Preparing for an ACI Field Technician Certification

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Course Objectives

1. Expectations of ACI Field Technician Grade I Certification.
2. Understand the Format of the Exam.
3. Overview of the ASTM standards.
4. Identify areas of Focus.
5. Provide a **PLAN OF ACTION** to prepare for the exam.

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WHY?

3

- NPCA requires ACI Field Grade I Certification (1.1.3).
- Required by many governmental agencies.
- Required by more and more private customers.
- Improve the accuracy and reliability of the testing of freshly mixed concrete.
- Improve the quality of your concrete.
- Gain the knowledge needed to perform the concrete field test.

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2022 NPCA Concrete Testing Deficiencies

- 5.3.1 Slump, Slump Flow, and visual Stability Index (29)
- 5.3.3 Density (Unit Weight) (42)
- 5.3.5 Compressive Strength (51)

122 Total Deficiencies!

5

WHY?

To advance your career in Precast Concrete!

6

How I got here?

- ACI Concrete Field Testing Technician Grade I Certification was the first step in my career.

"If you don't attach a meaningful why…. You will not have the Discipline that you need." -Jocko Willink

7

How do we make sure we get the Quality Concrete that we need?

8

One of the keys to quality concrete is a qualified concrete technician to provide accurate and reliable test results.

9

What is required to be certified?

- **You must successfully complete both the ACI written and performance examinations.**

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7 ASTM STANDARDS

Demonstrate the ability to perform each test accurately:

1. **Temperature (ASTM C1064)**
2. **Sampling Freshly Mixed Concrete (ASTM C172)**
3. **Slump (C143)**
4. **Unit Weight, Yield and Gravimetric Air Content (ASTM C138)**
5. **Air Content (Pressure Method) (ASTM C231)**
6. **Air Content (Volumetric Method) (ASTM C173)**
7. **Making and Curing Concrete Test Specimens (ASTM C31)**

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WRITTEN EXAM

- 1 hour written exam covers the 7 ASTM standards.
- Closed book (But you may bring a simple-function calculator.)
- 55 Multiple Choice and true/false questions.
- 5-10 questions on each standard.
- To pass the exam, both of the following criteria must be met:

1. At least 60% correct in each individual section; and
2. At least 70% correct overall.

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PERFORMANCE EXAM

- You are required to successfully perform each of the seven ASTM Standard Methods. You may be required to verbally describe the procedures for Sampling Freshly Mixed concrete if performance of the method is not feasible.
- 2.5 trials for each standard.

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TECHNICIAN WORKBOOK ACI CP-1

1. Introduction.
2. Copy of the ASTM Standard (or equivalent information).
3. Written Study Questions.
4. Performance Checklist.

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ASTM C1064 TEMPERATURE

15

ASTM C1064 TEMPERATURE

- https://www.youtube.com/watch?v=YQrL4XVOJcA

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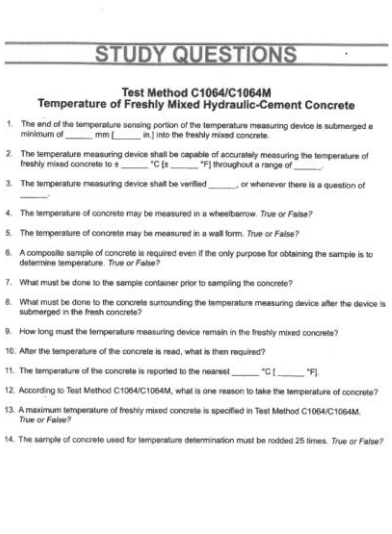
ASTM C1064 TEMPERATURE



STUDY QUESTIONS

Test Method C1064/C1064M
Temperature of Freshly Mixed Hydraulic-Cement Concrete

1. The end of the temperature sensing portion of the temperature measuring device is submerged a minimum of _____ mm [_____ in.] into the freshly mixed concrete.
2. The temperature measuring device shall be capable of accurately measuring the temperature of freshly mixed concrete to ± _____ °C [± _____ °F] throughout a range of _____.
3. The temperature measuring device shall be verified _____, or whenever there is a question of _____.
4. The temperature of concrete may be measured in a wheelbarrow. *True or False?*
5. The temperature of concrete may be measured in a wall form. *True or False?*
6. A composite sample of concrete is required even if the only purpose for obtaining the sample is to determine temperature. *True or False?*
7. What must be done to the sample container prior to sampling the concrete?
8. What must be done to the concrete surrounding the temperature measuring device after the device is submerged in the fresh concrete?
9. How long must the temperature measuring device remain in the freshly mixed concrete?
10. After the temperature of the concrete is read, what is then required?
11. The temperature of the concrete is reported to the nearest _____ °C [_____ °F].
12. According to Test Method C1064/C1064M, what is one reason to take the temperature of concrete?
13. A maximum temperature of freshly mixed concrete is specified in Test Method C1064/C1064M. *True or False?*
14. The sample of concrete used for temperature determination must be rodded 25 times. *True or False?*

17

9. How long must the Temperature measuring device remain in the freshly mixed concrete?
10. After the temperature of the concrete is read, what is then required?

18

C 1064/C 1064M – 08

accuracy. This
readings of the
ures at least 30

ıg devices may
ıniform density

ıt within 0.5 °F

ıce temperature
minimum of 5

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liquid to avoid
rature exposure

around the temperature measuring device at the surface of the concrete to prevent ambient air temperature from affecting the reading.

7.2 Leave the temperature measuring device in the freshly mixed concrete for at least 2 min but not more than 5 min, then read and record the temperature to the nearest 1 °F [0.5 °C]. Do not remove the device from the concrete when reading the temperature.

8. Report

8.1 Report the measured temperature of the freshly mixed concrete to the nearest 1 °F [0.5 °C].

9. Precision and Bias

9.1 The single operator standard deviation for measurement of concrete temperature has been found to be 0.5 °F.[5] Therefore, results of two properly conducted tests by the same operator on the same sample of material should not differ by more than 1.3 °F.[5]

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ASTM C172
SAMPLING FRESHLY MIXED CONCRETE

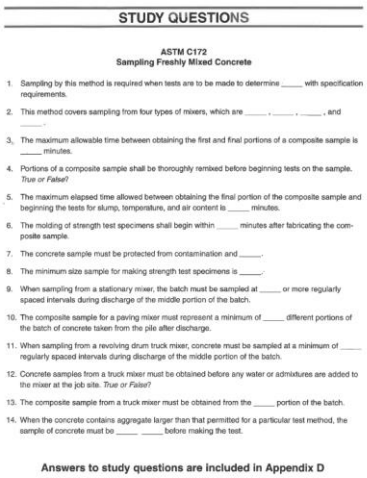
20

ASTM C172
SAMPLING FRESHLY MIXED CONCRETE

- https://www.youtube.com/watch?v=P62aGnaS6CU

21

ASTM C172
SAMPLING FRESHLY MIXED CONCRETE



STUDY QUESTIONS

ASTM C172
Sampling Freshly Mixed Concrete

1. Sampling by this method is required when tests are to be made to determine _____ with specification requirements.
2. This method covers sampling from four types of mixers, which are _____, _____, _____, and _____.
3. The maximum allowable time between obtaining the first and final portions of a composite sample is _____ minutes.
4. Portions of a composite sample shall be thoroughly remixed before beginning tests on the sample. *True or False?*
5. The maximum elapsed time allowed between obtaining the final portion of the composite sample and beginning the tests for slump, temperature, and air content is _____ minutes.
6. The molding of strength test specimens shall begin within _____ minutes after fabricating the composite sample.
7. The concrete sample must be protected from contamination and _____.
8. The minimum size sample for making strength test specimens is _____.
9. When sampling from a stationary mixer, the batch must be sampled at _____ or more regularly spaced intervals during discharge of the middle portion of the batch.
10. The composite sample for a paving mixer must represent a minimum of _____ different portions of the batch of concrete taken from the pile after discharge.
11. When sampling from a revolving drum truck mixer, concrete must be sampled at a minimum of _____ regularly spaced intervals during discharge of the middle portion of the batch.
12. Concrete samples from a truck mixer must be obtained before any water or admixtures are added to the mixer at the job site. *True or False?*
13. The composite sample from a truck mixer must be obtained from the _____ portion of the batch.
14. When the concrete contains aggregate larger than that permitted for a particular test method, the sample of concrete must be _____ _____ before making the test.

Answers to study questions are included in Appendix D

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SCREW!
(HOW TO PROTECT THE SAMPLE)

Sun
Contamination
Rapid
Evaporation
Wind

23

ASTM C143
SLUMP

24

ASTM C143
SLUMP

- https://www.youtube.com/watch?v=NM0YeQUjyl4

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ASTM C143 SLUMP

STUDY QUESTIONS

ASTM C143
Slump of Hydraulic-Cement Concrete

1. The slump test is applicable to plastic concrete with a maximum size aggregate of _____ .
2. When the concrete contains aggregate larger than allowed for the slump test, the large aggregate must be _____.
3. The mold for making the slump test is in the shape of _____.
4. The height of the slump mold is _____.
5. The interior surface of the slump mold is allowed to have minor irregularities. *True or False*?
6. For use in the slump test, the end or both ends of the tamping rod must be _____.
7. The sample of concrete for use in making the slump test must be obtained in accordance with ASTM Standard _____.
8. The slump mold should be in a dry condition before beginning the test. *True or False*?
9. The surface on which the slump mold will be placed must be _____.
10. The slump mold is filled in _____ layers.
11. Each layer should fill approximately _____ the volume of the mold.
12. The approximate concrete depth (in vertical distance) after placing the first layer is _____, and the second layer is _____.
13. What is the specified number of roddings for each layer?
14. How deep should the tamping rod penetrate into each layer?
15. When rodding the bottom layer, the tamping rod must be _____ to uniformly distribute the strokes.
16. What must be done if the concrete drops below the top of the slump mold while the top layer is being rodded?
17. Prior to lifting the mold, concrete must be removed from _____.
18. After the final rodding, the sides of the slump mold should be tapped lightly with the tamping rod. *True or False*?
19. When raising the slump mold, it should not be rotated or twisted. *True or False*?
20. How much time is allowed for lifting the slump mold?
21. The measurement for slump is made from the top of the mold to what point of the concrete specimen?
22. The slump of the concrete is measured and reported to the nearest _____.
23. How much time is allowed to conduct the slump test from beginning to completion?

Answers to study questions are included in Appendix D

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1. The Mold for Making the slump test is in the shape of?

   The FRUSTUM of a Cone

2. Each Layer should fill approximately **1/3** the volume of the mold.
3. How much time is allowed for lifting the slump mold?

   5 sec. + 2 sec.

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ASTM C138
UNIT WEIGHT, YIELD AND AIR CONTENT

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ASTM C138
UNIT WEIGHT

- https://www.youtube.com/watch?v=1mLgdtgRxY8

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ASTM C138 UNIT WEIGHT

STUDY QUESTIONS

ASTM C138
Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

1. The diameter of the tamping rod used in this test method is _____ .
2. What is the required shape of the tamping end of the rod?
3. What is the required minimum frequency of the vibrator used in this test method?
4. The outside diameter or side dimension of the vibrating element must be at least _____ but not greater than _____ .
5. A plastic container can be used for the measure in this method. *True or False*?
6. What is the minimum thickness of a metal strike-off plate?
7. What is the minimum thickness for a glass or acrylic strike-off plate?
8. What is the specified weight of the mallet used on measures that are 0.5 ft³ [14 L] or smaller?
9. Measures other than air meter bowls used for this test must conform to ASTM _____.
10. Air meter bowls used for this test must conform to ASTM _____ and be calibrated for volume according to ASTM _____.
11. The concrete sample must be obtained in accordance with what ASTM method?
12. What method of consolidation must be used when the slump is greater than 3 in. [75 mm]?
13. What method of consolidation must be used when the slump is less than 1 in. [25 mm]?
14. If rodding is the method of consolidation being used, the measure must be filled in how many layers?
15. For a measure of 0.5 ft³ [14 L], what is the required number of strokes of the tamping rod for consolidation of each layer?
16. When rodding the middle and the top layers, the tamping rod should penetrate into the layer below approximately _____.
17. If vibration is the method of consolidation, the measure must be filled in _____ approximately equal layers.
18. If, after consolidation of the final layer, the concrete level is 1/2 in. (13 mm) above the top of the measure, what should be done?
19. After consolidation of the final layer, an excess of concrete _____ above the top of the measure is considered optimum.
20. After completing the strike-off procedure, what must be done before weighing the measure and sample?

21. Density (Unit Weight) Calculation

Known: Volume of measure = 0.504 ft³ [14.27 L or 0.01427 m³]
Mass of empty measure = 19.6 lb [8.89 kg]

The procedures of Method C138 are followed, and the mass of the measure plus the concrete is found to be 92.1 lb [41.78 kg]. Calculate the density of the concrete in lb/ft³ [kg/m³].

22. Yield Calculations

For a design batch of 7.0 yd³ [5.4 m³], the total mass of all materials batched was 27,300 lb [12,383 kg]. Using the density of the concrete as determined in Question 21, calculate:
a) The yield per batch ft³
b) The yield per batch in yd³
c) The yield in m³
d) The yield per cubic yard in ft³/yd³

Notes: The formula for yield in ft³ has been removed in this version of C138, but has been retained here for information purposes only.
Also, the expression of yield as ft³/yd³ is an industry practice in some regions where inch-pound units are used, is not expressed as such in ASTM C138, and has no metric counterpart; it is provided for informational purposes only.

23. Relative Yield Calculation

Using the information given and calculated in Question 22, calculate the relative yield for the batch of concrete.

24. Air Content Calculation

Your air meter has been damaged in transit to the job site. You do, however, possess the theoretical density that was determined in the lab; it is 151.4 lb/ft³ (2425 kg/m³). Using the density calculated in Question 21, calculate the air content of the batch (in percentage).

Answers to study questions are included in Appendix D

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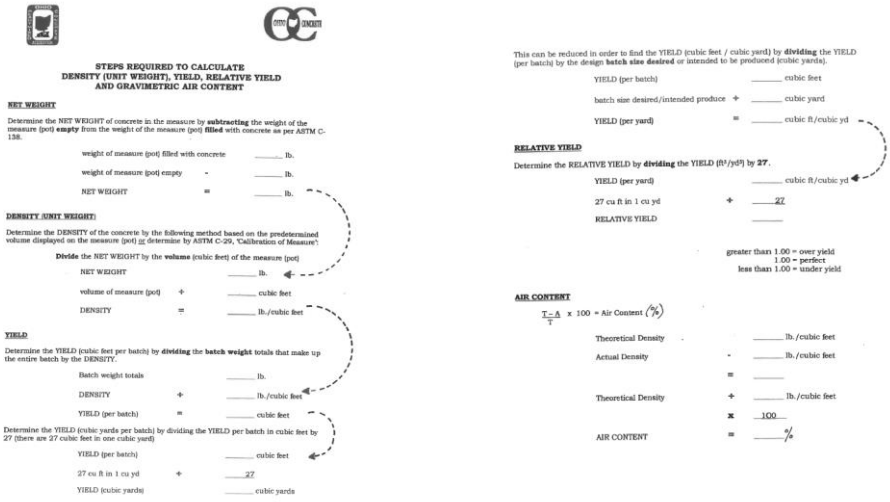
UNIT WEIGHT CALCULATIONS



STEPS REQUIRED TO CALCULATE DENSITY (UNIT WEIGHT), YIELD, RELATIVE YIELD AND GRAVIMETRIC AIR CONTENT

NET WEIGHT

Determine the NET WEIGHT of concrete in the measure by **subtracting** the weight of the measure (pot) **empty** from the weight of the measure (pot) **filled** with concrete as per ASTM C-138.

weight of measure (pot) filled with concrete _____ lb.
weight of measure (pot) empty - _____ lb.
NET WEIGHT = _____ lb.

DENSITY (UNIT WEIGHT)

Determine the DENSITY of the concrete by the following method based on the predetermined volume displayed on the measure (pot) or determine by ASTM C-29, 'Calibration of Measure':

Divide the NET WEIGHT by the **volume** (cubic feet) of the measure (pot)

NET WEIGHT _____ lb.
volume of measure (pot) + _____ cubic feet
DENSITY = _____ lb./cubic feet

YIELD

Determine the YIELD (cubic feet per batch) by **dividing** the **batch weight** totals that make up the entire batch by the DENSITY.

Batch weight totals _____ lb.
DENSITY + _____ lb./cubic feet
YIELD (per batch) = _____ cubic feet

Determine the YIELD (cubic yards per batch) by dividing the YIELD per batch in cubic feet by 27 (there are 27 cubic feet in one cubic yard)

YIELD (per batch) _____ cubic feet
27 cu ft in 1 cu yd + 27
YIELD (cubic yards) _____ cubic yards

This can be reduced in order to find the YIELD (cubic feet / cubic yard) by **dividing** the YIELD (per batch) by the design **batch size desired** or intended to be produced (cubic yards).

YIELD (per batch) _____ cubic feet
batch size desired/intended produce + _____ cubic yard
YIELD (per yard) = _____ cubic ft/cubic yd

RELATIVE YIELD

Determine the RELATIVE YIELD by **dividing** the YIELD (ft^3/yd^3) by **27**.

YIELD (per yard) _____ cubic ft/cubic yd
27 cu ft in 1 cu yd + 27
RELATIVE YIELD _____

greater than 1.00 = over yield
1.00 = perfect
less than 1.00 = under yield

AIR CONTENT

$\frac{T-A}{T} \times 100 =$ Air Content (%)

Theoretical Density _____ lb./cubic feet
Actual Density - _____ lb./cubic feet
= _____
Theoretical Density + _____ lb./cubic feet
x 100
AIR CONTENT = _____ %

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ASTM C231
AIR CONTENT (PRESSURE METHOD)

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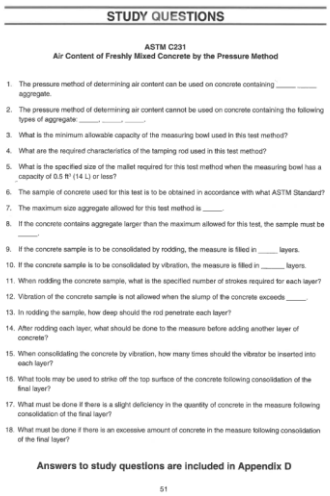
ASTM C231
AIR CONTENT (PRESSURE METHOD)

- https://www.youtube.com/watch?v=ysEs6SDQblU

33

ASTM C231
AIR CONTENT (PRESSURE METHOD)



STUDY QUESTIONS

ASTM C231
Air Content of Freshly Mixed Concrete by the Pressure Method

1. The pressure method of determining air content can be used on concrete containing _____, _____ aggregate.
2. The pressure method of determining air content cannot be used on concrete containing the following types of aggregate: _____, _____, _____.
3. What is the minimum allowable capacity of the measuring bowl used in this test method?
4. What are the required characteristics of the tamping rod used in this test method?
5. What is the specified size of the mallet required for this test method when the measuring bowl has a capacity of 0.5 ft³ (14 L) or less?
6. The sample of concrete used for this test is to be obtained in accordance with what ASTM Standard?
7. The maximum size aggregate allowed for this test method is _____.
8. If the concrete contains aggregate larger than the maximum allowed for this test, the sample must be _____.
9. If the concrete sample is to be consolidated by rodding, the measure is filled in _____ layers.
10. If the concrete sample is to be consolidated by vibration, the measure is filled in _____ layers.
11. When rodding the concrete sample, what is the specified number of strokes required for each layer?
12. Vibration of the concrete sample is not allowed when the slump of the concrete exceeds _____.
13. In rodding the sample, how deep should the rod penetrate each layer?
14. After rodding each layer, what should be done to the measure before adding another layer of concrete?
15. When consolidating the concrete by vibration, how many times should the vibrator be inserted into each layer?
16. What tools may be used to strike off the top surface of the concrete following consolidation of the final layer?
17. What must be done if there is a slight deficiency in the quantity of concrete in the measure following consolidation of the final layer?
18. What must be done if there is an excessive amount of concrete in the measure following consolidation of the final layer?

Answers to study questions are included in Appendix D

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1. What are the required characteristics of the tamping rod used in this test method?

   Round, straight steel rod, with a 5/8” diameter, at least 4” greater than the depth of the measuring bowl, but not greater than 24” in length, with the tamping end rounded to a hemispherical tip.

2. What tools may be used to strike off the top surface of the concrete following consolidation of the final layer?

   A strike-off bar; a metal, glass or acrylic plate

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ASTM C173
AIR CONTENT (VOLUMETRIC METHOD)

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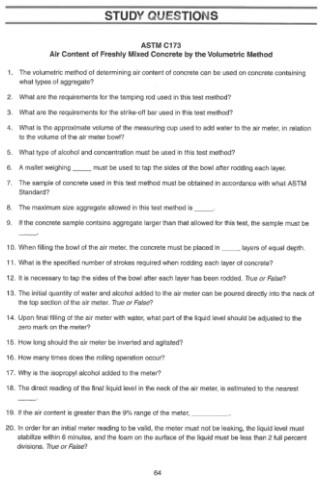
ASTMC173
AIR CONTENT (VOLUMETRIC METHOD)

- https://www.youtube.com/watch?v=48oTYbI0378&t=285s

37

ASTM C173
AIR CONTENT (VOLUMETRIC METHOD)



STUDY QUESTIONS

ASTM C173
Air Content of Freshly Mixed Concrete by the Volumetric Method

1. The volumetric method of determining air content of concrete can be used on concrete containing what types of aggregate?
2. What are the requirements for the tamping rod used in this test method?
3. What are the requirements for the strike-off bar used in this test method?
4. What is the approximate volume of the measuring cup used to add water to the air meter, in relation to the volume of the air meter bowl?
5. What type of alcohol and concentration must be used in this test method?
6. A mallet weighing _____ must be used to tap the sides of the bowl after rodding each layer.
7. The sample of concrete used in this test method must be obtained in accordance with what ASTM Standard?
8. The maximum size aggregate allowed in this test method is _____.
9. If the concrete sample contains aggregate larger than that allowed for this test, the sample must be _____.
10. When filling the bowl of the air meter, the concrete must be placed in _____ layers of equal depth.
11. What is the specified number of strokes required when rodding each layer of concrete?
12. It is necessary to tap the sides of the bowl after each layer has been rodded. *True or False*?
13. The initial quantity of water and alcohol added to the air meter can be poured directly into the neck of the top section of the air meter. *True or False*?
14. Upon final filling of the air meter with water, what part of the liquid level should be adjusted to the zero mark on the meter?
15. How long should the air meter be inverted and agitated?
16. How many times does the rolling operation occur?
17. Why is the isopropyl alcohol added to the meter?
18. The direct reading of the final liquid level in the neck of the air meter, is estimated to the nearest _____.
19. If the air content is greater than the 9% range of the meter, _____.
20. In order for an initial meter reading to be valid, the meter must not be leaking, the liquid level must stabilize within 6 minutes, and the foam on the surface of the liquid must be less than 2 full percent divisions. *True or False*?

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21. If less than 2.5 pints of alcohol are used, the air content is always indicated by the final meter reading. *True or False*?
22. If more than 2.5 pints of alcohol are used, the final meter reading is always adjusted using _____.
23. When large amounts of alcohol are used, the direct reading will tend to indicate a _____ air content.
24. At the end of the procedure, the air meter is _____.
25. If portions of undisturbed concrete are found in the air meter at the end of the test, _____.

Answers to study questions are included in Appendix D

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1. This test can be used on concrete containing what types of aggregate?

   All types of aggregate

2. What type of alcohol must be used in this test method?

   Isopropyl

3. The initial quantity of water and alcohol added to the air meter can be poured directly into the neck of the top section of the air meter. True or False?

   False; the funnel must be used

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ASTM C31
MAKING AND CURING TEST SPECIMENS

40

ASTM C31
MAKING AND CURING TEST SPECIMENS

- https://www.youtube.com/watch?v=YvMWCSVIzVI

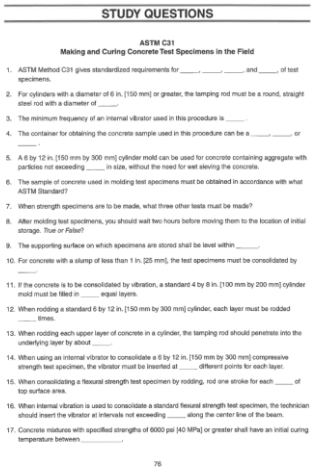
41

BEAMS

- Test Beams have been recently added to this standard.
- Currently no beam questions on the test
- Expect beam questions soon!

42

ASTM C31
MAKING AND CURING TEST SPECIMENS



STUDY QUESTIONS

ASTM C31
Making and Curing Concrete Test Specimens in the Field

1. ASTM Method C31 gives standardized requirements for _____, _____, _____, and _____, of test specimens.
2. For cylinders with a diameter of 6 in. [150 mm] or greater, the tamping rod must be a round, straight steel rod with a diameter of _____.
3. The minimum frequency of an internal vibrator used in this procedure is _____.
4. The container for obtaining the concrete sample used in this procedure can be a _____, _____, or _____.
5. A 6 by 12 in. [150 mm by 300 mm] cylinder mold can be used for concrete containing aggregate with particles not exceeding _____ in size, without the need for wet sieving the concrete.
6. The sample of concrete used in molding test specimens must be obtained in accordance with what ASTM Standard?
7. When strength specimens are to be made, what three other tests must be made?
8. After molding test specimens, you should wait two hours before moving them to the location of initial storage. *True or False*?
9. The supporting surface on which specimens are stored shall be level within _____.
10. For concrete with a slump of less than 1 in. [25 mm], the test specimens must be consolidated by _____.
11. If the concrete is to be consolidated by vibration, a standard 4 by 8 in. [100 mm by 200 mm] cylinder mold must be filled in _____ equal layers.
12. When rodding a standard 6 by 12 in. [150 mm by 300 mm] cylinder, each layer must be rodded _____ times.
13. When rodding each upper layer of concrete in a cylinder, the tamping rod should penetrate into the underlying layer by about _____.
14. When using an internal vibrator to consolidate a 6 by 12 in. [150 mm by 300 mm] compressive strength test specimen, the vibrator must be inserted at _____ different points for each layer.
15. When consolidating a flexural strength test specimen by rodding, rod one stroke for each _____ of top surface area.
16. When internal vibration is used to consolidate a standard flexural strength test specimen, the technician should insert the vibrator at intervals not exceeding _____ along the center line of the beam.
17. Concrete mixtures with specified strengths of 6000 psi [40 MPa] or greater shall have an initial curing temperature between _____.

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18. Up to 48 hours after molding, test specimens that are to be standard cured shall be stored in a temperature range between _____ to _____.
19. Upon completion of initial curing, the test specimens may be left in their molds and sealed in plastic bags. *True or False*?
20. During transportation, test specimens must be protected from damage due to _____, _____, and _____.
21. Specimens shall not be transported until _____ after final set.
22. Transportation time shall not exceed _____.
23. Standard Curing is the curing method used when test specimens are to be used for _____.
24. Field Curing is the curing method used when test specimens are to be used for _____.
25. Cylinders that are to be field cured are stored _____ and protected _____.
26. The temperature and moisture environment for field cured cylinders must be _____.
27. Cylinders made for the purpose of determining when a structure may be put into service shall be removed from the molds _____.

Answers to study questions are included in Appendix D

MAX AGGREGATE SIZES

Test Procedure	Max Size Agg	Wet Sieve Size
Slump	1-1/2”	1-1/2”
Unit Weight	N/A	N/A
Pressure Air	2”	1-1/2”
Volumetric Air	1-1/2”	1”
Cylinders	1/3 of Diameter	

PRIORITIZE AND EXECUTE

45

1. EACH QUESTION HAS ONE (1) CORRECT OR BEST ANSWER.

a. **Answer is written in the box.**

b. **If you change an answer, *completely erase it – Do NOT cross off the answer and then write the correct answer next to the crossed off answer. Write the correct answer in the box.***

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2. READ THE ENTIRE QUESTION

Circle or underline the key words in the question.

EXAMPLE:

Which of the following is not a part of the definition of the slump cone rod?

A. 5/8 inch (16 mm) diameter.

B. Hemispherical tipped end.

C. Straight steel rod.

D. 48 inch (1200 mm) length.

3. READ ALL THE OPTIONS BEFORE SELECTING THE "CORRECT" ANSWER.

Some questions have more than one answer. Make sure you read all the options.

EXAMPLE:

Which of the following is part of the description of the slump cone rod?

A. 5/8 inch (16 mm) diameter.
B. Hemispherical tipped end.
C. Straight steel rod.
D. All of the above.

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4. ANSWER THE QUESTIONS YOU KNOW FIRST.

DO NOT GET HUNG UP ON THE QUESTIONS YOU DO NOT KNOW THE ANSWERS .

50

5. WHEN YOU DON'T KNOW THE CORRECT ANSWER, ELIMINATE THE ANSWERS YOU KNOW ARE WRONG. THIS INCREASES YOUR CHANCES FOR SUCCESS.

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6. MAKE SURE YOU ARE PUTTING THE ANSWERS IN THE CORRECT BOX.

I recommend that you answer the questions in the exam book, then put answers on the answer sheet.

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7. AFTER COMPLETING THE TEST, GO BACK OVER AND DO THE ENTIRE TEST AGAIN. IT WILL GO FASTER AND YOU CAN MAKE SURE ALL YOUR ANSWERS ARE FILLED IN CORRECTLY.

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8. TAKE A DEEP BREATH, REMEMBER.

YOU HAVE STUDIED THIS MATERIAL.
YOU GOT THIS!

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FIELD GRADE I

The sponsoring group may or may not have a review class.

If offered take it! However, do NOT depend on the review class to pass this exam.

You must be pro-active and put time and effort into passing the exam!

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GAME PLAN FOR SUCCESS

1. Have current ASTM Standards.
2. Have current ACI Concrete Field Testing Technician Grade I Technician Workbook CP-1.
3. Make blank copies of study questions and sample exam. Test yourself over and over.
4. Watch videos on You tube.
5. Do each test with an experienced technician.
6. Practice, Practice, Practice!!!!
7. Know the **STUDY QUESTIONS!**

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RECERTIFICATION

- This ACI certification expires in 5 years
- Must retake the exam every 5 years to remain certified.
- Gets easier every time!

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What is your

WHY?

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ANY QUESTIONS?

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PREPARING FOR AN ACI FIELD TECHNICIAN CERTIFICATION

Jason Cross
Norwalk Concrete Industries

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