



## Construction Materials Testing – Asphalt

### 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 C88: Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	2013
3ASTM C117: Standard Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	2013
4ASTM C127: Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate	2015
5ASTM C128: Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine Aggregate	2015
6ASTM C131/C131M: Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	2014
7ASTM C142/C142M: Standard Test Method for Clay Lumps and Friable Particles in Aggregates	2010
ASTM Section 4 Construction Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems	2016
8ASTM D75/D75M: Standard Practice for Sampling Aggregates	2014
9ASTM D140/D140M: Standard Practice for Sampling Bituminous Materials	2016
10ASTM D242/D242M: Standard Specification for Mineral Filler for Bituminous Paving Mixtures	2014
11ASTM D546: Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures	2010
12ASTM D692/D692M: Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures	2015
13ASTM D979/D979M: Standard Practice for Sampling Bituminous Paving Mixtures	2015
14ASTM D1188: Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples	2015
15ASTM D1560: Standard Test Method for Resistance to Deformation and Cohesion of Asphalt Mixtures by Means of Hveem Apparatus	2015
16ASTM D1561/D1561M: Standard Practice for Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor	2013
17ASTM D2041/D2041M: Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures	2011
18ASTM D2419: Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate	2014
19ASTM D2489/D2489M: Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures	2008
20ASTM D2726/D2726M: Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures	2014
21ASTM D2950/D2950M: Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods	2014



22	ASTM D3203/D3203M: Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	2011
23	ASTM D3549/D3549M: Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens	2011
24	ASTM D3665: Standard Practice for Random Sampling of Construction Materials	2012
25	ASTM D3666: Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials	2013
26	ASTM D3744/D3744M: Standard Test Method for Aggregate Durability Index	2011a
27	ASTM D4125/D4125M: Standard Test Methods for Asphalt Content of Bituminous Mixtures by the Nuclear Method	2010
28	ASTM D4215: Standard Specification for Cole-Mixed, Cold-Laid Bituminous Paving Mixtures	2013
29	ASTM D4791: Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	2010
30	ASTM D5361/D5361M: Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing	2014
31	ASTM D6390: Standard Test Method for Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	2011
32	ASTM D6925: Standard Test Method for Preparation and Determination of the Relative Density of Asphalt Mix Specimens by Means of the Superpave Gyrotory Compactor	2015
33	ASTM D6926: Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus	2010
34	ASTM D6927: Standard Test Method for Marshall Stability and Flow of Asphalt Mixtures	2015
35	ASTM D6928: Standard Test Method for Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	2010
36	ASTM D6995: Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)	2013
37	ASTM D7428: Standard Test Method for Resistance of Fine Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	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: 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>
38AASHTO R 18: Standard Recommended Practice for Establishing and	2017



## Implementing a Quality Management System for Construction Materials Testing

## Laboratories

39AASHTO R 42: Standard Practice for Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA)	2006
40AASHTO R 68: Standard Practice for Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	2015
41AASHTO T 19M/T 19: Standard Method of Test for Bulk Density (“Unit Weight”) and Voids in Aggregate	2014
42AASHTO T 84: Standard Method of Test for Specific Gravity and Absorption of Fine Aggregate	2013
43AASHTO T 104: Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	1999
44AASHTO T 209: Standard Method of Test for Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)	2012
45AASHTO T 304: Standard Method of Test for Uncompacted Void Content of Fine Aggregate	2011
46AASHTO T 305: Standard Method of Test for Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	2014
47AASHTO T 312: Standard Method of Test for Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor	2015

\*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.

- 48AC 150/5370-10G (2013): Standards for Specifying Construction of Airports, U.S. Department of Transportation, Federal Aviation Administration (FAA)
- 49AASHTO R 35: Standard Practice for Superpave Volumetric Design for Asphalt Mixtures, American Association of State Highway and Transportation Officials (AASHTO)
- 50AASHTO T 37: Standard Method of Test for Sieve Analysis of Mineral Filler for Hot-Mix Asphalt, American Association of State Highway and Transportation Officials (AASHTO)
- 51AASHTO T 85: Standard Method of Test for Specific Gravity and Absorption of Coarse Aggregate, American Association of State Highway and Transportation Officials (AASHTO)
- 52AASHTO T 315: Standard Method of Test for Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR), American Association of State Highway and Transportation Officials (AASHTO)
- 53Hot Mix Asphalt Construction Reference for Quality HMA Pavements, NAPA
- 54Inspector’s Manual for Hot Mixed Asphalt and Portland Cement Concrete Pavement Construction (2013), U.S. Army Corps of Engineers, Transportation Systems Center
- 55MS-2 Asphalt Mix Design Methods, 6<sup>th</sup> edition, Asphalt Institute (AI)
- 56OSHA 29 CFR 1910: Occupational Safety and Health Standards, Occupational Safety and Health Administration (OSHA)
- 57OSHA 29 CFR 1926: Safety and Health Regulations for Construction, Occupational Safety and Health Administration (OSHA)
- 58OSHA 3071: Job Hazard Analysis, Occupational Safety and Health Administration (OSHA)
- 59OSHA 3660: Reducing Falls in Construction: Safe Use of Extension Ladders, Occupational Safety and Health Administration (OSHA)
- 60OSHA 3662: Reducing Falls in Construction: Safe Use of Stepladders, Occupational Safety and Health Administration (OSHA)



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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](#)