



Designation: D5278/D5278M – 09 (Reapproved 2017)

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

This standard is issued under the fixed designation D5278/D5278M; 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 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, health and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *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.*

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.

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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*:

[35 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.

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>.