



Standard Test Method for Diameter of Wool and Other Animal Fibers by Microprojection¹

This standard is issued under the fixed designation D2130; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This test method covers a procedure, using the microprojector, for the determination of the average fiber diameter and the fiber diameter variation on wool and other animal fibers, such as mohair, cashmere, alpaca, camel's hair, etc. (Note 1) in their various forms.

1.2 The values stated in inch-pound units are to be regarded as the standard. The metric equivalents of inch-pound units may be approximate.

NOTE 1—This test method may also be applied to any fibers having a round cross section and accordingly may be used many times for melt-spun man-made fibers such as polyamides, polyesters, and glass; also it may be applied to a limited number of polyacrylics and regenerated cellulose type fibers. The values given in Appendix X1 for density and correction factors, however, apply only to wool and should not be used for other fibers. For suitable values for the density of other fibers, see Table 5 in Test Methods D629, Quantitative Analysis of Textiles.

NOTE 2—In subsequent sections of this test method, the term “wool” also signifies mohair or other fibers if the circumstances are applicable.

NOTE 3—For fineness specifications for wool, wool top, mohair, mohair top, alpaca, and cashmere, refer to Specifications D3991 and D3992, Specification D2252, Test Method D2816.

1.3 *This standard does not purport to address 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:²

D123 Terminology Relating to Textiles

D584 Test Method for Wool Content of Raw Wool—Laboratory Scale

D629 Test Methods for Quantitative Analysis of Textiles

D1060 Practice for Core Sampling of Raw Wool in Packages for Determination of Percentage of Clean Wool Fiber Present

D1776 Practice for Conditioning and Testing Textiles

D2252 Specification for Fineness of Types of Alpaca

D2258 Practice for Sampling Yarn for Testing

D2816 Test Method for Cashmere Coarse-Hair Content in Cashmere

D2968 Test Method for Med and Kemp Fibers in Wool and Other Animal Fibers by Microprojection

D3992 Specifications for Fineness of Wool Top or Mohair Top and Assignment of Grade

D4845 Terminology Relating to Wool

E380 Practice for Use of the International System of Units (SI) (the Modernized Metric System) (Withdrawn 1997)³

2.2 Other Standards:

Federal Standard, Official Standard of the United States for Grades of Wool, Section 31.0, Measurement Method for Determining Grade of Wool, Section 31.204⁴

IWTO-8-66(E) Method of Determining Wool Fiber Diameter by the Projection Microscope⁵

3. Terminology

3.1 For all terminology related to D13.13, Wool and Felt, see Terminology D4845.

3.1.1 The following terms are relevant to this standard: average fiber diameter, grade.

3.2 For definitions of all other textile terms see Terminology D123.

4. Summary of Test Method

4.1 This test method describes procedures for sampling various forms of wool and other animal fibers, the reduction of

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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.

⁴ Service and Regulatory Announcement, No. 135, U. S. Department of Agriculture, C & MS, April 1966.

⁵ International Wool Textile Organization, International Wool Secretariat, Raw Wool Services, Valley Drive, Ilkley, Yorkshire LS29 8PB, England.