



Construction Materials Testing – Concrete

Level II 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 C29/C29M: Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate	2016
2ASTM C31/C31M: Standard Practice for Making and Curing Concrete Test Specimens in the Field	2015ae1
3ASTM C33/C33M: Standard Specification for Concrete Aggregates	2016
4ASTM C39/C39M: Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens	2016a
5ASTM C40/C40M: Standard Test Method for Organic Impurities in Fine Aggregates for Concrete	2011
6ASTM C42/C42M: Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	2013
7ASTM C78/C78M: Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	2015b
8ASTM C88: Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	2013
9ASTM C94/C94M: Standard Specification for Ready-Mixed Concrete	2016
10ASTM C117: Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing	2013
11ASTM C123/C123M: Standard Test Method for Lightweight Particles in Aggregate	2014
12ASTM C125: Standard Terminology Relating to Concrete and Concrete Aggregates	2015b
13ASTM C127: Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate	2015
14ASTM C128: Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine Aggregate	2015
15ASTM C131/C131M: Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	2014
16ASTM C138/C138M: Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	2016
17ASTM C142/C142M: Standard Test Method for Clay Lumps and Friable Particles in Aggregates	2010
18ASTM C143/C143M: Standard Test Method for Slump of Hydraulic-Cement Concrete	2015a
19ASTM C157/C157M: Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete	2014e1
20ASTM C172/C172M: Standard Practice for Sampling Freshly Mixed Concrete	2014a
21ASTM C173/C173M: Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method	2016
22ASTM C174/C174M: Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores	2016
23ASTM C192/C192M: Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory	2016a
24ASTM C309: Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete	2011



25	ASTM C470/C470M: Standard Specification for Molds for Forming Concrete Test Cylinders Vertically	2015
26	ASTM C495/C495M: Standard Test Method for Compressive Strength of Lightweight Insulating Concrete	2012
27	ASTM C496/C496M: Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens	2011
28	ASTM C511: Standard Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes	2013
29	ASTM C567/C567M: Standard Test Method for Determining Density of Structural Lightweight Concrete	2014
30	ASTM C617/C617M: Standard Practice for Capping Cylindrical Concrete Specimens	2015
31	ASTM C642: Standard Test Method for Density, Absorption, and Voids in Hardened Concrete	2013
32	ASTM C803/C803M: Standard Test Method for Penetration Resistance of Hardened Concrete	2010
33	ASTM C805/C805M: Standard Test Method for Rebound Number of Hardened Concrete	2013a
34	ASTM C823/C823M: Standard Practice for Examination and Sampling of Hardened Concrete in Constructions	2012
35	ASTM C1064/C1064M: Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete	2012
36	ASTM C1077: Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation	2016
37	ASTM C1231/C1231M: Standard Practice for Use of Unbounded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens	2015
38	ASTM C1611/C1611M: Standard Test Method for Slump Flow of Self-Consolidating Concrete	2014
39	ASTM E329: Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection	2014a
	ASTM Section 4 Construction Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems	2016
40	ASTM D2419: Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate	2014
41	ASTM D4791: Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	2010
42	ASTM D6928: Standard Test Method for Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	2010
	ASTM Section 4 Construction Volume 04.05 Chemical-Resistant Nonmetallic Materials; Vitrified Clay Pipe; Concrete Pipe; Fiber-Reinforced Cement Products; Mortars and Grouts; Masonry; Precast Concrete	2016
43	ASTM C55: Standard Specification for Concrete Building Brick	2014a
44	ASTM C67: Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile	2014
45	ASTM C76: Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	2015a
46	ASTM C90: Standard Specification for Loadbearing Concrete Masonry Units	2014



47ASTM C140/C140M: Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units	2015ae1
48ASTM C144: Standard Specification for Aggregate for Masonry Mortar	2011
49ASTM C780: Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry	2015a
50ASTM C1019: Standard Test Method for Sampling and Testing Grout	2016
51ASTM C1314: Standard Test Method for Compressive Strength of Masonry Prisms	2014

ASTM Section 4 Construction Volume 04.08 Soil and Rock (I): D420-D5876	2016
52ASTM 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
53ASTM D4753: Standard Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing	2015

*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. 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>
54AASHTO M 43: Standard Specification for Sizes of Aggregate for Road and Bridge Construction	2005
55AASHTO M 45: Standard Specification for Aggregate for Masonry Mortar	2016
56AASHTO M 157: Standard Specification for Ready-Mixed Concrete	2013
57AASHTO M 170: Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	2017
58AASHTO M 231: Standard Specification for Weighing Devices Used in the Testing of Materials	1995
59AASHTO R 18: Standard Recommended Practice for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories	2017
60AASHTO T 19M/T 19: Standard Method of Test for Bulk Density (“Unit Weight”) and Voids in Aggregate	2014
61AASHTO T 23: Standard Method of Test for Making and Curing Concrete Test Specimens in the Field	2017
62AASHTO T 176: Standard Method of Test for Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test	2008

*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.

- 63ACI 301 (1989): Use of Concrete in Buildings—Design, Specifications, and Related Topics Part 3: Specifications for Structural Concrete for Buildings, American Concrete Institute (ACI)
- 64ACI 315 (1999): Details and Detailing of Concrete Reinforcement, American Concrete Institute (ACI)
- 65ACI 318 (1989): Building Code Requirements for Structural Concrete and Commentary, American Concrete Institute (ACI)
- 66ASTM C109/C109M (2016): Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens), American Society for Testing and Materials (ASTM)
- 67ASTM E1155 (2014): Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers, American Society for Testing and Materials (ASTM)
- 68OSHA CPL 02-02-079: Inspection Procedures for the Hazard Communication Standard, Occupational Safety and Health Administration (OSHA)
- 69OSHA 29 CFR 1910: Occupational Safety and Health Standards, Occupational Safety and Health Administration (OSHA)
- 70OSHA 29 CFR 1926: Safety and Health Regulations for Construction, Occupational Safety and Health Administration (OSHA)
- 71OSHA 3071: Job Hazard Analysis, Occupational Safety and Health Administration (OSHA)
- 72OSHA 3074: Hearing Conservation, Occupational Safety and Health Administration (OSHA)
- 73OSHA 3252-05N, Occupational Safety and Health Administration (OSHA)
- 74OSHA 3514: Hazard Communication Standard: Safety Data Sheets, Occupational Safety and Health Administration (OSHA)

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

November 17, 2020

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