



Designation: D1282 – 18

Standard Test Method for Resistance to Airflow as an Indication of Average Fiber Diameter of Wool Top, Card Sliver, and Scoured Wool¹

This standard is issued under the fixed designation D1282; 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 estimation of the average fiber diameter of wool fibers by use of the Port-Ar and the WIRA Fiber Fineness Meter instrument, which operate on the air-flow principle. Other air-flow instruments have not been tested with this method. The method is directly applicable to non-medullated, carded wool and wool top.

1.2 This test method is applicable to grease wool and scoured wool after the samples of such materials have been prepared as directed in Test Method [D2130](#).

NOTE 1—The use of the Micronaire instrument for measuring the fineness of cotton fibers is covered in Test Method [D1448](#).

The assignment of grade for wool and mohair is covered in Specifications [D3991](#) and [D3992](#).

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *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:*²

[D123 Terminology Relating to Textiles](#)

[D1060 Practice for Core Sampling of Raw Wool in Packages for Determination of Percentage of Clean Wool Fiber Present](#)

[D1448 Test Method for Micronaire Reading of Cotton Fibers](#)

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

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

[D3992 Specifications for Fineness of Wool Top or Mohair Top and Assignment of Grade](#)

[D4845 Terminology Relating to Wool](#)

2.2 *Other Standard:*

[IWTO-6-92\(E\) Method of Test for the Determination of The Mean Diameter of Wool Fibers in Combed Sliver Using the Air-Flow Apparatus](#)

[IWTO-28-82\(E\) Determination By The Airflow Method of the Mean Fibre Diameter of Core Samples of Raw Wool](#)

3. Terminology

3.1 For all terminology related to wool and wool felt, refer to Terminology [D4845](#).

3.1.1 The following terms are relevant to this standard: sliver, specific area, top, and wool.

3.2 For all other terminology related to textiles, see Terminology [D123](#).

4. Summary of Test Method

4.1 The resistance to air flow of predetermined mass of wool compressed to a fixed volume is measured. The instruments approved for use have been calibrated to read average diameter in micrometres. Specimens of wool top are rated with a Wool Top Scale and specimens of carded, scoured wool and scoured 1/2-in. (13.0-mm) cores are rated with a Scoured Wool Scale. If instruments are properly calibrated, results are interchangeable.

5. Significance and Use

5.1 This test method is not recommended for the acceptance testing of commercial shipments of wool top, card sliver, or scoured wool since the referee method, Test Method [D2130](#), is recommended for that purpose. Although this test method is not recommended for acceptance testing, it is useful for fast quality control checks.

5.1.1 If there are differences of practical significance between reported test results for two laboratories (or more), comparative test should be performed to determine if there is a

¹ This test method is under the jurisdiction of ASTM Committee [D13](#) on Textiles and is the direct responsibility of Subcommittee [D13.13](#) on Wool and Felt.

Current edition approved July 1, 2018. Published July 2018. Originally approved in 1953. Last previous edition approved in 2005 as D1282 – 05 (2009) which was withdrawn January 2018 and reinstated in July 2018. DOI: 10.1520/D1282-18.

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.