



Designation: **D5684—12 D5684 – 19**

Standard Terminology Relating to Pile Floor Coverings¹

This standard is issued under the fixed designation D5684; 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 terminology is a compilation of all terminology developed by Subcommittee D13.21 on Pile Floor Covering.
- 1.2 This terminology is unique to the pile floor covering industry. Meanings if the same terms used outside the industry can be found in other compilations or in other dictionaries of general usage.
- 1.3 In addition to being a specialized dictionary, D5684 is also useful for managing the Terminology of the Subcommittee.
- 1.4 Terms listed under the jurisdiction of Subcommittee D13.21.
- 1.5 For definitions of other textile terms see Terminology **D123**.
- 1.6 This terminology is a compilation of all terminology developed by Subcommittee D13.21 on Pile Floor Covering.
- 1.7 *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](#)
- [D1335 Test Method for Tuft Bind of Pile Yarn Floor Coverings](#)
- [D2646 Guide for Backing Fabric Characteristics of Pile Yarn Floor Coverings](#)
- [D3936 Test Method for Resistance to Delamination of the Secondary Backing of Pile Yarn Floor Covering](#)
- [D5251 Practice for the Operation of the Tetrapod Walker Drum Tester \(Withdrawn 2014\)³](#)
- [D5252 Practice for the Operation of the Hexapod Tumble Drum Tester](#)
- [D5417 Practice for Operation of the Vettermann Drum Tester](#)
- [D5793 Test Method for Binding Sites per Unit Length or Width of Pile Yarn Floor Coverings](#)
- [D5823 Test Method for Tuft Height of Pile Floor Coverings](#)
- [D5848 Test Method for Mass Per Unit Area of Pile Yarn Floor Coverings \(Withdrawn 2019\)³](#)
- [D6119 Practice for Creating Surface Appearance Changes in Pile Yarn Floor Covering from Foot Traffic](#)
- [D6283 Test Method for Tuft Element Length of Uncoated Pile Yarn Floor Coverings](#)
- [D6540 Test Method for Accelerated Soiling of Pile Yarn Floor Covering](#)
- [D6719 Guide for Standard Test Methods and Practices for Evaluating Pile Yarn Floor Covering](#)
- [D6859 Test Method for Pile Thickness of Finished Level Pile Yarn Floor Coverings](#)
- [D6962 Practice for Operation of a Roller Chair Tester for Pile Yarn Floor Coverings](#)
- [D7241 Test Method for Pile Thickness of Finished Multilevel Pile Yarn Floor Covering](#)
- [D7267 Test Method for Edge Ravel Resistance of Finished Loop Pile, Pile Yarn Floor Covering](#)
- [D7330 Test Method for Assessment of Surface Appearance Change in Pile Floor Coverings Using Standard Reference Scales](#)

3. Terminology

3.1 Definitions:

¹ This terminology is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.21 on Pile Floor Coverings. Current edition approved July 1, 2012; May 15, 2019. Published August 2012; June 2019. Originally approved in 1995. Last previous edition approved in 2012 as **D5684—10-D5684 – 12**. DOI: [10.1520/D5684-12.10.1520/D5684-19](https://doi.org/10.1520/D5684-12.10.1520/D5684-19).

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.

attached cushion, *n*—*for pile yarn floor covering*, a material, bonded to the backing fabric side of a pile yarn floor covering to provide additional dimensional stability, thickness, and padding.

DISCUSSION—

Such products as foam, rubber, and urethane are used as attached cushion.

D3936

back coating, *n*—*in textile floor covering*, an adhesive compound applied for such purpose as locking pile yarn tufts into a carpet backing, bonding a secondary backing to a primary backing, increasing fabric body or stiffness and increasing dimensional stability.

D5793, D5848

backing, *n*—*in pile yarn floor covering*, all materials in a pile floor covering other than the pile yarn. **D5793, D5848, D6719**

backing fabric, *n*—*in textiles*, a fabric into which a pile yarn is inserted; or a reinforcing layer which is adhered to the reverse side of a fabric.

DISCUSSION—

In woven and knitted pile yarn floor coverings the backing fabric is created at the same time the pile yarn is bound to the backing fabric, but, in tufted pile yarn floor coverings, the backing fabric is made prior to the operation in which the pile yarn is fastened to the backing fabric. **D2646, D5793, D5848, D6719**

binding site, *n*—*for pile yarn floor covering*, a point at which the pile yarn is, or can be, bound to the backing fabric.

DISCUSSION—

In any machine-made pile yarn floor covering, the binding sites occur in an orderly and repetitive array at uniform intervals both in the lengthwise and widthwise directions of the pile yarn floor covering. The nature of the binding sites differs among woven, knitted, and tufted pile yarn floor coverings. For example, the binding site of a woven pile yarn floor covering consists of one or more filling shots under which the face yarn passes, whereas the binding site of a tufted pile yarn floor covering consists of a section of backing fabric between two adjacent needle holes in the lengthwise direction. The number of pile yarn strands that can be fastened at one binding site can vary from one to several, according to the design. **D5793, D5252, D5848, D6283, D6719**

buried pile yarn, *n*—*for coated pile yarn floor covering*, the part of pile yarn tufts which is in or under the primary backing.

D5793, D5848

carpet, *n*—a textile floor covering manufactured with natural or synthetic yarns, the construction can be tufted, woven or other method of manufacture to form a pile yarn use surface.

DISCUSSION—

The floor covering may or may not be installed over cushion, attached to the floor by mechanical means, tack strips, or adhesives. **D1335, D2646, D3936, D5251, D5252, D5417, D5793, D5848, D6119, D6283, D6540, D6719, D6859, D6962**

carpet module, *n*—textile floor covering sections usually having dimensions of less than 1 m². **D5848**

change in surface appearance—*for pile yarn floor coverings*, the physical affect of changing the use-surface by mechanical means or foot traffic.

DISCUSSION—

The change in surface appearance is the cumulative change in appearance between the unexposed and exposed test specimens due to matting, crushing, and loss of tuft definition. **D6119, D6719**

coefficient of friction, *n*—*for pile yarn floor covering*, the ratio of the horizontal component of force required to overcome or tend to overcome friction to the vertical component of the object weight or normal force applied through the object which tends to cause the friction.

components, *n*—*for pile yarn floor covering*, the individual yarn or fabric elements into which a pile yarn floor covering can be separated. **D5793, D5848**

crush, *n*—*in pile yarn floor coverings*, loss of tuft definition due to entanglement and compression of pile fibers. **D6119**

cut pile yarn floor covering, *n*—a pile floor covering in which the pile is composed of adjacent tuft elements that are separated or cut (see Fig. 1). **D1335, D5823, D6283**

delamination—See *resistance to delamination*.

delamination strength—the tensile force required to separate the component layers under specified force. [D13.21] **D3936, D5684**

dents per unit width, *n*—for woven pile floor covering, the number of binding sites per unit width; dents being the reed spaces through which the warp yarns pass in the loom or the metal strips in the reed that form these spaces. **D2646**

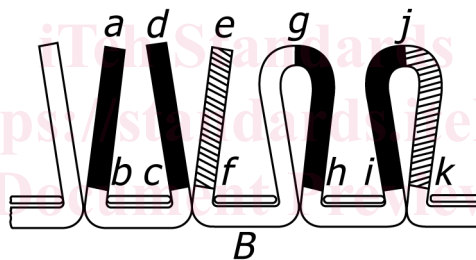
durability, *n*—for pile yarn floor coverings, a property of a pile yarn floor covering describing the ability to maintain specific physical properties or product integrity without deterioration after a significant amount of time or a significant extended stress. **D6962**

edge ravel, *n*—in pile yarn floor covering, the force required to pull a tuft element from a loop pile yarn floor covering along a seam in the lengthwise direction. **D7267**

finished, *adj*—in textile floor covering materials, the completion of all manufacturing operations. **D1335, D2646, D3936, D5251, D5252, D5417, D5793, D5823, D5848, D6119, D6283, D6540, D6719, D6859, D6962, D7241, D7267**

finished pile yarn floor covering, *n*—in textile floor covering materials, the pile yarn floor covering that has undergone all of the steps of the manufacturing process. **D1335, D2646, D3936, D5251, D5252, D5417, D5793, D5823, D5848, D6119, D6283, D6540, D6719, D6859, D6962, D7241, D7267**

floor covering, *n*—an essentially planar material, having a relatively small thickness in comparison to its length or width, that is laid on a floor to enhance the beauty, comfort, and utility of the floor. **D1335, D2646, D3936, D5251, D5252, D5417, D5793,**



ad = cut pile 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

D5823, D5848, D6119, D6283, D6540, D6719, D6859, D6962, D7241, D7267

foot traffic units, *n*—for pile floor covering, the number of passes by human walkers over a specific group of carpet samples. **D6119**

friction, *n*—for pile yarn floor covering, the resistance developed between the physical contacting surface of two bodies when there is movement or tendency for movement of one body relative to the other parallel to the plane of the contact.

fusion bonding, *n*—in pile yarn floor covering, a method of creating a carpet pile construction by attaching loops of yarn to a supporting adhesive material, usually PVC, to form either cut or loop pile structures.

fuzzing, *n*—in pile yarn floor coverings, surface appearance change due to the protrusion of broken or unbound fibers.

gage, *n*—of tufted pile yarn floor covering, the average distance between adjacent binding sites in the widthwise direction. [D13.21] **D5793, D3936, D1335, D2646, D5252, D5417, D5823, D5848, D6119, D6283, D6719, D6859, D6962, D7241, D7267**

lengthwise direction, *n*—for pile yarn floor covering, the direction in a machine-made textile floor covering parallel to the direction of movement during the manufacturing process.

DISCUSSION—