



Construction Materials Testing – Concrete

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 C31/C31M: Standard Practice for Making and Curing Concrete Test Specimens in the Field	2015ae1
2ASTM C33/C33M: Standard Specification for Concrete Aggregates	2016
3ASTM C42/C42M: Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	2013
4ASTM C78/C78M: Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	2015b
5ASTM C94/C94M: Standard Specification for Ready-Mixed Concrete	2016
6ASTM C123/C123M: Standard Test Method for Lightweight Particles in Aggregate	2014
7ASTM C136/C136M: Standard Test Method for Sieve Analysis of Fine and Course Aggregates	2014
8ASTM C143/C143M: Standard Test Method for Slump of Hydraulic-Cement Concrete	2015a
9ASTM C157/C157M: Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete	2014e1
10ASTM C172/C172M: Standard Practice for Sampling Freshly Mixed Concrete	2014a
11ASTM C173/C173M: Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method	2016
12ASTM C192/C192M: Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory	2016a
13ASTM C215: Standard Test Method for Fundamental Transverse, Longitudinal, and Torsional Resonant Frequencies of Concrete Specimens	2014
14ASTM C295/C295M: Standard Guide for Petrographic Examination of Aggregates for Concrete	2012
15ASTM C341/C341M: Standard Practice for Preparation and Conditioning of Cast, Drilled, or Sawed Specimens of Hydraulic-Cement Mortar and Concrete Used for Length Change Measurements	2013
16ASTM C567/C567M: Standard Test Method for Determining Density of Structural Lightweight Concrete	2014
17ASTM C597: Standard Test Method for Pulse Velocity Through Concrete	2016
18ASTM C666/C666M: Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing	2015
19ASTM C702/C702M: Standard Practice for Reducing Samples of Aggregate to Testing Size	2011
20ASTM C823/C823M: Standard Practice for Examination and Sampling of Hardened Concrete in Constructions	2012
21ASTM C1017/C1017M: Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete	2013e1
22ASTM C1074-11: Standard Practice for Estimating Concrete Strength by the Maturity Method	2011
23ASTM C1077: Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation	2016
24ASTM C1170/C1170M: Standard Test Method for Determining Consistency and Density of Roller-Compacted Concrete Using a Vibrating Table	2014e1



25	ASTM C1218/C1218M: Standard Test Method for Water-Soluble Chloride in Mortar and Concrete	2015
26	ASTM C1260-14: Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)	2014
27	ASTM C1293-08b: Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction	2015
28	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
29	ASTM D75/D75M: Standard Practice for Sampling Aggregates	2014
30	ASTM D3665: Standard Practice for Random Sampling of Construction Materials	2012

***The 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 in 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>
31AASHTO R 18: Standard Recommended Practice for Establishing and Implementing a Quality System for Construction Materials Testing Laboratories	2017
32AASHTO T 23: Standard Method of Test for Making and Curing Concrete Test Specimens in the Field	2017
33AASHTO T 71: Standard Method of Test for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar	2008
34AASHTO T 157: Standard Method of Test for Air-Entraining Admixtures for Concrete	2012
35AASHTO T 160: Standard Method of Test for Length Change of Hardened Hydraulic Cement Mortar and Concrete	2017
36AASHTO T 161: Standard Method of Test for Resistance of Concrete to Rapid Freezing and Thawing	2017

*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.

37ACI 207.4R (2005): Cooling and Insulating Systems for Mass Concrete, American Concrete Institute (ACI)



- 38ACI 214R (2011): Guide to Evaluation of Strength Test Results of Concrete, American Concrete Institute (ACI)
- 39ACI 232.2R (2004): Use of Fly Ash in Concrete, American Concrete Institute (ACI)
- 40ACI 234R (2006): Guide for the Use of Silica Fume in Concrete 2006, American Concrete Institute (ACI)
- 41ACI 301 (1989): Specifications for Structural Concrete, American Concrete Institute (ACI)
- 42ACI-304R (2000): Guide for Measuring, Mixing, Transporting, and Placing Concrete, American Concrete Institute (ACI)
- 43ACI 305R (2010): Guide to Hot Weather Concreting, American Concrete Institute (ACI)
- 44ACI 306R (2016): Guide to Cold Weather Concreting, American Concrete Institute (ACI)
- 45ACI 311 (2007): Manual of Concrete Inspection, American Concrete Institute (ACI)
- 46ACI 530/530.1 (2013): Building Code Requirements and Specification for Masonry Structures and Companion, American Concrete Institute (ACI)
- 47ASTM A780/A780M (2015): Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings, American Society for Testing and Materials (ASTM)
- 48ASTM C76 (2015): Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, American Society for Testing and Materials (ASTM)
- 49ASTM C114 (2015): Standard Test Methods for Chemical Analysis of Hydraulic Cement, American Society for Testing and Materials (ASTM)
- 50ASTM C140/C140M (2016): Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units, American Society for Testing and Materials (ASTM)
- 51ASTM C150/C150M (2016): Standard Specification for Portland Cement, American Society for Testing and Materials (ASTM)
- 52ASTM C230 (2014): Standard Specification for Flow Table for Use in Tests of Hydraulic Cement, American Society for Testing and Materials (ASTM)
- 53ASTM C595/C595M (2015): Standard Specification for Blended Hydraulic Cement, American Society for Testing and Materials (ASTM)
- 54ASTM C780 (2016): Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry, American Society for Testing and Materials (ASTM)
- 55ASTM C845/C845M (2012): Standard Specification for Expansive Hydraulic Cement, American Society for Testing and Materials (ASTM)
- 56ASTM C1157/C1157M (2017): Standard Performance Specification for Hydraulic Cement, American Society for Testing and Materials (ASTM)
- 57ASTM C1437 (2015): Standard Test Method for Flow of Hydraulic Cement Mortar, American Society for Testing and Materials (ASTM)
- 58ASTM D6760 (2014): Standard Test Method for Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing, American Society for Testing and Materials (ASTM)
- 59ASTM E1155M (2014): Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers (Metric), American Society for Testing and Materials (ASTM)
- 60ASTM C1202 (2017) Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration, American Society for Testing and Materials (ASTM)
- 61TSC 13-1 Inspector's Manual for Hot Mixed Asphalt and Portland Cement Concrete Pavement Construction (2013), U.S. Army Corps of Engineers, Transportation Systems Center
- 62Masonry Codes and Specifications Compilation (2009), The Masonry Society (TMS)
- 63PCI-MNL-116: Manual for Quality Control for Plants and Production of Structural Precast and Prestressed Concrete Products (1999), Precast/Prestressed Concrete Institute (PCI)
- 64Reinforced Concrete Masonry Construction Inspector's Handbook (2010), 7th edition, Masonry Institute of America (MIA)

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