



Designation: D2936 – 20

Standard Test Method for Direct Tensile Strength of Intact Rock Core Specimens¹

This standard is issued under the fixed designation D2936; 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 direct tensile strength of the rock substance or discontinuities normal to the longitudinal axis of intact, isotropic cylindrical rock specimens at room temperature.

1.2 Non-isotropic or even transversely isotropic specimens are not covered by this standard.

1.3 Cylindrical rock specimens can be drill core from the field or rock blocks transported to the laboratory and drill core specimen obtained there.

1.4 Specimen shapes other than cylindrical specimens, such as dog bone-shaped, are not covered by this standard.

1.5 Test specimens may be tested under constant load or deformation rate.

1.6 The values stated in SI units are to be regarded as standard. The values provided in parenthesis are for information only.

1.7 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026 unless superseded by this standard.

1.8 *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.*

1.9 *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.*

¹ This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.12 on Rock Mechanics. Current edition approved Jan. 1, 2020. Published March 2020. Originally approved in 1970. Last previous edition approved in 2008 as D2936 – 08, which was withdrawn January 2017 and reinstated in January 2020. DOI: 10.1520/D2936-20

2. Referenced Documents

2.1 *ASTM Standards:*²

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D2113 Practice for Rock Core Drilling and Sampling of Rock for Site Exploration

D2216 Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

D2845 Test Method for Laboratory Determination of Pulse Velocities and Ultrasonic Elastic Constants of Rock (Withdrawn 2017)

D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

D1541 Practices for Preparing Rock Core as Cylindrical Test Specimens and Verifying Conformance to Dimensional and Shape Tolerances

D5679 Practices for Preserving and Transporting Rock Core Samples (Withdrawn 2017)³

D6026 Practice for Using Significant Digits in Geotechnical Data

E4 Practices for Force Verification of Testing Machines

E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process

E2586 Practice for Calculating and Using Basic Statistics

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of common technical terms used in this standard, refer to Terminology D653.

3.2 *Definitions of Terms Specific to This Standard:*

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 The last approved version of this historical standard is referenced on www.astm.org.

*A Summary of Changes section appears at the end of this standard