

**Construction Materials Testing – Soils  
Level III 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- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	2013
2ASTM C128: Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine Aggregate	2016
3ASTM C136/C136M: Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	2014
4ASTM C566: Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying	2016
5ASTM C702: Standard Practice for Reducing Samples of Aggregate to Testing Size	2016
ASTM Section 4 Construction Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems	2016
6ASTM D75/D75M: Standard Practice for Sampling Aggregates	2014
ASTM Section 4 Construction Volume 04.08 Soil and Rock (I): D420-D5876	2016
7ASTM D558: Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures	2011
8ASTMD698: Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort	2012
9ASTM D806: Standard Test Method for Cement Content of Hardened Soil-Cement Mixtures	2011
10ASTM D854: Standard Test Methods for Specific Gravity of Soil Solids by Water Pycnometer	2014
11ASTM D1140: Standard Test Methods for Determining the Amount of Material Finer than 75- $\mu$ m (No. 200) Sieve in Soils by Washing	2014
12ASTM D1143/D1143M: Standard Test Methods for Deep Foundations Under Static Axial Compressive Load	2016
13ASTM D1195/ D1195M: Standard Test Method for Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements	2015
14ASTM D1196/D1196M: Standard Test Method for Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements	2016
15ASTM D1452/D1452M: Standard Practice for Soil Exploration and Sampling by Auger	2016
16ASTM D1556/D1556M: Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method	2015
17ASTM D1557: Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft <sup>3</sup> (2,700kN-m/m <sup>3</sup> ))	2015
18ASTM D1586: Standard Test Method for Standard Penetration Test (SPT) And Split-Barrel Sampling of Soils	2011
19ASTM D1587/D1587M: Standard Practice for Thin-Walled Tube Sampling of Fine-Grained Soils for Geotechnical Purposes	2015
20ASTM D1883: Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils	2014



21	ASTM D2113: Standard Practice for Rock Core Drilling and Sampling of Rock for Site Exploration	2014
22	ASTM D2166/D2166M: Standard Test Method for Unconfined Compressive Strength of Cohesive Soil	2013
23	ASTM D2167: Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method	2015
24	ASTM D2216: Standard Test Methods for Laboratory Determination Of Water (Moisture) Content of Soil and Rock by Mass	2010
25	ASTM D2435/D2435M: Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading	2011
26	ASTM D2844/D2844M: Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils	2013
27	ASTM D2850: Standard Test Method for Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils	2015
28	ASTM D2937: Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method	2010
29	ASTM D2974: Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils	2014
30	ASTM D3080/D3080M: Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions	2011
31	ASTM 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	2012
32	ASTM D4186-12e1: Standard Test Method for One-Dimensional Consolidation Properties of Saturated Cohesive Soils Using Controlled-Strain Loading	2016
33	ASTM D4220/D4220M: Standard Practices for Preserving and Transporting Soil Samples	2014
34	ASTM D4221: Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer	2011
35	ASTM D4318: Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils	2010
36	ASTM D4546: Standard Test Methods for One-Dimensional Swell or Collapse of Soils	2014
37	ASTM D4829: Standard Test Method for Expansion Index of Soils	2011
38	ASTM D4972: Standard Test Method for pH of Soils	2013
39	ASTM D5084-16a: Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter	2016
40	ASTM D5093: Standard Test Method for Field Measurement of Infiltration Rate Using Double-Ring Infiltrometer with Sealed-Inner Ring	2015
41	ASTM 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-latest	2016
42	ASTM D6913: Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	2009
43	ASTM D6938: Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	2015
44	ASTM D7928: Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis	2016



\*The test questions are based on the standard editions listed above; therefore, candidates are strongly urged to bring these editions to the exam. Note: candidates may bring older or newer editions—instead of the editions listed above—at their own risk.

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. 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.

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

<u>Title</u>	<u>Edition*</u>
45AASHTO R 18: Standard Recommended Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories	2017
46AASHTO R 25: Standard Practice for Technician Training and Qualification Programs	2000
47AASHTO T 27: Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates	2014
48AASHTO T 134: Standard Method of Test for Moisture-Density Relations of Soil-Cement Mixtures	2005
49AASHTO T 218: Standard Method of Test for Sampling Hydrated Lime	1986
50AASHTO T 225: Standard Method of Test for Diamond Core Drilling for Site Investigation	2016
51AASHTO T 307: Standard Method of Test for Determining the Resilient Modulus of Soils and Aggregate Materials	1999

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

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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.

- 52ASTM C187 (2016): Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste, American Society for Testing and Materials (ASTM)
- 53ASTM C50/C50M (2013): Standard Practice for Sampling, Sample Preparation, Packaging, and Marking of Lime and Limestone Products, American Society for Testing and Materials (ASTM)
- 54ASTM E11 (2016): Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves, American Society for Testing and Materials (ASTM)
- 55ASTM G57-06 (2012): Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method, American Society for Testing and Materials (ASTM)
- 56FHWA-NHI-01-031: Subsurface Investigations - Geotechnical Site Characterization (2002), U.S. Department of Transportation Federal Highway Administration (FHWA)
- 57OSHA Hazard Communication Standard, Occupational Safety and Health Administration (OSHA)
- 58OSHA 29 CFR 1910: Occupational Safety and Health Standards Occupational Safety and Health Administration(OSHA)
- 59OSHA 29 CFR 1926: Safety and Health Regulations for Construction, Occupational Safety and Health Administration (OSHA)



60 OSHA 35144: Hazard Communication Standard: Safety Data Sheets, Occupational Safety and Health Administration (OSHA)  
61 Geotechnical Testing, Observation, and Documentation, 2nd edition (2008), Tim Davis, ASCE Press

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➤ This listing is not intended to be complete or representative.  
October 25, 2018 [footnote number is linked to a task on the Content Outline](#)