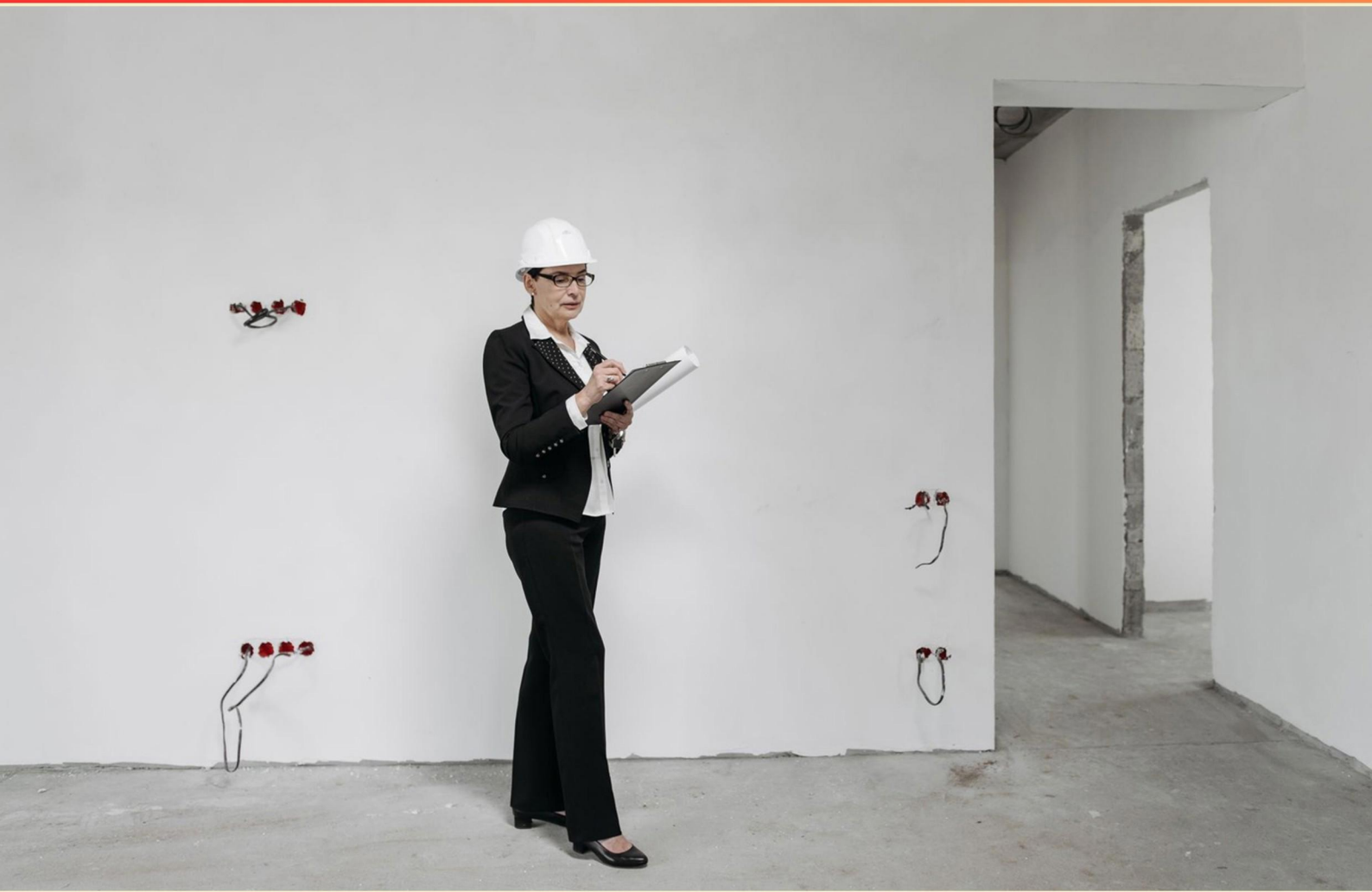


SPECIAL INSPECTOR (SI) CERTIFICATIONS FIREPROOFING PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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. On a W-shaped column with specified thickness 1-7/16 inch, if all but two measurements exceed 1-7/16 inch, and the two below are 1-3/16 and 1-1/4 inch, the specimen is acceptable.**
 - A. Yes, acceptable
 - B. No, not acceptable
 - C. Only if the two below meet a revised criterion
 - D. Only if more than two below meet spec

- 2. When testing SFRM thickness on a deck, what is the square area of the test area?**
 - A. 100 square inches
 - B. 144 square inches
 - C. 196 square inches
 - D. 225 square inches

- 3. For SFRM applications, substrate temperatures must be maintained at 40 degrees Fahrenheit for 24 hours. Which option reflects this statement?**
 - A. 32°F for 12 hours
 - B. 40°F for 24 hours
 - C. 45°F for 24 hours
 - D. 40°F for 12 hours

- 4. When testing a W-shaped column for SFRM thickness, the specified thickness is 1-7/16 inch. 2 of the measurements are 1-3/16 inch and 1-1/4 inch while the rest are above 1-7/16 inch. Is this acceptable?**
 - A. Yes, acceptance criteria is met
 - B. No, not acceptable
 - C. Only if the two below meet a revised criterion
 - D. Only if more measurements exceed the spec

- 5. A building has 15,010 sf of metal decking at the roof level that receives SFRM. How many thickness tests must be taken on the deck?**
 - A. 12
 - B. 16
 - C. 20
 - D. 24

6. The bond strength testing method described in Technical Manual 12-A can be used up to what bond strength?
- A. 900 psf
 - B. 1,000 psf
 - C. 1,146 psf
 - D. 1,200 psf
7. What is the minimum allowable average TFIFRM thickness for a beam that requires 48 mils of thickness?
- A. 90% of specified thickness
 - B. 50% of specified thickness
 - C. 100% of specified thickness
 - D. 110% of specified thickness
8. Why are curing conditions critical in cementitious fireproofing?
- A. Proper curing ensures max bond strength, prevents cracking, and achieves specified fire resistance.
 - B. Curing only affects color and texture, not performance.
 - C. Curing is optional if initial application is done quickly.
 - D. Curing primarily decreases cost by reducing material usage.
9. What is the maximum allowable relative humidity when drying SFRM for density testing?
- A. 60%
 - B. 50%
 - C. 70%
 - D. 80%
10. What is the unit used to express SFRM bond strength in tests?
- A. psi
 - B. psf
 - C. ksi
 - D. Pa

Answers

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

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Explanations

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1. On a W-shaped column with specified thickness 1-7/16 inch, if all but two measurements exceed 1-7/16 inch, and the two below are 1-3/16 and 1-1/4 inch, the specimen is acceptable.

A. Yes, acceptable

B. No, not acceptable

C. Only if the two below meet a revised criterion

D. Only if more than two below meet spec

When evaluating thickness, you're allowed a limited number of locations that can fall below the specified minimum. For this W-shaped column, the required thickness is 1-7/16 in. If all but two measurements meet or exceed that value, and the two that are below measure 1-3/16 in and 1-1/4 in, the specimen still meets the acceptance rule because only two locations are under the minimum. The shortfall at those two spots is 0.25 in and 0.1875 in, which stays within the allowed count of under-thickness readings. Therefore, the specimen is acceptable.

2. When testing SFRM thickness on a deck, what is the square area of the test area?

A. 100 square inches

B. 144 square inches

C. 196 square inches

D. 225 square inches

A consistent test area size is used so the thickness measurements are representative and repeatable. Using a square that is 12 inches by 12 inches provides enough surface to take multiple thickness readings and average them, while still being manageable on a deck and aligning with common testing procedures. The area equals 144 square inches, which balances capturing surface variability with practicality in field testing. Smaller areas (like 10 by 10) could exaggerate local irregularities, while much larger areas aren't typically required by standard practices.

3. For SFRM applications, substrate temperatures must be maintained at 40 degrees Fahrenheit for 24 hours. Which option reflects this statement?

A. 32°F for 12 hours

B. 40°F for 24 hours

C. 45°F for 24 hours

D. 40°F for 12 hours

Maintaining the right substrate temperature for the full curing period is essential for SFRM to set and bond properly. The requirement states keeping the substrate at exactly 40°F for 24 hours, which ensures the material cures under controlled conditions and avoids issues from freezing or premature drying. Why this matches: 40°F for 24 hours provides both the correct temperature and the full cure duration needed. Deviating from this—such as lower temperature or shorter time—risks incomplete curing or improper adhesion, while a higher temperature changes the cure characteristics. The option that reflects 40°F for 24 hours is the one that aligns with this specified condition.

4. When testing a W-shaped column for SFRM thickness, the specified thickness is 1-7/16 inch. 2 of the measurements are 1-3/16 inch and 1-1/4 inch while the rest are above 1-7/16 inch. Is this acceptable?

- A. Yes, acceptance criteria is met
- B. No, not acceptable
- C. Only if the two below meet a revised criterion
- D. Only if more measurements exceed the spec

The key idea is how acceptance is determined for SFRM thickness: you don't need every point to hit exactly the specified thickness, but you must meet the allowable tolerance pattern defined by the testing standard. In many field-testing schemes, a small number of readings below the exact thickness is permissible as long as the overall results meet the required criteria (for example, only a limited percentage of points may fall short, while readings at or above the specified thickness are acceptable). Here, the specified thickness is 1-7/16 inch. Two measurements come in below that value (1-3/16 and 1-1/4), while the rest are at or above the specified thickness. Because the majority meet or exceed the target and the under-thickness readings are within the typical allowable limits, the installation would pass the acceptance criteria. If the number of readings below the spec or the shortfalls were larger than what the protocol allows, it would not be acceptable.

5. A building has 15,010 sf of metal decking at the roof level that receives SFRM. How many thickness tests must be taken on the deck?

- A. 12
- B. 16
- C. 20
- D. 24

The number of thickness tests is tied to the deck area, with one thickness test required for every 1,000 square feet or fraction thereof. For 15,010 square feet, you divide by 1,000 to get 15.01, and you must round up to ensure full coverage. That gives 16 thickness tests. This approach ensures the sprayed fireproofing on the metal deck is uniformly thick across the entire area. If you did only 12 tests, you'd be testing only 12,000 square feet and leaving a significant portion unchecked. The higher options would exceed the minimum necessary given the rule, so 16 is the correct minimum.

6. The bond strength testing method described in Technical Manual 12-A can be used up to what bond strength?

- A. 900 psf
- B. 1,000 psf
- C. 1,146 psf
- D. 1,200 psf

The main idea here is that every bond strength test method has a defined upper range where its results are reliable. Technical Manual 12-A sets a limit for the described bond strength test: it can be used up to 1,146 pounds per square foot. That ceiling exists because the test fixture, dolly size, and procedure are designed for measurements within that range; pushing beyond it can cause the test setup to fail or give readings that don't meaningfully reflect the adhesive performance. So, the method is appropriate for bond strengths up to 1,146 psf, and for higher strengths you'd need a different test approach or a modified setup that stays within a validated range.

7. What is the minimum allowable average TFIFRM thickness for a beam that requires 48 mils of thickness?

- A. 90% of specified thickness
- B. 50% of specified thickness
- C. 100% of specified thickness**
- D. 110% of specified thickness

The main concept is that a minimum allowable thickness must meet the design specification for the fireproofing. If a beam requires 48 mils, the smallest thickness that passes is 48 mils, which is 100% of the specified thickness. This ensures the beam gets the intended protection; anything less would not meet the requirement, while being thicker is acceptable but not necessary to meet the minimum. So the minimum allowable average thickness is 48 mils, i.e., 100% of the specified thickness.

8. Why are curing conditions critical in cementitious fireproofing?

- A. Proper curing ensures max bond strength, prevents cracking, and achieves specified fire resistance.**
- B. Curing only affects color and texture, not performance.
- C. Curing is optional if initial application is done quickly.
- D. Curing primarily decreases cost by reducing material usage.

Curing conditions are what allow cementitious fireproofing to properly hydrate and develop a strong, continuous matrix. When the material cures, the cement reacts with water to form a dense, bonded layer that adheres to the substrate and resists heat. Adequate moisture, appropriate temperature, and sufficient time enable full hydration, which yields maximum bond strength and minimizes shrinkage cracking. If curing is not maintained, premature drying or improper conditions cause cracking and weak bonding, creating pathways for heat transfer and compromising the coating's ability to meet its specified fire resistance. Proper curing also supports long-term durability, ensuring the coating remains intact during fire exposure. In short, curing conditions directly influence bond quality, crack control, and the fire-resistance performance of the coating.

9. What is the maximum allowable relative humidity when drying SFRM for density testing?

- A. 60%**
- B. 50%
- C. 70%
- D. 80%

When drying SFRM for density testing, the goal is to remove moisture from the material without ambient humidity affecting the drying process. Keeping the relative humidity at or below sixty percent helps ensure that the sample reaches a true constant mass, so the density measurement reflects the dry material rather than moisture reentering from the air. If humidity climbs higher, drying can slow or stall, and moisture from the surroundings can reabsorb into the coating, leading to inconsistent or biased density results. A lower limit like fifty percent is more restrictive than necessary for routine practice, while higher limits (seventy or eighty percent) would compromise the drying and the reliability of the density test. Therefore, sixty percent is the maximum allowable relative humidity during drying.

10. What is the unit used to express SFRM bond strength in tests?

A. psi

B. psf

C. ksi

D. Pa

Bond strength is the force required to detach the SFRM from the substrate divided by the area over which the coating is bonded. For spray-applied fireproofing tests, this is expressed in pounds per square foot (psf) because the tests and installations are evaluated over relatively large surface areas typical of architectural and structural views. Using pounds per square inch (psi) would give values that are much smaller and less practical for large-area coatings, and while pascals (Pa) are the SI counterpart, the standard practice in U.S. fireproofing tests is to report in psf. A test result of, say, 200 psf means 200 pounds of force are required to detach the coating from each square foot of substrate.

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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://sifireproofing.examzify.com>

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

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