



Designation: D6859 – 18

Standard Test Method for Pile Thickness of Finished Level Pile Yarn Floor Coverings¹

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1. Scope

1.1 This test method covers the determination of pile thickness of finished level pile yarn floor covering using a thickness measuring instrument having a stationary surface (platen), a circular pressure foot under specified force, and capable of being moved vertically above the platen.

1.2 This test method is applicable only to finished level loop, cutpile and cut & loop constructions with tuft heights less than 0.25 in. (6 mm).

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 *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.*

1.5 *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](#)

[D1776 Practice for Conditioning and Testing Textiles](#)

[D5684 Terminology Relating to Pile Floor Coverings](#)

[D5823 Test Method for Tuft Height of Pile Floor Coverings](#)

[E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process](#)

¹ This test method is under the jurisdiction of ASTM Committee [D13](#) on Textiles and is the direct responsibility of Subcommittee [D13.21](#) on Pile Floor Coverings.

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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. Terminology

3.1 For definitions of terms relating to Pile Floor Coverings, [D13.21](#), refer to Terminology [D5684](#). See also [Annex A1](#).

3.1.1 The following terms are relevant to this standard: carpet, finished, finished pile yarn floor covering, floor covering, pile, pile thickness, pile yarn floor covering, pitch, primary backing, shorn pile, stubble, stubble height, textile floor covering, tufted fabric.

3.2 For all other terminology related to textiles, refer to Terminology [D123](#).

4. Summary of Test Method

4.1 The total thickness of an unsheared strip specimen is measured as the distance between two parallel plates exerting a specified pressure on the test specimen. The pile yarn of the strip specimen is sheared down to a stubble. The backing thickness of the sheared strip specimen is measured as the distance between two parallel plates exerting a different specified pressure on the sheared strip specimen. The difference between the two measurements is the pile thickness.

5. Significance and Use

5.1 The determination of pile thickness of level pile yarn floor covering is useful in quality and cost control during the manufacture of pile yarn floor covering. The appearance and performance may be affected by changes in pile thickness of pile yarn floor coverings. This test method is considered satisfactory for acceptance testing of commercial shipments because current estimates of between laboratory precision are acceptable, and this test method is commonly used in the trade for acceptance testing.

5.2 If there are differences of practical significance between reported test results for two laboratories (or more), comparative tests should be performed to determine if there is a statistical bias between them, using competent statistical assistance. As a minimum, use the samples for such comparative tests that are as homogenous 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 a bias is found either its cause must be found and