



Designation: **D4849 – 13 (Reapproved 2018) D4849 – 20**

## Standard Terminology Related to Yarns and Fibers<sup>1</sup>

This standard is issued under the fixed designation D4849; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This standard is a compilation of terminology developed by Committee D13.58 on Yarns and Fibers.

1.1.1 This terminology, mostly definitions, is unique to fibers and yarns used in the textile industry. Terms that are generally understood or adequately defined in other readily available sources are not included.

1.1.2 Subcommittee D13.58 has jurisdictional responsibility for every item in this standard. The standards in which the terms and definitions are used are listed by number after the definition. The wording of an entry cannot be changed without the approval of 13.58 subcommittee. Any changes approved by the subcommittee and main committee are then directed to subcommittee D13.92 on Terminology for subsequent changes or additions to Terminology **D123**.

1.1.3 This terminology standard is not all inclusive of the terms under the jurisdiction of Subcommittee D13.58. Other terminology standards under the jurisdiction of Subcommittee D13.58 are **D3888**, **D4466**, and **D4848**.

1.2 *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:<sup>2</sup>

**D76** Specification for Tensile Testing Machines for Textiles  
**D123** Terminology Relating to Textiles  
**D861** Practice for Use of the Tex System to Designate Linear Density of Fibers, Yarn Intermediates, and Yarns  
**D204** Test Methods for Sewing Threads  
**D1059** Test Method for Yarn Number Based on Short-Length Specimens  
**D1230** Test Method for Flammability of Apparel Textiles  
**D1244** Practice for Designation of Yarn Construction **D4849-20**  
**D1422** Test Method for Twist in Single Spun Yarns by the Untwist-Retwist Method  
**D1423** Test Method for Twist in Yarns by Direct-Counting  
**D1425** Test Method for Evenness of Textile Strands Using Capacitance Testing Equipment  
**D1577** Test Methods for Linear Density of Textile Fibers  
**D1578** Test Method for Breaking Strength of Yarn in Skein Form  
**D1907** Test Method for Linear Density of Yarn (Yarn Number) by the Skein Method  
**D2102** Test Method for Shrinkage of Textile Fibers (Bundle Test)  
**D2255** Test Method for Grading Spun Yarns for Appearance  
**D2258** Practice for Sampling Yarn for Testing  
**D2259** Test Method for Shrinkage of Yarns  
**D2260** Tables of Conversion Factors and Equivalent Yarn Numbers Measured in Various Numbering Systems  
**D2402** Test Method for Water Retention of Textile Fibers (Centrifuge Procedure)  
**D2612** Test Method for Fiber Cohesion in Sliver and Top (Static Tests)  
**D2494** Test Method for Commercial Mass of a Shipment of Yarn or Manufactured Staple Fiber or Tow  
**D2645** Tolerances for Yarns Spun on the Cotton or Worsted Systems  
**D2644** Tolerances for Yarns Spun on the Woolen System

<sup>1</sup> This terminology is under the jurisdiction of ASTM Committee **D13** on Textiles and is the direct responsibility of Subcommittee **D13.58** on Yarns and Fibers. Current edition approved July 1, 2018; May 15, 2020. Published August 2018. Originally approved in 1988. Last previous edition approved in 2013 as **D4849-13** (2013) **D4849-13** (2018).<sup>3</sup> DOI: 10.1520/D4849-13R18; 10.1520/D4849-20.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

D3106 Test Method for Permanent Deformation of Elastomeric Yarns  
 D3108 Test Method for Coefficient of Friction, Yarn to Solid Material  
 D3128 Specification for 2-Methoxyethanol  
 D3217 Test Methods for Breaking Tenacity of Manufactured Textile Fibers in Loop or Knot Configurations  
 D3218 Specification for Polyolefin Monofilaments  
 D3333 Practice for Sampling Manufactured Staple Fibers, Sliver, or Tow for Testing  
 D3334 Test Method for Fabrics Woven from Polyolefin Monofilaments (Withdrawn 1989)<sup>3</sup>  
 D3412 Test Method for Coefficient of Friction, Yarn to Yarn  
 D3513 Test Method for Overlength Fiber Content of Manufactured Staple Fiber  
 D3693 Specification for Labeled Length per Holder of Sewing Thread  
 D3822 Test Method for Tensile Properties of Single Textile Fibers  
 D3823 Practice for Determining Ticket Numbers for Sewing Threads  
 D3888 Terminology for Yarn Spinning Systems  
 D3937 Test Method for Crimp Frequency of Manufactured Staple Fibers  
 D3990 Terminology Relating to Fabric Defects  
 D4031 Test Method for Bulk Properties of Textured Yarns  
 D4120 Test Method for Fiber Cohesion in Roving, Sliver, and Top in Dynamic Tests  
 D4238 Test Method for Electrostatic Propensity of Textiles (Withdrawn 1996)<sup>3</sup>  
 D4466 Terminology Related to Multicomponent Textile Fibers  
 D4724 Test Method for Entanglements in Filament Yarns by Needle Insertion  
 D4848 Terminology Related to Force, Deformation and Related Properties of Textiles  
 D4849 Terminology Related to Yarns and Fibers  
 D4911 Tolerances for Yarns Made of Man-Made Fibers and Spun on the Parallel Worsted or Modified Worsted System (Withdrawn 2000)<sup>3</sup>  
 D5103 Test Method for Length and Length Distribution of Manufactured Staple Fibers (Single-Fiber Test)  
 D5104 Test Method for Shrinkage of Textile Fibers (Single-Fiber Test)  
 D5332 Test Method for Fiber Length and Length Distribution of Cotton Fibers (Withdrawn 2006)<sup>3</sup>  
 D5344 Test Method for Extension Force of Partially Oriented Yarn  
 D5647 Guide for Measuring Hairiness of Yarns by the Photo-Electric Apparatus  
 D6197 Test Method for Classifying and Counting Faults in Spun Yarns in Electronic Tests  
 D6587 Test Method for Yarn Number Using Automatic Tester  
 D6612 Test Method for Yarn Number and Yarn Number Variability Using Automated Tester  
 D6774 Test Method for Crimp and Shrinkage Properties for Textured Yarns Using a Dynamic Textured Yarn Tester (Withdrawn 2019)<sup>3</sup>

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### 3. Terminology

3.1 Alphabetical listings of terms with subcommittee 13.58 jurisdiction and attribution for each term.

**American grain count**, *n*—a direct yarn numbering system for expressing linear density, equal to the mass in grains per 120 yards of sliver or roving. **D2260**

**bad/good test (%BGT)**, *n*—an index value which shows the total spread, or greatest variation, for the test; mathematically, the difference between the highest and lowest mass readings determined in the test, expressed as a percentage of the average mass. **D6612**

**beam**, *n*—*in textiles*, a large spool containing many ends of yarn wound parallel, and used for such purposes as weaving or warp knitting. **D2258**

**beam set**, *n*—*in textiles*, one or more beams of yarn in a single shipment to be further processed together for a specific end use. **D2258**

**bench marks**, *n*—marks placed on a specimen to define gage length, that is, the portion of the specimen that will be evaluated in a specific test. **D76**

**boundary friction**, *n*—friction at low sliding speeds (0.02 m/min or less) where lubrication occurs under thin-film lubricant conditions. **D3412**

**broken filament**, *n*—*in multifilament yarn*, breaks in one or more filaments. **D3990**

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).