



# Standard Practice for Certification of Personnel Engaged in the Testing of Soil and Rock<sup>1</sup>

This standard is issued under the fixed designation D5255; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This practice provides a guide for evaluation and certification procedures for personnel engaged in testing soil and rock in accordance with ASTM test methods and is intended for use by independent organizations providing certification services.

1.2 Qualifications for certification candidates, qualifications of those administering the certification examinations, methods of administering the certification tests, and certain certification organization operating requirements are given.

1.3 Certification is specific to a single ASTM test method. A monitored written examination and a monitored performance examination are normally required.

NOTE 1—Personnel certification may be an important aspect of a quality system as described in Practice D3740. Certification of personnel is one means of meeting personnel qualifications given in Practice D3740.

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.*

1.5 *This practice 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.*

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.99 on Quality Control. Current edition approved May 1, 2015. Published May 2015. Originally approved in 1992. Last previous edition approved in 2014 as D5255 – 14. DOI: 10.1520/D5255-15.

## 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

D653 Terminology Relating to Soil, Rock, and Contained Fluids

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

## 3. Terminology

3.1 *Definitions*:

3.1.1 For definitions of common technical terms, refer to Terminology D653.

3.1.2 *agency*—an organization, or part of an organization, engaged in activities of technically oriented testing or inspection, or both.

3.1.3 *inspection*—the process of measuring, examining, testing, gaging, or using other procedures to ascertain the quality or state, detect errors or defects or otherwise appraise materials, products, services, systems, or environments to a pre-established standard.

3.1.4 *testing*—the determination by technical means of properties, performance, or elements of materials, products, services, systems, or environments that may involve application of established scientific principles and procedures.

3.2 *Definitions of Terms Specific to This Standard*:

3.2.1 *administratively independent*—all policy decisions relating to certification matters are the sole decision of the certifying organization and not subject to approval by any other body and that all financial matters related to the operation of the certifying organization are segregated from those of the parent or affiliated organization.

3.2.2 *certification*—an action which determines and announces that an individual has fulfilled the pre-established

<sup>2</sup> 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.

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

requirements and is competent to perform the designated task(s) associated with a single ASTM test method.

3.2.3 *certification organization*—an independent body engaged in the evaluation and credentialing of the knowledge and abilities of individuals performing specified tasks.

3.2.4 *examinee*—certification applicant involved in the examination process.

3.2.5 *examiner*—a qualified professional who administers and evaluates the performance examination component of the certification process.

3.2.6 *personnel*—employees of inspection and testing agencies who perform soil and rock tests.

3.2.7 *proctor*—the individual responsible for administering the written examination component of the certification process.

3.2.8 *qualified professional*—a professional engineer or similar professional who is recognized by peers and associates as having soil and rock testing expertise.

3.2.9 *specifying entity*—the organization requiring the certification through provisions in contracts, standards, regulations, codes, and legislation.

#### 4. Significance and Use

4.1 This practice provides basic criteria for the development and operation of a certification organization, selection of examination material for a written examination, and the scope and details of a performance test. The qualifications of the examiner and limitations on the relationship between the examiner and the examinee are given in this practice.

4.2 The basic criteria provided by this practice is intended to be supplemented by more specific criteria serving the requirements of the certification organization.

4.3 It is unrealistic and unintended that each individual be certified for every test the employing agency performs. Rather, it should be a goal of an agency that a majority of personnel normally performing a given test are certified. Depending on the purpose of the testing, it may be appropriate for the client to specify whether or not a certified technician should perform a given test.

4.4 Although this practice calls for certification specific to a single ASTM test method, it is not intended the certification organization avoid grouping related test methods in the interest of efficiency.

#### 5. Certification Organization

##### 5.1 *Structure:*

5.1.1 The certification organization shall be administratively independent in matters pertaining to certification.

5.1.1.1 A certification organization that is not a legal entity in and of itself shall provide proof that the organization's governing body is administratively independent in certification matters from the organization of which it is part.

5.1.2 The certification organization shall disclose, through publication of a publicly available document, rules and procedures that describe how the certified individual, the employer, and the specifying entity have input into the certification process, policies and decisions of the organization.

##### 5.2 *Resources:*

5.2.1 The certification organization shall disclose, through publication of a publicly available document, evidence the organization has the financial resources to properly conduct the certification activities.

5.2.2 The certification organization shall disclose, through publication of a publicly available document, evidence its staff possesses the knowledge and skill necessary to conduct the certification activities or has available and makes use of non-staff consultants and professionals to sufficiently supplement staff knowledge and skill.

##### 5.3 *Responsibilities:*

5.3.1 The certification organization shall disclose, through publication of a publicly available document, evidence the mechanism used to evaluate individual competence is objective, fair, and based on the knowledge and skills needed to properly perform the test method(s).

5.3.2 The certification organization shall publish, at least annually, a summary of certification activities to include number tested, number passing the examinations, number certified, and, when applicable, number re-certified.

5.3.3 The certification organization shall provide a mechanism for responding to inquiries from individuals and organizations wanting to verify that a particular certified individual has a specific certification.

##### 5.4 *Records:*

5.4.1 The files of the certification organization should contain at least the following:

5.4.1.1 Examination identity and date administered,

5.4.1.2 Examination question source,

5.4.1.3 Identity and qualifications of written examination proctor,

5.4.1.4 Identity and qualifications of performance examination examiner, and

5.4.1.5 Examination question performance statistics.

##### 5.5 *Evidence of Certification:*

5.5.1 Evidence of certification shall be issued by the organization to the candidate upon successful completion of the examinations. Certification shall include the date of certification, the period of certification, and the ASTM test method or test methods for which the examinee is qualified.

5.5.1.1 The ASTM test method shall be listed by use of "ASTM," the test method designation, and the year of the version used for the certification, for example, "ASTM DXXXX – 86."

#### 6. Examiner

6.1 The performance examination examiner shall be a qualified professional with at least five years of experience at performing and supervising the performance of a variety of ASTM test methods and shall have repeatedly performed the ASTM test method(s) the examinees will be performing.

6.1.1 The examiner shall not be a relative, a supervisor, or an associate (co-worker) of the examinee.

6.1.1.1 When there is a possibility of conflict of interest, documentation shall be attached to the examinee's file certifying there is sufficient separation in the organization's structure

between the examiner and examinee so it is not in the examiner's interest whether or not the examinee is certified.

## 7. Examinee

7.1 Examinee must be sufficiently literate to read and answer questions of the written examination, to be capable of performing required calculations, to place necessary data in forms or unformatted data tables, and personally perform the test method(s).

## 8. Certification and Re-Certification

8.1 Initial certification shall be valid for a period not to exceed five years. This period for which the certification is valid shall be clearly and prominently stated on any documents that attest to the certification(s) held by the individual.

8.2 Recertification shall be valid for a period not to exceed five years. This recertification action and the period for which the recertification is valid shall be clearly and prominently stated on any documents that attest to the certification(s) held by the individual.

8.2.1 The recertification process shall involve, as a minimum, the performance examination.

NOTE 2—An appropriate written examination should be given if sufficient changes to the test method have occurred which cannot be properly covered by the performance exam.

8.3 Revocation of certification for just cause shall occur only after due process is provided to the person charged.

## 9. Written Examination

9.1 Qualified professionals thoroughly familiar with the ASTM test method(s) shall prepare the written examination. The examination shall be changed periodically. All measures required to prevent compromise of the examination shall be taken.

9.1.1 When there is reasonable suspicion of a compromised examination, that examination shall not be used.

9.2 The examination shall stress the essentials of the ASTM test method(s), as well as details. In particular, common sources of error of the test should be the basis for a number of examination questions. A basic understanding of the principles underlying the test method(s) and the basis of some of the required calculations for the test method(s) should also be stressed. The questions shall cover the test method(s) elements such as apparatus, specimen preparation, test procedure, and report requirements.

9.3 The written examination shall be given in a room that provides the lighting level, noise control, work space, ventilation, and temperature control universally recognized as necessary for a testing facility in which written examinations are administered.

## 10. Performance Examination

10.1 One or more examiners meeting the requirements of Section 6 shall administer the performance examination.

10.2 The examiner shall conduct the performance examination for a given ASTM test method in accordance with a pre-established checklist that recognizes and evaluates the steps that must be done to properly perform the test method.

10.3 The performance examination shall be given in an environment that duplicates or attempts to duplicate the environment where the ASTM test method is normally conducted.

## 11. Keywords

11.1 certification; evaluation; examination; personnel; personnel certification; personnel evaluation; personnel testing; testing

## SUMMARY OF CHANGES

In accordance with Committee D18 policy, this section identifies the location of changes to this standard since the last edition (2014) that may impact the use of this standard.

(1) Revised 5.1.2.

In accordance with Committee D18 policy, this section identifies the location of changes to this standard since the last edition (2001(Reapproved 2008)) that may impact the use of this standard.

(1) Updated 3.1.1, removed 3.2.1, and added 3.2.9.

(2) Sections 4, 7, and 8: Minor grammatical changes.

(3) Edits to 5.1.1, 5.1.2, and 5.3.3.

(4) Edits to 6.1.1 and removal of 6.2.

(5) Sections 9 and 10: Re-ordered sentences and minor grammatical changes.

(6) Added Summary of Changes section.

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