

CSLB Concrete C-8 License 2 Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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1. The average of the expansion of the aggregate at 16 days when tested in conformance with the requirements is less than or equal to _____ percent.
 - A. 0.04 percent
 - B. 0.20 percent
 - C. 0.10 percent
 - D. 0.15 percent

2. The minimum cementitious material that is required for concrete bridging deck is _____ lbs/cu yd.
 - A. 675
 - B. 700
 - C. 650
 - D. 600

3. How much concrete is required to pour a volume of 15' x 30' x 1.5'?
 - A. 28 cubic yards
 - B. 25 cubic yards
 - C. 21 cubic yards
 - D. 30 cubic yards

4. Specific performance admixtures are the admixtures that can provide a desired performance characteristics other than:
 - A. Reducing water content
 - B. All of these
 - C. Changing the setting time
 - D. Changing the functionality

5. In a batch of 150 cubic feet with a mix ratio of 1:2:4 (cement:sand:coarse aggregate by volume), how many cubic feet of sand are required?
 - A. 28.57 cu ft
 - B. 42.85 cu ft
 - C. 60.0 cu ft
 - D. 75.0 cu ft

6. At 16 days, the aggregate expansion limit is 0.15 percent. What is the expansion limit for one year or less?
- A. 0.04 percent
 - B. 0.15 percent
 - C. 0.40 percent
 - D. 0.01 percent
7. The key difference between binary and ternary mixes is which factor?
- A. Type of aggregate
 - B. Curing temperature
 - C. Number of SCM used
 - D. Water content
8. For the same cross-sectional area, which column shape typically carries more load?
- A. Square
 - B. Rectangular
 - C. Circular
 - D. Triangular
9. The amount of free water used in concrete shall not exceed _____ pounds per cubic yard of concrete.
- A. 300
 - B. 310
 - C. 320
 - D. 290
10. If the concrete surface requires frequent cleaning, or the concrete surface is to be used as flooring, it shall have a _____ finish.
- A. Smooth
 - B. Rough
 - C. Textured
 - D. Polished

Answers

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1. D
2. A
3. B
4. B
5. B
6. A
7. C
8. C
9. B
10. A

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Explanations

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1. The average of the expansion of the aggregate at 16 days when tested in conformance with the requirements is less than or equal to _____ percent.
- A. 0.04 percent
 - B. 0.20 percent
 - C. 0.10 percent
 - D. 0.15 percent**

This question tests the limit used to screen aggregates for alkali-aggregate reaction by measuring how much the aggregate expands in a standard test. When the aggregate is tested under the required procedure, the average expansion after 16 days must not exceed a specific maximum. That maximum is 0.15 percent, which is set to balance safety against excessive expansion with the practical variability of materials and testing. If the measured expansion reaches 0.15 percent or more, the aggregate is considered potentially reactive and may require using a non-reactive substitute or applying mitigation. The other numbers listed aren't the standard allowable limit, since 0.15 percent is the established cutoff.

2. The minimum cementitious material that is required for concrete bridging deck is _____ lbs/cu yd.
- A. 675**
 - B. 700
 - C. 650
 - D. 600

Bridge deck mixes are required to have a minimum amount of cementitious material to ensure durability, proper paste content, and resistance to freeze-thaw and deicing salts. Cementitious material includes cement plus any supplementary cementitious materials (such as fly ash, slag, or silica fume) counted toward the total. The standard minimum is 675 pounds per cubic yard. This level provides enough paste to coat aggregates, achieve the necessary density and bonding, and work well with air-entraining admixtures to improve durability under harsh conditions. Values lower than this would create a leaner mix with higher permeability and greater risk of cracking, scaling, and salt damage, while the total can be met by combining cement with SCMs as long as the overall content reaches 675 lb/yd³.

3. How much concrete is required to pour a volume of 15' x 30' x 1.5'?
- A. 28 cubic yards
 - B. 25 cubic yards**
 - C. 21 cubic yards
 - D. 30 cubic yards

To determine how much concrete is needed, first find the volume in consistent units. Multiply the length, width, and thickness in feet: $15 \times 30 \times 1.5 = 675$ cubic feet. Since 1 cubic yard equals 27 cubic feet, convert by dividing: $675 \div 27 = 25$. So 25 cubic yards of concrete are required (assuming no waste or overage).

4. **Specific performance admixtures are the admixtures that can provide a desired performance characteristics other than:**
- A. Reducing water content
 - B. All of these**
 - C. Changing the setting time
 - D. Changing the functionality

Specific performance admixtures are used to tailor concrete to achieve properties beyond the basic changes like lowering water content, altering the setting time, or changing general workability. In practice, these additives are chosen to deliver targeted durability and long-term performance—things like improved freeze-thaw resistance, reduced permeability to guard against chloride intrusion, control of shrinkage cracking, enhanced surface finish, or increased abrasion resistance. The question asks for performance characteristics beyond the ones listed, and that broad capability is captured by selecting “All of these.” It signals that there are multiple potential targets for specific performance admixtures, not just the three listed.

5. **In a batch of 150 cubic feet with a mix ratio of 1:2:4 (cement:sand:coarse aggregate by volume), how many cubic feet of sand are required?**
- A. 28.57 cu ft
 - B. 42.85 cu ft**
 - C. 60.0 cu ft
 - D. 75.0 cu ft

In concrete mixes by volume, each component’s portion of the total depends on its part in the ratio. Here the ratio is cement:sand:coarse aggregate = 1:2:4, so there are 7 total parts and sand accounts for 2 of those parts. Sand volume = total batch × (sand parts / total parts) = $150 \times (2/7) = 300/7 \approx 42.857$ cubic feet, which rounds to about 42.85 cubic feet. So the sand required is approximately 42.85 cubic feet. The other numbers would correspond to different fractions of the total (for example, one part or four parts, etc.), not the two-part share of the seven in this mix.

6. **At 16 days, the aggregate expansion limit is 0.15 percent. What is the expansion limit for one year or less?**
- A. 0.04 percent**
 - B. 0.15 percent
 - C. 0.40 percent
 - D. 0.01 percent

Expansion limits for aggregate are tied to the curing period. The standard uses a stricter threshold for longer timeframes to ensure long-term stability. If the expansion is measured over a year or less, the allowable limit is 0.04%, which is more restrictive than the 16-day limit of 0.15%. That tighter cap helps prevent significant expansion from developing within the first year of use. The other options either repeat the 16-day limit (0.15%), are too permissive (0.40%), or too small (0.01%) compared to the established standard for a year or less.

7. The key difference between binary and ternary mixes is which factor?

- A. Type of aggregate**
- B. Curing temperature**
- C. Number of SCM used**
- D. Water content**

The main idea is how many cementitious materials are blended in the mix. A binary mix uses two cementitious components, such as Portland cement plus one supplementary cementitious material (SCM). A ternary mix includes three cementitious materials, meaning two SCMs in addition to cement. Because of this, the defining difference between binary and ternary is the number of SCMs used. For example, binary could be Portland cement with fly ash, while ternary could be Portland cement with fly ash and silica fume. The other factors—type of aggregate, curing temperature, and water content—affect performance but don't define whether a mix is binary or ternary.

8. For the same cross-sectional area, which column shape typically carries more load?

- A. Square**
- B. Rectangular**
- C. Circular**
- D. Triangular**

When a column carries load in compression, buckling resistance often limits how much load it can take. The key factor here is the moment of inertia of the cross-section: the larger the moment of inertia about the axis of buckling, the more resistant the member is to lateral deflection. For a given cross-sectional area, the circular shape has the largest moment of inertia about any centroidal axis, which means it stays straighter longer under load. Therefore, a circular cross-section can carry a higher axial load before buckling than square, rectangular, or triangular shapes with the same area. If buckling isn't the controlling factor, material strength and area govern the load, but in typical slender-column scenarios, the circular shape is most efficient for carrying load.

9. The amount of free water used in concrete shall not exceed _____ pounds per cubic yard of concrete.

- A. 300**
- B. 310**
- C. 320**
- D. 290**

Controlling the amount of free water in concrete is essential because it directly affects the water-cement ratio, which in turn governs strength, durability, and shrinkage. Free water is the portion of water in the mix that is not chemically bound or absorbed by aggregates; it's the water that remains available to influence workability and bleeding. If free water is allowed to exceed the specified maximum, the water-cement ratio increases, leading to weaker concrete with higher permeability and more cracking potential. In this context, there is a standard cap for free water per cubic yard, which sets the upper limit to prevent weakening the mix. Sticking to this limit keeps the mix within a workable yet strong range. Values below the cap still meet the requirement, while going above the cap would violate the specification and compromise strength and durability.

10. If the concrete surface requires frequent cleaning, or the concrete surface is to be used as flooring, it shall have a _____ finish.

- A. Smooth**
- B. Rough**
- C. Textured**
- D. Polished**

When a concrete surface will be cleaned frequently or used as flooring, it should be finished smooth. A smooth finish creates a dense, low-porosity surface that's easy to wipe, mop, and disinfect, with fewer crevices for dirt, oils, and moisture to cling to. Rough or textured finishes tend to trap dirt and moisture, making cleaning much harder and more labor-intensive. Polished floors can also be very smooth but involve a different finishing process and may not be the intended standard in every scenario. The smooth finish provides practical cleanability and durability for surfaces that see regular maintenance or foot traffic.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://cslbconcretec82.examzify.com>

We wish you the very best on your exam journey. You've got this!

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