



Designation: D2495 – 07 (Reapproved 2024)

Standard Test Method for Moisture in Cotton by Oven-Drying¹

This standard is issued under the fixed designation D2495; 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 determination of the amount of moisture in cotton by oven-drying and is applicable to raw cotton, cotton stock in process, and cotton waste.

1.2 This test method may also, by agreement, be used for determining moisture in blends of cotton with other fibers.

1.3 This test method offers alternative procedures for weighing the dried specimens, one procedure using an oven balance (9.3) and the other using a desiccator (9.4).

NOTE 1—For other methods of determination of moisture in textile materials refer to Test Method D2654, which includes two options based on drying in an oven, and one option based on distillation with an immiscible solvent: Test Methods D885/D885M, Test Method D1576, Test Method D2462.

1.4 The values stated in SI units are to be regarded as the standard. No other units are included in this standard.

1.5 *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.*

1.6 *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

D885/D885M Test Methods for Tire Cords, Tire Cord Fabrics, and Industrial Filament Yarns Made from Manu-

factured Organic-Base Fibers (Withdrawn 2023)³

D1441 Practice for Sampling Cotton Fibers for Testing

D1576 Test Method for Moisture in Wool by Oven-Drying

D2462 Test Method for Moisture in Wool by Distillation With Toluene

D2654 Test Methods for Moisture in Textiles

D7139 Terminology for Cotton Fibers

3. Terminology

3.1 For all terminology relating to D13.11, Cotton Fibers, refer to Terminology D7139.

3.1.1 The following terms are relevant to this standard: cotton waste, ginned lint (cotton), lint cotton, moisture content, moisture-free, moisture regain, oven-dry, percentage point, raw cotton, seed cotton, stock in process.

3.2 For all other terminology related to textiles, refer to Terminology D123.

4. Summary of Test Method

4.1 Specimens are weighed, dried in an oven, and reweighed. The difference between the original mass and the oven-dry mass is calculated in percent, either as moisture content or moisture regain.

5. Significance and Use

5.1 This test method for testing the moisture content of cotton can be used for acceptance testing of commercial shipments of lint cotton provided the between-laboratory bias is known.

5.1.1 If there are differences or practical significance between reported test results for two laboratories, or more, comparative test should be performed to determine if there is a statistical bias, using competent statistical assistance. As a minimum, use test samples as homogeneous as possible, drawn from the material from which the disparate test results are obtained, and assigned randomly in equal numbers to each laboratory for testing. Other materials with established test values may be used for this purpose. Compare the test results from the two laboratories using a statistical test for unpaired data at a probability level chosen prior to the testing series. If

¹ This test method is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.11 on Cotton Fibers.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. 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.