



Designation: D3773 – 07

Standard Test Methods for Length of Woven Fabric¹

This standard is issued under the fixed designation D3773; 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 Department of Defense.

1. Scope

1.1 These test methods cover four options for measuring fabric length and are applicable to full rolls or bolts of materials.

1.2 There are four approved options of measuring length as follows:

- 1.2.1 *Option A*—Hand (Section 6).
- 1.2.2 *Option B*—Drum (Section 7).
- 1.2.3 *Option C*—Clock (Section 8).
- 1.2.4 *Option D*—Folding (Section 9).

1.3 The values stated in either SI units or in U.S. customary units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

1.4 *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 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
 - D1776 Practice for Conditioning and Testing Textiles
 - D4850 Terminology Relating to Fabrics and Fabric Test Methods

3. Terminology

3.1 For all terminology relating to D13.60, Fabric Test Methods, Specific, refer to Terminology D4850.

3.1.1 The following terms are relevant to this standard: length, stable fabric, woven fabric

¹ These test methods are under the jurisdiction of ASTM Committee D13 on Textiles and are the direct responsibility of Subcommittee D13.60 on Fabric Test Methods, Specific.

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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.

3.2 For definitions of other textile terms used in this test method, refer to Terminology D123.

4. Summary of Test Methods

4.1 The length is measured from one end of the fabric to the other, using a suitable graduated device, or apparatus as described in the option used.

5. Conditioning

5.1 Condition the specimens as directed in Practice D1776.

5.2 When full rolls or bolts of fabric cannot be properly conditioned in a reasonable time with available facilities, perform the tests without conditioning and report the actual conditions prevailing at the time of the test. Such results may not correspond with the results obtained after testing in the standard atmosphere for testing textiles.

6. Option A—Hand

6.1 *Significance and Use*—The hand method specifies that the length of a fabric be measured in a relaxed tension-free manner. This test method is the referee method to which all other test methods shall be compared for the establishment of their accuracy. This test method can be used for acceptance testing, although it is not used as a general practice because it is too time consuming.

6.1.1 In case of a dispute arising from differences in reported test values when using Test Methods D3773 for acceptance testing of commercial shipments, the purchaser and supplier should conduct comparative tests to determine if there is a statistical bias between their laboratories. Competent statistical assistance is recommended for the investigation of bias. As a minimum, the two parties should take a group of test specimens which are as homogeneous as possible and which are from a lot of material of the type in question. The test specimens should then be randomly assigned in equal numbers to each laboratory for testing. The average results from the two laboratories should be compared using Student's *t*-test for unpaired data and an acceptable probability level chosen by the two parties before testing is begun. If a bias is found, either its cause must be found and corrected or the purchaser and the supplier must agree to interpret future test results in the light of the known bias.

6.2 *Apparatus*: