



Construction Materials Testing – Soils

Level I Selected General References

Candidates are permitted to bring only the following references into the test center.

<u>Title</u>	<u>Edition*</u>
ASTM Section 4 Construction Volume 04.02 Concrete and Aggregates	2016
1ASTM C117: Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing	2013
2ASTM C136/C136M: Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	2014
ASTM Section 4 Construction Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems	2016
3ASTM D75/D75M: Standard Practice for Sampling Aggregates	2014
14ASTM D3665: Standard Practice for Random Sampling of Construction Materials	2012
ASTM Section 4 Construction Volume 04.08 Soil and Rock (I): D420-D5876	2016
4ASTM D653: Standard Terminology Relating to Soil, Rock, and Contained Fluids	2014
5ASTMD698: Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft ³ (600 kN-m/m ³))	2012e2
6ASTM D1140: Standard Test Methods for Determining the Amount of Material Finer than 75- μm (No. 200) Sieve in Soils by Washing	2014
7ASTM D1556/D1556M: Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method	2015e1
8ASTM D1557: Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 kN-m/m ³))	2012e1
9ASTM D1586: Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils	2011
10ASTM D1587/D1587M: Standard Practice for Thin-Walled Tube Sampling of Fine-Grained Soils for Geotechnical Purposes	2015
11ASTM D2216: Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	2010
12ASTM D2487: Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)	2011
13ASTM D2488: Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)	2009a
15ASTM D3740: Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction	2012a
16ASTM D4220/D4220M: Standard Practices for Preserving and Transporting Soil Samples	2014
17ASTM D4253: Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table	2014
18ASTM D4318: Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils	2010e1
19ASTM D4718/D4718M: Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles	1987(2007)



20ASTM D5195: Standard Test Method for Density of Soil and Rock In-Place at Depths Below Surface by Nuclear Methods	2014
21ASTM D5434: Standard Guide for Field Logging of Subsurface Explorations of Soil and Rock	2012
ASTM Section 4 Construction Volume 04.09 Soil and Rock (II): D5878	2016
22ASTM D6938: Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	2015
23ASTM D7759/D7759M: Standard Guide for Nuclear Surface Moisture and Density Gauge Calibration	2014

*** The test questions are based on the standard editions listed above; therefore, candidates are strongly urged to bring these editions to the exam. Note: Test questions are based on the standard editions listed above; therefore, candidates are strongly urged to bring these published year editions to the exam. Note: candidates may bring older or newer editions—instead of the editions listed above—at their own risk. Exam comments that are made based on other published edition years, will not be reviewed until the next maintenance cycle. Candidates are responsible for reviewing the content outline and bringing in allowable printed references that are applicable to what is being tested. Acceptable references may be copied in whole or part.**

Note: References must be bound or secured in a three-ring binder with a title page (example provided on the main program page). They may have highlighted text and self-adhesive index tabs or dividers, however they must be permanently attached. No other additions or modifications to the references are allowed. Handwritten notes are NOT permitted. References with loose paper or pages and freestanding tabs (e.g., repositionable sticky notes/tabs of any kind) are not permitted into the testing centers.

During the exam, the following titles will be available to candidates **on-screen only**:

<u>Title</u>	<u>Edition*</u>
25AASHTO M 145: Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes	1991
26AASHTO R 18: Standard Recommended Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories	2017
27AASHTO R 58: Standard Practice for Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Test	2011
28AASHTO R 74: Standard Practice for Wet Preparation of Disturbed Soil Samples for Test	2016
29AASHTO T 11: Standard Method of Test for Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing	2005
30AASHTO T 89: Standard Method of Test for Determining the Liquid Limit of Soils	2013
31AASHTO T 218: Standard Method of Test for Sampling Hydrated Lime	1986
32AASHTO T 265: Standard Method of Test for Laboratory Determination of Moisture Content of Soils	2015

*Test questions are based on the editions listed above. These editions will be available to candidates during the exam in PDF format.



In addition to the references listed above, the following publications can provide some of the job knowledge required by a construction materials testing technician. While these books may help prepare for the exam, they are NOT permitted in the test center.

24ASTM D7928 (2016e1): Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

33ASTM E11 (2016): Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves

34Basic Construction Surveying (2000), Georgia Department of Transportation

35Basic Highway Plan Reading: Inspector Qualification Series, Colorado Department of Transportation

36Basic Surveying, 4th edition, Walter S. Whyte and Raymond E. Paul, Taylor & Francis Group

37Contract Plans Reading, Florida Department of Transportation

38Density Testing and Inspection Manual (2014), Michigan Department of Transportation

39Geotechnical Testing, Observation, and Documentation, 2nd edition (2008), Tim Davis, ASCE Press

40OSHA 29 CFR 1910: Occupational Safety and Health Standards, Occupational Safety and Health Administration (OSHA)

41OSHA 29 CFR 1926: Safety and Health Regulations for Construction, Occupational Safety and Health Administration (OSHA)

42OSHA 29 CFR 1960: Basic Program Elements for Federal Employees OSHA, Occupational Safety and Health Administration (OSHA)

43OSHA 2226-10R (2015), Trenching and Excavation Safety, Occupational Safety and Health Administration (OSHA)

44OSHA 3071: Job Hazard Analysis, Occupational Safety and Health Administration (OSHA)

➤ This listing is not intended to be complete or representative.

February 5, 2022

[footnote number is linked to a task on the Content Outline](#)