



Standard Test Method for Yarn Number Based on Short-Length Specimens¹

This standard is issued under the fixed designation D 1059; 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 determination of the yarn number of all types of cotton, woolen, worsted, and man-made fiber yarns taken from packages; or from any textile fabrics in which the yarns are intact and can be removed in measurable lengths. The test method is not applicable to yarns taken from napped or cut pile fabrics. Because this method is based on short-length specimens, the results should only be considered as approximations of yarn number.

NOTE 1—For a more precise procedure for the determination of yarn number, refer to Test Method D 1907.

NOTE 2—The following additional methods for the determination of yarn number have been approved for yarns made from specific fibers: Specifications D 541, D 578, and D 681.

1.2 This test method is applicable to yarns which stretch less than 5 % when tension on yarn is increased from 0.25 to 0.75 cN/tex (0.25 to 0.75 gf/tex). By mutual agreement it may be adapted to yarns which stretch more than 5 % by use of tension lower than that specified in the method for elastomers or use of tension higher than that specified in the method to pull the crimp out of textured yarns.

1.3 The values stated in SI units are to be regarded as standard; the values in inch-pound units are reported as information only.

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 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 Textiles²
- D 541 Specification for Single Jute Yarn³
- D 578 Specification for Glass Fiber Strands²
- D 629 Test Methods for Quantitative Analysis of Textiles²
- D 681 Specification for Jute Rove and Plied Yarn for Electrical and Packing Purposes²

¹ This test method is under the jurisdiction of ASTM Committee D-13 on Textiles and is the direct responsibility of Subcommittee D13.58 on Yarn Test Methods, General.

Current edition approved March 10, 1997. Published August 1997. Originally published as D 1059 – 49 T. Last previous edition D 1059 – 96.

² Annual Book of ASTM Standards, Vol 07.01.

³ Discontinued; see 1996 Annual Book of ASTM Standards, Vol 07.01.

D 1423 Test Method for Twist in Yarns by the Direct-Counting Method²

D 1776 Practice for Conditioning Textiles for Testing²

D 1907 Test Method for Yarn Number by the Skein Method²

D 2258 Practice for Sampling Yarn for Testing²

3. Terminology

3.1 Definitions:

3.1.1 *cotton count, n*—an indirect yarn numbering system generally in the cotton system equal to the number of 840-yd lengths of yarn per pound.

3.1.2 *cut, n*—in asbestos and glass yarns, the number of 100-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.3 *cut, n*—in wool yarns, the number of 300 yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.4 *denier, n*—a unit of linear density, equal to the mass in grams per 9000 m of fiber yarn, or other textile strand that is used in direct yarn numbering system. (See also *linear density*.)

3.1.5 *direct yarn numbering system, n*—a system that expresses yarn linear density (number). (See also *denier, spyndle number, and tex*.)

3.1.6 *grex, n*—an obsolete direct numbering system for fiber yarn, or other textile strand equal to the mass in grams per 10 000 m. (See also *linear density*.)

3.1.7 *indirect yarn numbering system, n*—a system that expresses yarn as the reciprocal linear density (number). (See also *cotton count, metric count, worsted count, cut, and run*.)

3.1.8 *lea, n*—in cotton yarns, the number of 120-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.9 *lea, n*—in linen yarns, the number of 300-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.10 *linear density, n*—mass per unit length.

3.1.11 *metric count, n*—an indirect yarn numbering system for sliver roving, and yarn, equal to the number of 1000 m per kilogram.

3.1.12 *run, n*—in the American woolen system, the number of 1600-yd lengths of yarn per pound; an indirect yarn numbering system generally used for yarns spun on the woolen system.

3.1.13 *tex, n*—the unit of linear density, equal to the mass in grams of 1000 metres of fiber, or other textile strand that is used in a direct yarn numbering system. (See also *linear density and direct yarn numbering system*.)