



## Construction Materials Testing – Concrete

### 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 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 C42/C42M: Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	2013
6ASTM C94/C94M: Standard Specification for Ready-Mixed Concrete	2016
7ASTM C117: Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	2013
8ASTM C125: Standard Terminology Relating to Concrete and Concrete Aggregates	2015b
9ASTM C136/C136M: Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	2016
10ASTM C138/C138M: Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	2016
11ASTM C143/C143M: Standard Test Method for Slump of Hydraulic-Cement Concrete	2015a
12ASTM C172/C172M: Standard Practice for Sampling Freshly Mixed Concrete	2014a
13ASTM C173/C173M: Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method	2016
14ASTM C231/C231M: Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method	2014
15ASTM C511: Standard Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes	2013
16ASTM C566: Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying	2013
17ASTM C617/C617M: Standard Practice for Capping Cylindrical Concrete Specimens	2015
18ASTM C702/C702M: Standard Practice for Reducing Samples of Aggregate to Testing Size	2011
19ASTM C1064/C1064M: Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete	2012
20ASTM C1077: Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation	2016
ASTM Section 4 Construction Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems	2016
21ASTM D75/D75M: Standard Practice for Sampling Aggregates	2014
22ASTM 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 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.

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

<u>Title</u>	<u>Edition*</u>
23AASHTO M 43: Standard Specification for Sizes of Aggregate for Road and Bridge Construction	2005
24AASHTO M 157: Standard Specification for Ready-Mixed Concrete	2013
25AASHTO R 76: Standard Method of Test for Reducing Samples of Aggregate to Testing Size	2016
26AASHTO T 11: Standard Method of Test for Materials Finer Than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	2005
27AASHTO T 27: Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates	2014
28AASHTO T 255: Standard Method of Test for Total Evaporable Moisture Content of Aggregate by Drying	2000

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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.

- 29ACI 301 (1989): Use of Concrete in Buildings—Design, Specifications, and Related Topics Part 3: Specifications for Structural Concrete for Buildings, American Concrete Institute (ACI)
- 30ACI 311.5R (1988): Construction Practices and Inspection Pavements, Part 2: Guide for Concrete Plant Inspection and Testing of Ready-Mixed Concrete, American Concrete Institute (ACI)
- 31ACI 318R (1989): Use of Concrete in Buildings—Design, Specifications, and Related Topics, Part 3: Building Code Requirements for Reinforced Concrete and Commentary, American Concrete Institute (ACI)
- 32ACI 336 (1989): Bridges, Substructures, Sanitary, and Other Special Structures Structural Properties, Part 4: Specifications for the Construction of Drilled Piers, American Concrete Institute (ACI)
- 33ASTM 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)
- 34ASTM C140/C140M (2016): Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units, American Society for Testing and Materials (ASTM)
- 35ASTM C150/C150M (2016): Standard Specification for Portland Cement, American Society for Testing and Materials (ASTM)
- 36ASTM D7514 (2014): Standard Test Method for Evaluating Ink Stainblocking of Architectural Paint Systems by Visual Assessment, American Society for Testing and Materials (ASTM)



- 37ASTM E11 (2016): Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves, American Society for Testing and Materials (ASTM)
- 38ASTM E898 (2013): Standard Test Method for Testing Top-Loading, Direct-Reading Laboratory Scales and Balances, American Society for Testing and Materials (ASTM)
- 39Basic Highway Plan Reading: Inspector Qualification Series, Colorado Department of Transportation
- 40Building Safer Highway Work Zones: Measures to Prevent Worker Injuries from Vehicles and Equipment (2001), National Institute for Occupational Safety and Health
- 41Contract Plans Reading, Florida Department of Transportation
- 42CP-1: Technician Workbook for ACI Certification of Concrete Field Testing Technician-Grade 1 (2017), American Concrete Institute (ACI)
- 43CP-13: ACI Concrete Terminology – An ACI Standard (2017), American Concrete Institute (ACI)
- 44CP-19: Technician Workbook for ACI Certification of Concrete Strength Testing Technician (2017), American Concrete Institute (ACI)
- 45CP-21: ACI Concrete Terminology (2017), American Concrete Institute (ACI)
- 46FHWA Construction Program Management and Inspection Guide (2004), U.S. Department of Transportation Federal Highway Administration (FHWA)
- 47Fundamentals of Engineering Drawing for Design, Product development, and Numerical Control (2011), Warren Jacob Luzadder
- 48Manual of Aggregate and Concrete Testing (2010), American Society for Testing and Materials (ASTM)
- 49MSHA (2017), Mine Safety and Health Administration (MSHA)
- 50OSHA 29 CFR 1910: Occupational Safety and Health Standards, Occupational Safety and Health Administration (OSHA)
- 51OSHA 29 CFR 1926: Safety and Health Regulations for Construction, Occupational Safety and Health Administration (OSHA)
- 52OSHA 3151-12R: Personal Protective Equipment (2004), U.S. Department of Labor Occupational Safety and Health Administration (OSHA)
- 53Pocket Reference, 4<sup>th</sup> edition (2010), Thomas J. Glover

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

February 5, 2022

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