



Designation: D6207 – 03 (Reapproved 2019)

Standard Test Method for Dimensional Stability of Fabrics to Changes in Humidity and Temperature¹

This standard is issued under the fixed designation D6207; 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 covers the determination of the dimensional stability of fabrics that are intended for use on panel and screen systems to cycled changes in humidity and temperature.

1.1.1 Panel and screen systems include acoustic panels, free standing screens, office partitions, and furniture systems.

1.2 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.3 *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.*

1.4 *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:*²

D123 Terminology Relating to Textiles

D4850 Terminology Relating to Fabrics and Fabric Test Methods

D5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

D5035 Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)

3. Terminology

3.1 Definitions:

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 July 1, 2019. Published July 2019. Originally approved in 1997. Last previous edition approved in 2015 as D6207 – 03(2015). DOI: 10.1520/D6207-03R19.

² For referenced ASTM standards, visit the ASTM Web Site, 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 web site.

3.1.1 For all terminology related to D13.59 on Fabric Test Methods, General, see Terminology **D4850**.

3.1.1.1 The following terms are relevant to this standard: bench mark; dimensional change; dimensional stability.

3.1.2 For definitions of all other textile terms see Terminology **D123**.

4. Summary of Test Method

4.1 Dimensional change (growth and shrinkage) data is collected for a specimen of fabric that is subjected to controlled cycles of specified relative humidity and temperature conditions.

5. Significance and Use

5.1 The measured dimensional stability of a fabric determines whether a fabric has the potential to retain its original shape and remain stable, indicating it will not bubble or sag over time, when applied over a substrate, and its suitability for a specified use.

5.2 This test method is recommended for acceptance testing of commercial shipments however, caution is advised since information about between laboratory precision is incomplete. Comparative tests as directed in **5.2.1** are advisable.

5.2.1 If there are differences of practical significance between reported test results for two laboratories (or more), comparative test should be performed to determine if there is a statistical bias between them, using competent statistical assistance. At a minimum, use the samples for such a comparative test that are as homogeneous as possible, drawn from the same lot of material as the samples that resulted in disparate results during initial testing and randomly assigned in equal numbers to each laboratory. The test results from the laboratories involved should be compared using a statistical test for unpaired data, a probability level chosen prior to the testing series. If bias is found, either its cause must be found and corrected, or future test results for that material must be adjusted in consideration of the known bias.

5.3 This test method is used in industry to determine if a fabric grows, grows and then shrinks, shrinks and then grows, or remains the same when subjected to a specified range of humidity and temperature conditions.