



Designation: D 2259 – 9602

Standard Test Method for Shrinkage of Yarns¹

This standard is issued under the fixed designation D 2259; 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.

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1. Scope

1.1 This test method is used to determine the shrinkage of yarns in skein form when treated in boiling water, dry heat, saturated steam, or solvents. This test method is applicable to yarns made from any fiber or combination of fibers where the tex of the yarn is known or can be determined. This test method is not recommended for elastomeric yarns and those yarns that stretch more than 5 % under the tension loadings prescribed, although it has been used for the latter.

NOTE 1—Procedures for determining yarn shrinkage and bulk properties of textured yarns are covered in Test Method D 4031.

1.2 This test method shows the values in both SI and inch-pound units. “SI” units is the technically correct name for the system of metric units known as the International System of Units. “Inch-pound” units is the technically correct name for the customary units used in the United States. The values stated in either SI units or in other units shall be regarded as standard. The values expressed in each system may not be exact equivalents; therefore each system must be used independently of the other without combining in any way.

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 Textiles²

D 1059 Test Method for Yarn Number Based on Short-Length Specimens²

D 1776 Practice for Conditioning Textiles for and Testing Textiles²

D 1907 Test Method for Linear Density of Yarn (Yarn Number) by the Skein Method²

D 2258 Practice for Sampling Yarn for Testing²

D 2259 Test Method for Shrinkage of Yarns²

D 4031 Test Method for Bulk Properties of Textured Yarns 3888 Terminology Related to Open-End Spinning³

D 3990 Terminology Relating to Fabric Defects³

D 4031 Test Method for Bulk Properties of Textured Yarns³

D 4848 Terminology of Force, Deformation and Related Properties of Textiles³

D 4849 Terminology Relating to Fibers and Yarns³

E 145 Specification for Gravity-Convection and Forced-Ventilation Ovens⁴

3. Terminology

3.1 Definitions:

3.1.1 ~~extension, *n*—the change in length~~

3.1.1 For definitions of a material due to stretching:

3.1.1.1 ~~Discussion—In yarn shrinkage testing, extension is usually expressed as a percentage of the length prior to exposure. For yarns textile terms used in skein form, this change is an increase in loop length. Extension is sometimes referred test method: skein and skein loop-length, refer to as “negative” shrinkage or growth.~~

² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 07.02.

⁴ Annual Book of ASTM Standards, Vol 14.02.