



Designation: D5202/D5202M – 16

Standard Test Method for Determining Triaxial Compression Creep Strength of Chemically Grouted Soils¹

This standard is issued under the fixed designation D5202/D5202M; 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 long-term strength and deformation of a cylindrical specimen of either a (undisturbed) field sample or laboratory-fabricated chemical grouted soil when it is sheared undrained in compression under a constant sustained load.

NOTE 1—The voids of chemical grouted soils are most often substantially filled with grout. Thus, pore pressures are unlikely to develop. This test method is not applicable to partially grouted soils in which substantial pore pressures may develop. If pore pressures must be measured, reference is made to Test Method D4767 for equipment and procedures.

1.2 This test method provides data useful in determining strength and deformation properties of chemical grouted soils subjected to sustained loads. Mohr strength envelopes may also be determined.

1.3 The determination of strength envelopes and the development of relationships to aid in interpreting and evaluating test results are left to the engineer or office requesting the test.

1.4 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026.

1.5 The values stated in either SI or inch-pound units shall be regarded separately as standard. The values in each system may not be exact equivalents, therefore, each system must be used independently of the other, without combining values in any way.

1.6 *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.*

1.7 *This test method offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this*

practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.

2. Referenced Documents

2.1 *ASTM Standards:*²

D422 Test Method for Particle-Size Analysis of Soils (Withdrawn 2016)³

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D854 Test Methods for Specific Gravity of Soil Solids by Water Pycnometer

D2850 Test Method for Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils

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

D4219 Test Method for Unconfined Compressive Strength Index of Chemical-Grouted Soils

D4320 Practice for Laboratory Preparation of Chemically Grouted Soil Specimens for Obtaining Design Strength Parameters

D4767 Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils

D6026 Practice for Using Significant Digits in Geotechnical Data

3. Terminology

3.1 For common definitions of terms used in this test method, refer to Terminology D653.

3.2 *Definitions of Terms Specific to This Standard:*

¹ This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.15 on Stabilization With Admixtures.

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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 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