



Designation: D3992 – 94 (Reapproved 2006)

Standard Specifications for Fineness of Wool Top or Mohair Top and Assignment of Grade¹

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1. Scope

1.1 These specifications are applicable in the classification, by fineness grade, of the fiber in wool top, mohair top, wool yarns, mohair yarns, wool fabrics, and mohair fabrics of the worsted type.

NOTE 1—For fineness specifications for wool, mohair, and alpaca, refer to Specifications [D3991](#) and [D2252](#).

2. Referenced Documents

2.1 ASTM Standards:²

[D123 Terminology Relating to Textiles](#)

[D2130 Test Method for Diameter of Wool and Other Animal Fibers by Microprojection](#)

[D2252 Specification for Fineness of Types of Alpaca](#)

[D3991 Specifications for Fineness of Wool or Mohair and Assignment of Grade](#)

2.2 Federal Standards:

[Official Standards of the United States for Grades of Wool Top, Section 31.100](#)³

Measurement Method for Determining Grade of Wool Top, Section 31.301³

[Official Standards of the United States for Grades of Mohair Top, Section 32.100](#)⁴

Measurement Method for Determining Grade of Mohair Top, Section 32.302⁴

3. Terminology

3.1 Definitions:

3.1.1 *average fiber, diameter, n*—in wool and other animal fibers, the average width of a group of fibers when measured on a projected image.

3.1.2 *fineness, n*—of textile fibers, a relative measure of size, diameter, linear density, or mass per unit length expressed in a variety of units.

3.1.2.1 *Discussion*—The fineness of wool and other animal fibers is expressed as the average fiber width or average fiber diameter in micrometres (μm).

3.1.3 *grade, n*—in wool and mohair, a numerical designation used in classifying wool and mohair in their raw, semi-processed, and processed forms based on average fiber diameter and variation of fiber diameter.

3.1.3.1 *Discussion*—This specification expresses the variation in fiber diameter by means of distribution of fiber diameter measurements.

3.1.3.2 The term “grade” should not be confused with the terms “quality” and “type.” “Quality” is a term that includes not only fineness but also characteristics such as length, crimp, strength, elasticity, luster, tactile hand, and color, all of which affect the spinnability of the fiber and the properties of the resulting yarn and fabric. The Bradford designations, for which no standards exist, use a scale similar to that for grade designations (for example: 64s, 56s, and so forth) and refer to quality and not solely to fineness. “Type” is a term designating a particular combination of characteristics applicable to a specific use or descriptive of geographical origin, breed of sheep, or preparation for market.

3.1.4 *mohair, n*—the hair of the Angora goat, *Capra* species.

3.1.5 *top, n*—in wool, a continuous untwisted strand of wool fibers from which the shorter fibers or noils have been removed by combing.

3.1.6 *wool, n*—the fibrous covering of the sheep, *Ovis* species.

3.1.7 For definitions of other textile terms used in these specifications, refer to Terminology [D123](#).

4. Requirements

4.1 The grade of wool top shall conform to [Table 1](#).

4.2 The grade of mohair top shall conform to [Table 2](#).

¹ These specifications are under the jurisdiction of ASTM Committee [D13](#) on Textiles and are the direct responsibility of Subcommittee [D13.13](#) on Wool and Wool Felt.

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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 *Federal Register*, Vol 33, No. 248, Dec. 21, 1968, pp. 19073–19076.

⁴ *Federal Register*, Vol 38, No. 4, Jan. 8, 1976, pp. 964–967.