



Designation: D 1575 – 90 (Reapproved 1995)

Standard Test Method for Fiber Length of Wool in Scoured Wool and in Card Sliver¹

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1. Scope

1.1 This test method covers the estimation of the average fiber length and length distribution of wool in nonparallel assemblies, such as scoured wool, and in card sliver.

1.2 This test method is applicable to many fibers other than wool if in the form of a nonparallel assembly or in a card sliver.

1.3 This test method is not applicable to unscoured wool or to wool top.

1.4 This test method specifically requires length in inches and mass in metric units, and is not contrary to ASTM policy. The values stated in inch-pound units are to be regarded as the standard. The information in parentheses is for information only.

NOTE 1—The determination of staple length of grease wool is covered in Method D 1234, Sampling and Testing Staple Length of Grease Wool,² and the average length of fibers in wool top is covered in Test Method D 519.

1.5 *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:

D 123 Terminology Relating to Textiles²

D 1234 Method for Sampling and Testing Staple Length of Grease Wool²

D 519 Test Method for Length of Fiber in Wool Top²

D 1776 Practice for Conditioning Textiles for Testing²

3. Terminology

3.1 Definitions:

3.1.1 *carded wool, n*—scoured wool which has been processed through a carding machine.

3.1.2 *scoured wool, n*—wool from which the bulk of impurities has been removed by an aqueous or solvent washing process.

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

3.1.4 For definitions of other textile terms used in this test method, refer to Terminology D 123.

4. Summary of Test Method

4.1 The sample or test specimen is prepared for measurement by hand carding when necessary, manipulated on a comb sorter, and separated into definite length increments. The weight of the fibers in each length increment is obtained, and from these data estimates of the weight-biased average fiber length and weight-biased length distribution are calculated.

5. Significance and Use

5.1 This test method is not recommended for acceptance testing due to its poor between-laboratory precision. In some cases the purchaser and the seller may have to test a commercial shipment of one or more specific materials by the best available method even though the method has not been recommended for acceptance testing of commercial shipments. In such a case, if there is a disagreement arising from differences in values reported by the purchaser and the seller when using this method for acceptance testing, the statistical bias, if any, between the laboratory of the purchaser and the laboratory of the seller should be determined with each comparison being based on testing specimens randomly drawn from one sample of material of the type being tested.

5.2 A knowledge of the average length and length distribution of fibers is important to fiber processors. This method is useful for inplant control testing and for research purposes.

6. Apparatus

6.1 *Comb Sorter*, similar to that described in Section 6, of Test Method D 519,³ but provided with the modifications discussed in Note 2.

NOTE 2—For specimens in which the longest fibers do not exceed 6 in. (150 mm), the test can be performed on one 15-in. (380-mm) sorter. For specimens in which the longest fibers exceed 6 in., two sorters, 8-in. (200-mm) or 15-in., shall be used. When two sorters are used, no alteration is required. When one 15-in. sorter is used, the sorter shall be altered. As shown in Fig. 1, an additional faller supporting rod shall be inserted from the rear of the sorter to support faller bars 9 through 15. Holding brackets for supporting two retaining bars at the rear of the sorter

¹ This test method is under the jurisdiction of ASTM Committee D-13 on Textiles, and is the direct responsibility of Subcommittee D13.13 on Wool and Wool Felt.

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² *Annual Book of ASTM Standards*, Vol 07.01.

³ Apparatus meeting these requirements is furnished by Alfred Suter Co., Prell Plaza, Orangeburg, NY 10962.