



Designation: ~~D5278-98 (Reapproved 2004)~~ Designation: D 5278 - 09

Standard Test Method for Elongation of Narrow Elastic Fabrics (Static-Load Testing)¹

This standard is issued under the fixed designation D 5278; 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 D 4964.

NOTE 2—For determination of similar characteristics using the constant-rate-of load (CRL) type tensile testing machine, refer to Test Method D 1775.

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 Textile Materials~~

D 123 [Terminology Relating to Textiles](#)

D 1775 [Test Method for Tension and Elongations of Wide Elastic Fabrics](#)³

D 1776 [Practice for Conditioning Textiles for Testing](#) Practice for Conditioning and Testing Textiles

D 4848 [Terminology Related to Force, Deformation and Related Properties of Textiles](#)

D 4850 [Terminology Relating to Fabrics and Fabric Test Methods](#) ~~38-49be-88a2-82b100fd4245/astm-d5278-09~~

D 4964 [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 Fabrics⁴

3. Terminology

3.1 *Definitions:*

3.1.1 *elongation, n*—the ratio of the extension of a material to the length of the material prior to stretching. (Compare extension.)

3.1.2 *narrow elastic fabric, n*—an elastic fabric that is less than 150 mm [6 in.] in width.

3.1.3 *static load, n*—*in textile testing*, a mass which exerts a force by means of the mass alone without motion (synonym, dead load).

3.1 For all terminology relating to D13.59, Fabric Test Methods, General, refer to Terminology D 4850.

3.1.1 For all terminology related to Force, Deformation and Related Properties in Textiles see Terminology D 4848.

3.1.2 The following terms are relevant to this standard: elongation, narrow elastic fabric, static load, in textile 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 Dec. 1, 2004. Published January 2005. Originally approved in 1992. Last previous edition approved in 1992 as D5278-92.

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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 Withdrawn. 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>.