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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Test Method for Tuft Element Length of Uncoated Pile Yarn Floor Coverings¹

This standard is issued under the fixed designation D 6283; 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 measurement of tuft length and pile yarn length of uncoated pile floor coverings.

1.2 Usually the tuft elements measured as directed in this test method will each be bound at only one binding site, but this test method also may be used for tuft elements bound at more than one binding site, provided that every tuft element measured is bound at the same number of binding sites.

1.3 The values stated in SI units are to be regarded as standard. The values stated in inch-pound units are provided as information only and are not exact equivalents. In case of referee decisions, the SI units shall prevail.

1.4 *This practice 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 practice to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- D 76 Specification for Tensile Testing Machines for Textiles²
- D 123 Terminology Relating to Textiles²
- D 1776 Practice for Conditioning Textiles for Testing²
- D 2904 Practice for Interlaboratory Testing of a Textile Test Method that Produces Normally Distributed Data²
- D 2906 Practice for Statements on Precision and Bias for Textiles²
- D 5684 Terminology Relating to pile Yarn Floor Coverings³

3. Terminology

3.1 *Definitions*—For definitions of pile yarn floor covering related terms, refer to Terminology D 5684. For definitions of other textile terms used in this test method, refer to Terminology D 123.

4. Summary of Test Method

4.1 The individual tuft elements of like character (cut or loop, and height) are removed from the test sample and placed,

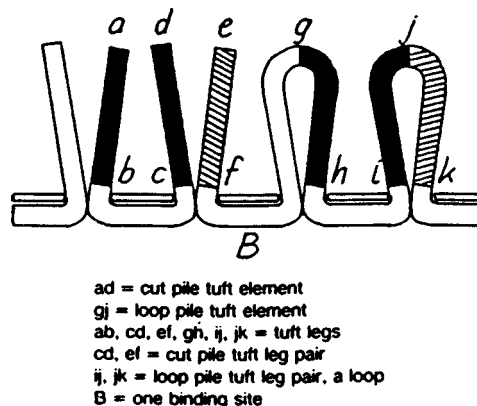


FIG. 1 Cross-Section of Tufted Pile Yarn Floor Covering

one at a time, in a grooved holder that maintains the tuft fibers in a straight line while the length of the tuft element is measured with a graduated scale and a magnifying glass.

4.2 In loop pile yarn floor covering, adjacent elements are first separated by cutting the connecting loops at the midpoint of the bend with sharp scissors before the tuft elements are withdrawn from the backing fabric.

5. Significance and Use

5.1 The determination of the tuft length of pile yarn floor covering is useful in quality and cost control during the manufacture of pile yarn floor covering. Both appearance and performance can be affected by changes in this characteristic.

5.2 In case there are disputable differences between reported test results for two or more laboratories, comparative tests should be performed to determine if there is a statistical bias between them, using competent statistical assistance. At a minimum, test samples should be used that are as homogeneous as possible, that are drawn from the material from which disputable test results were obtained, and that are assigned randomly in equal numbers to each laboratory for testing. The test results from the two laboratories should be compared using a statistical test for unpaired data, at a probability level chosen prior to the testing series. If a bias is found, either its cause must be found and corrected, or future test results must be adjusted in consideration of the known bias.

6. Apparatus

6.1 *Grooved Specimen Holders*—The holder shall be of a length at least 10 % longer than the longest tuft element to be measured. A 100-mm (4-in.) length normally will be adequate.

¹ This test method is under the jurisdiction of ASTM Committee D-13 on Textiles and is the direct responsibility of Subcommittee D13.21 on Pile Yarn Floor Coverings.

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² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 07.02.