> *Annual AATCC Technical Manual*, available from American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709, [www.aatcc.org](http://www.aatcc.org).