



Standard Test Method for Yarn Number Using Automatic Tester¹

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^{ε1} NOTE—The units statement was updated editorially in October 2013.

1. Scope

1.1 This test method covers the measurement of yarn number of filament and spun yarns using automated testers. Some of the instruments are stand-alone and others are optional modules for instruments that perform additional tests.

1.1.1 The instruments are capable of measuring yarn numbers up to 4000 dtex (3600 denier).

NOTE 1—For determination of yarn number by use of reel and balance, refer to Test Method [D1907](#).

1.2 The values stated in SI units are to be regarded as standard.

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 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](#)

[D1907 Test Method for Linear Density of Yarn \(Yarn Number\) by the Skein Method](#)

[D2258 Practice for Sampling Yarn for Testing](#)

[D4849 Terminology Related to Yarns and Fibers](#)

3. Terminology

3.1 For all terminology relating to D13.58, Yarns and Fibers, refer to Terminology [D4849](#).

3.1.1 The following terms are relevant to this standard: cotton count, denier, linear density, tex, yarn number, yarn numbering system.

3.2 For all other textile terms used in this test method, see Terminology [D123](#).

4. Summary of Test Method

4.1 A specified length of yarn (specimen) is automatically stripped directly from the package, cut, and weighed. The yarn number is calculated by an interfaced computer, displayed on a monitor, and may be printed. The yarn number can be reported in tex, denier, or cotton count units.

5. Significance and Use

5.1 This test method for yarn number is satisfactory for acceptance of commercial shipments and is used in the trade.

5.1.1 In case of a dispute arising from differences in reported test results when using this Test Method for acceptance testing of commercial shipments, the purchaser and the supplier should either use the referee Test Method [D1907](#) for yarn number or 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 that are as homogeneous as possible and that 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 appropriate statistical analysis and a probability level chosen by the two parties before the 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 with consideration to the known bias.

5.2 This test method is also used for the quality control for both filament and spun yarns.

6. Apparatus

6.1 *Automatic Yarn Numbering Instrument*, with interfaced computer.

6.1.1 *ACW (Automatic Cut and Weigh) Yarn Tester*,³ Series T for textile yarns, Series BCF for bulked continuous filament

¹ This test method is under the jurisdiction of ASTM Committee [D13](#) on Textiles and is the direct responsibility of Subcommittee [D13.58](#) on Yarns and Fibers.

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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 Available from W. Fritz Mezger, Inc., 155 Hall St., Spartanburg, SC 29302-1523 and Lenzing Technik GmbH & Co KG, 4860 Lenzing, Austria.