Designation: D5278 – 09

StandardTest Method for Elongation of Narrow Elastic Fabrics (Static-Load Testing)[1]

This standard is issued under the fixed designation D5278; 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 test method determines the elongation characteristics of narrow elastic fabrics made from natural or man-made elastomers, either alone or in combination with other textile fibers, when tested with a static load testing procedure before or after laundering.

NOTE 1—For determination of similar characteristics using the constant-rate-of-extension (CRE) type tensile testing machine, refer to Test Method D4964.

NOTE 2—For determination of similar characteristics using the constant-rate-of load (CRL) type tensile testing machine, refer to Test Method D1775.

1.2 The use of this test method requires the selection of, or mutual agreement upon, the effective static load at which the test results will be determined.

1.3 Laundering procedures used will be those specified in Test Method AATCC 135 for 3 washing and drying cycles.

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

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:*[2]

D123 Terminology Relating to Textiles

D1775 Test Method for Tension and Elongation of Wide Elastic Fabrics (Withdrawn 2000)[3]

D1776 Practice for Conditioning and Testing Textiles

D4848 Terminology Related to Force, Deformation and Related Properties of Textiles

D4850 Terminology Relating to Fabrics and Fabric Test Methods

D4964 Test Method for Tension and Elongation of Elastic Fabrics (Constant-Rate-of-Extension Type Tensile Testing Machine)

2.2 *AATCC Test Method:*

135 Dimensional Changes in Automatic Home Laundering of Woven and Knit Fabrics[4]

3. Terminology

3.1 For all terminology relating to D13.59, Fabric Test Methods, General, refer to Terminology D4850.

3.1.1 For all terminology related to Force, Deformation and Related Properties in Textiles see Terminology D4848.

3.1.2 The following terms are relevant to this standard: elongation, narrow elastic fabric, static load, in textile testing.

3.2 For all other terms related to textiles, see Terminology D123.

4. Summary of Test Method

4.1 Conditioned test specimens, laundered or unlaundered, are suspended and subjected to a specified loading. The static load is applied for a specified time, released, and the cycle repeated two more times. The percent elongation is read directly from the scale on the apparatus.

5. Significance and Use

5.1 This test method is considered satisfactory for acceptance testing of commercial shipments of narrow elastic fabrics because the test method is used in the trade for acceptance testing.

[1] This test method is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.59 on Fabric Test Methods, General.

Current edition approved Jan. 15, 2009. Published February 2009. Originally approved in 1992. Last previous edition approved in 2004 as D5278–98(2004). DOI: 10.1520/D5278-09.

[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 American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709, http://www.aatcc.org.