



Standard Test Method for Tuft Height of Pile Floor Coverings¹

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1. Scope

1.1 This test method covers the determination of tuft height using a grooved specimen holder. It applies to cut-pile and loop-pile floor covering after adhesive backing has been applied to bond the pile yarn to the backing fabric.

1.2 The values stated in SI units are to be regarded as the standard for all measurements. The inch-pound values are provided for information purposes only.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

D 123 Terminology Relating to Textile Materials²

D 1909 Table of Commercial Moisture Regains for Textile Fibers²

E 122 Practice for Choice of Sample Size to Estimate a Measure of Quality for a Lot or Process³

3. Terminology

3.1 Definitions:

3.1.1 *tuft height, n*—for pile yarn floor covering, the length of a tuft leg.

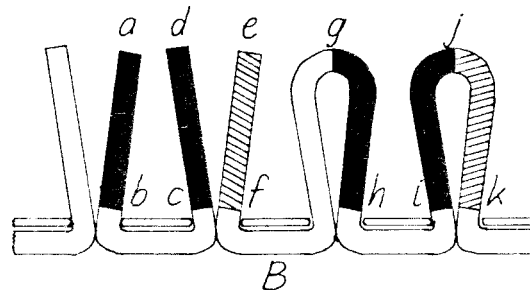
3.1.1.1 *Discussion*—The terms tuft height, pile height, and pile thickness are often confused due to the similarity of the terminology. Procedures for measurement of these properties are distinctly different and should not be interchanged. See Annex A1 for an explanation of the differences.

3.1.2 *tuft leg, n*—for pile yarn floor covering, one of the two portions of a tuft element that projects above the backing fabric on the pile side of the floor covering (see Fig. 1).

3.1.3 For definitions of other textile terms used in this test method, refer to Terminology D 123.

4. Summary of Test Method

4.1 For cut pile floor covering, individual tuft leg specimens



ad = cutpile tuft element

gj = loop pile tuft element

ab, cd, ef, gh, ij, jk = tuft legs

cd, ef = cut pile tuft leg pair

ij, jk = loop pile tuft leg pair, a loop

B = one binding site

FIG. 1 Cross Section of Tufted Pile Yarn Floor Covering

of like character (either cut or loop and of uniform height) are cut as closely as possible to the surface of the backing of a pile floor covering sample and placed, one at a time, in a grooved specimen holder that maintains the tuft yarn in a straight line while the length of the tuft leg is measured using a graduated scale and a magnifying glass.

4.2 For loop pile floor covering, the two tuft legs forming the loop are each severed from the adjacent binding sites at the backing surface to provide a specimen of twice the tuft height and the length measured as in 4.1.

5. Significance and Use

5.1 This test method 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 the tuft height.

5.1.1 In case of a dispute arising from differences in reported test results when using this test method for acceptance testing of commercial shipments, the purchaser and the supplier should conduct comparative tests to determine if there is a statistical bias between their laboratories. Competent statistical assistance is recommended for the investigation of bias. As a minimum, the two parties should take a group of test specimens that are as homogeneous as possible and are from a lot of material of the type in question. The test specimens should then be randomly assigned in equal numbers to each laboratory for testing. The average results from the two laboratories should be compared using Student's *t*-test for unpaired data and an acceptable probability level chosen by the

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² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 14.02.