



Standard Guide for Measuring and Reporting Friction Coefficients¹

This standard is issued under the fixed designation G 115; 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 guide covers information to assist in the selection of a method for measuring the frictional properties of materials. Requirements for minimum data and a format for presenting these data are suggested. The use of the suggested reporting form will increase the long-term usefulness of the test results within a given laboratory and will facilitate the exchange of test results between laboratories. It is hoped that the use of a uniform reporting format will provide the basis for the preparation of handbooks and computerized databases.

1.2 This guide applies to most solid materials and to most friction measuring techniques and test equipment.

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

- B 460 Test Method for Dynamic Coefficient of Friction and Wear of Sintered Metal Friction Materials Under Dry Conditions³
- B 461 Test Method for Frictional Characteristics of Sintered Metal Friction Materials Run in Lubricants³
- B 526 Test Method for Coefficient of Friction and Wear of Sintered Metal Friction Materials Under Dry-Clutch Conditions³
- C 808 Guideline for Reporting Friction and Wear Test Results of Manufactured Carbon and Graphite Bearing and Seal Materials
- D 1894 Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheet

- D 2047 Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine
- D 2394 Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring
- D 2714 Test Method for Calibration and Operation of the Falex Block-on-Ring Friction and Wear Testing Machine
- D 3028 Test Method for Kinetic Coefficient of Friction of Plastic Solids³
- D 3108 Test Method for Coefficient of Friction, Yarn to Solid Material
- D 3247 Test Method for Coefficient of Static Friction of Corrugated and Solid Fiberboard (Horizontal Plane Method)³
- D 3248 Test Method for Coefficient of Static Friction of Corrugated and Solid Fiberboard (Inclined Plane Method)³
- D 3334 Methods of Testing Fabrics Woven from Polyolefin Monofilaments³
- D 3412 Test Method for Coefficient of Friction, Yarn-to-Yarn
- D 4103 Practice for Preparation of Substrate Surfaces for Coefficient of Friction Testing
- E 122 Practice for Choice of Sample Size to Estimate, With a Specified Tolerable Error, the Average of a Lot or Process
- E 303 Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
- E 510 Practice for Determining Pavement Surface Frictional and Polishing Characteristics Using a Small Torque Device
- E 670 Test Method for Side Force Friction on Paved Surfaces Using the Mu-Meter
- E 707 Test Method for Skid Resistance Measurements Using the North Carolina State University Variable-Speed Friction Tester
- F 489 Test Method for Static Coefficient of Friction of Shoe Sole and Heel Materials as Measured by the James Machine
- F 609 Test Method for Static Slip Resistance of Footwear, Sole, Heel, or Related Materials by Horizontal Pull Slipmeter (HPS)
- F 695 Practice for Evaluation of Test Data Obtained by Using the Horizontal Pull Slipmeter (HPS) or the James

¹ This guide is under the jurisdiction of ASTM Committee G02 on Wear and Erosion and is the direct responsibility of Subcommittee G02.50 on Friction.

Current edition approved May 1, 2004. Published June 2004. Originally approved in 1993. Last previous edition was approved in 2004 as G 115 - 98 (2004)^{ε1}.

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 Withdrawn.