



Standard Practice for Preparation of Textiles Prior to Ultraviolet (UV) Transmission Testing¹

This standard is issued under the fixed designation D 6544; 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 delineates standardized exposures to laundering, simulated sunlight, and chlorinated pool water to which cloth, labeled as ultraviolet-(UV) protective, must be exposed prior to testing for UV transmission.

1.2 This practice leads to measurement of the residual level of UV-protection in fabrics or garments labeled as sun- or UV-protective, after exposure to conditions that relate to about two years of seasonal use. The UV transmission measurements may be done in accordance with AATCC Test Method 183 using fabrics prepared in accordance with this practice. This measurement may be used in support of a label statement regarding UV protection.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text, the inch-pound units are shown in parentheses. 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 nonconformance with the standard.

1.4 *This standard does not purport to address 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:

D 123 Terminology Related to Textiles²

D 2905 Practice for Statements on Number of Specimens for Textiles²

D 3938 Guide for Determining or Confirming Care Instructions for Apparel and Other Textile Consumer Products³

E 122 Practice for Choice of Sample Size to Estimate a Measure of Quality for a Lot or Process⁴

2.2 AATCC Test Methods and Documents:⁵

16[E] Colorfastness to Light

135 Dimensional Changes in Automatic Home Laundering of Woven or Knit Fabric

162 Colorfastness to Water: Chlorinated Pool

172 Colorfastness to Non-chlorine Bleach in Home Laundering

183 Transmittance or Blocking of Erythemally Weighted Ultraviolet Radiation through Fabrics

Glossary of AATCC Standard Terminology

3. Terminology

3.1 *Definitions*—For definitions of other textile terms used in this practice, refer to Terminology D 123 and the *Glossary of AATCC Standard Terminology*.

4. Summary of Practice

4.1 This practice directs the exposure of cloth, labeled as UV-protective, to conditions of laundering, simulated sunlight, and chlorinated pool water generally known to affect UV transmittance.

4.2 This practice directs selection and sequencing of exposure conditions for UV-protective fabrics and garments.

5. Significance and Use

5.1 The significance of this practice is that cloth, labeled as UV-protective, which will ultimately be submitted for UV transmittance testing will be in a state that simulates their condition at the end of two years of normal seasonal use. Therefore, the UV-protection level ultimately placed on a label estimates the maximum UV transmittance of the garment fabric during a two-year life cycle.

6. Sampling and Test Specimens

6.1 *Primary Sampling Unit*—Consider rolls or bolts of fabric, or cartons of garments to be the primary sampling unit, as applicable.

6.1.1 Take the number of primary sampling units from each lot, shipment, or production run in accordance with Practice E 122.

¹ This practice is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.65 on UV Protective Fabrics and Clothing.

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² *Annual Book of ASTM Standards*, Vol 07.01.

³ *Annual Book of ASTM Standards*, Vol 07.02.

⁴ *Annual Book of ASTM Standards*, Vol 14.02.

⁵ Available from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.