

Los Angeles City Structural Welding Code - Steel (D1.1) Certification Practice Test (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. In FCAW-SS, what does the 'SS' stand for?**
 - A. Shielded Steel
 - B. Single Shielding
 - C. Inner Shield
 - D. Solid Shield

- 2. Which of the following is a name for the manual welding process used in LA City welding?**
 - A. Semi-Automatic Process
 - B. Stick Welding
 - C. Robotic Welding
 - D. Automatic Welding

- 3. At what temperature should low hydrogen rods be stored in a holding oven?**
 - A. 200 °F
 - B. 220 °F
 - C. 250 °F
 - D. 300 °F

- 4. In the designation E70C-X, what does the "C" represent?**
 - A. Composite core
 - B. Carbon core
 - C. Copper core
 - D. Coated core

- 5. What is the official AWS term for MIG welding?**
 - A. GMAW
 - B. FCAW
 - C. SMAW
 - D. GTAW

6. In welding, an oscillating motion is primarily used with what type of electrodes?

- A. Low alloy rods**
- B. Deep penetrating electrodes**
- C. Low hydrogen electrodes**
- D. High carbon electrodes**

7. What is the focus of Chapter 3 in the D1.1?

- A. Fabrication**
- B. Strengthening and Repairing Existing Structures**
- C. Inspection**
- D. Pre-qualifications of WPSs**

8. In the context of structural welding, what does the term "welding progression" indicate?

- A. Welding direction**
- B. Welding speed**
- C. Welding method**
- D. Welding equipment**

9. What AWS electrode specification number represents NR 232?

- A. E70T-4**
- B. E70T-3**
- C. E71T-8**
- D. E71T-5**

10. If the workpiece is positive, what polarity is used?

- A. DCEN or DCSP**
- B. AC**
- C. DC+ or AC**
- D. ACEN**

Answers

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

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Explanations

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1. In FCAW-SS, what does the 'SS' stand for?

- A. Shielded Steel
- B. Single Shielding
- C. Inner Shield**
- D. Solid Shield

In Flux-Cored Arc Welding, the term 'SS' specifically stands for 'Self-Shielding.' This technique utilizes a tubular wire filled with flux that generates shielding gas when heated during the welding process, effectively protecting the weld area from atmospheric contamination without the need for an external shielding gas. This makes it ideal for outdoor applications where wind could disperse shielding gas. Self-shielding is particularly advantageous because it simplifies equipment setup and increases the versatility of the welding process. It allows welders to operate in various environments and improves their mobility since they do not have to manage gas cylinders and regulators. While other terms like 'Shielded Steel,' 'Single Shielding,' and 'Solid Shield' may sound plausible, they do not accurately reflect the specific meaning of 'SS' in this context. Understanding this terminology is crucial for welders as it directly relates to the efficiency and application of the welding technique.

2. Which of the following is a name for the manual welding process used in LA City welding?

- A. Semi-Automatic Process
- B. Stick Welding**
- C. Robotic Welding
- D. Automatic Welding

The term "Stick Welding" refers to a specific manual welding process, widely recognized in the industry as Shielded Metal Arc Welding (SMAW). This method utilizes an electrode coated in flux to create a weld pool, with the electrode simultaneously serving as the filler material. Welders using this technique manually guide the electrode along the joint to achieve the desired weld, which allows for a high degree of control over the welding process. In the context of the Los Angeles City Structural Welding Code, understanding the manual aspects of welding is crucial, particularly because construction projects often demand skilled workmanship to ensure the integrity and safety of the structures being built. Stick Welding is particularly favored for its versatility and effectiveness in various positions, making it suitable for many welding applications encountered in construction. Other welding processes listed, such as Semi-Automatic, Robotic, and Automatic Welding, typically involve different levels of automation and equipment. These methods may not provide the same manual control that Stick Welding does and are often utilized for different applications or in settings requiring high production rates. Understanding these distinctions is important for anyone studying or working within welding practices, especially in compliance with local codes and standards.

3. At what temperature should low hydrogen rods be stored in a holding oven?

- A. 200 °F**
- B. 220 °F**
- C. 250 °F**
- D. 300 °F**

Low hydrogen rods are specifically designed to minimize the risk of hydrogen-induced cracking during the welding process. To achieve this, the moisture content of the electrode must be carefully controlled. Storing these rods in a holding oven helps maintain their low moisture levels. The appropriate temperature for storing low hydrogen rods in a holding oven is crucial to prevent the rods from absorbing moisture from the air. The chosen temperature of 250 °F is effective for ensuring the integrity of the electrodes. This temperature allows the moisture to evaporate while still being low enough that it does not adversely affect the rods' properties. Storing at 250 °F strikes the right balance of keeping the electrodes dry and retaining their usability without damaging the material. This is particularly important in applications where the risk of hydrogen cracking could lead to structural failures. Thus, following the 250 °F guideline aligns with best practices in welding and helps ensure high-quality welds.

4. In the designation E70C-X, what does the "C" represent?

- A. Composite core**
- B. Carbon core**
- C. Copper core**
- D. Coated core**

In the designation E70C-X, the "C" indicates that the filler material is intended for use with a composite core wire. This designation is commonly used in welding specifications to describe the type of wire used in the welding process, particularly in gas-shielded processes. Composite core wires typically consist of a metal core surrounded by a coating that provides specific properties, such as improved arc stability or better performance in certain welding positions. Understanding the significance of the "C" in this context is crucial for welders and those involved in welding operations, as it directly influences the selection of filler materials based on the project's requirements. This designation assures users that the wire is suitable for producing high-quality welds in various conditions, enhancing both the strength and durability of the welded joint.

5. What is the official AWS term for MIG welding?

- A. GMAW**
- B. FCAW**
- C. SMAW**
- D. GTAW**

The official term for MIG welding is Gas Metal Arc Welding, abbreviated as GMAW. This terminology aligns with the standards set forth by the American Welding Society (AWS). In GMAW, a continuous solid wire electrode is fed through a welding gun and into the weld pool, which is shielded by an externally supplied shielding gas. This process allows for faster welding speeds and is commonly used in various applications due to its versatility and effectiveness. In contrast, the other terms refer to different welding processes: FCAW stands for Flux-Cored Arc Welding, which involves a tubular wire filled with flux; SMAW refers to Shielded Metal Arc Welding, where a consumable electrode coated in flux is used; and GTAW stands for Gas Tungsten Arc Welding, a process that uses a non-consumable tungsten electrode. Understanding these distinctions helps in identifying the correct terminology for different welding methods.

6. In welding, an oscillating motion is primarily used with what type of electrodes?

- A. Low alloy rods**
- B. Deep penetrating electrodes**
- C. Low hydrogen electrodes**
- D. High carbon electrodes**

The use of oscillating motion in welding is primarily associated with low hydrogen electrodes because these electrodes are designed to minimize the risk of hydrogen embrittlement in the weld. When oscillation is applied during the welding process, it helps in achieving a wider and flatter weld profile, which is particularly beneficial when using low hydrogen rods. This technique ensures good bead shape and better penetration, while also providing control over the heat input, which is crucial for preventing defects associated with hydrogen. Low hydrogen electrodes are engineered to produce welds with high toughness and ductility, making the oscillating motion an effective method to utilize their enhanced properties. By distributing the heat more evenly across the weld area, oscillation aids in achieving optimal fusion and consistency, leading to stronger welds that are less prone to cracking. The other types of electrodes listed do not commonly use oscillation as effectively or as frequently as low hydrogen electrodes. For example, deep penetrating electrodes prioritize penetration and depth of the weld bead, and thus may not rely on oscillation to achieve their intended results. Understanding the specific applications and benefits of each electrode type, particularly how oscillation affects the performance of low hydrogen rods, is key for welders in ensuring the integrity and reliability of their welds.

7. What is the focus of Chapter 3 in the D1.1?

- A. Fabrication**
- B. Strengthening and Repairing Existing Structures**
- C. Inspection**
- D. Pre-qualifications of WPSs**

Chapter 3 of the D1.1 (Structural Welding Code - Steel) specifically addresses the requirements for the pre-qualification of Welding Procedure Specifications (WPSs). This chapter is crucial because it establishes the necessary criteria to ensure that a welding procedure has been pre-qualified, which means it can be used without additional testing or qualification. By detailing the criteria for pre-qualifying WPSs, this chapter reinforces the importance of using standardized procedures to achieve consistent weld quality and performance. Adhering to these pre-qualification requirements helps prevent issues that could arise from improper welding practices, ensuring safety and integrity in steel structures. Understanding this focus enables professionals in the field to effectively prepare and execute welding procedures that meet the rigorous standards set forth in the code, which is essential for compliance and structural reliability.

8. In the context of structural welding, what does the term "welding progression" indicate?

- A. Welding direction**
- B. Welding speed**
- C. Welding method**
- D. Welding equipment**

The term "welding progression" primarily refers to the direction in which welding occurs during the fabrication process. This includes whether the welder is working from left to right, right to left, or in some other defined path. Understanding welding progression is crucial because it can significantly affect the quality of the weld, the heat input, and the overall integrity of the welded joint. Welding direction plays a vital role in controlling the heat distribution and the flow of molten metal, which subsequently influences the weld's properties, such as strength and appearance. Proper welding progression can help in minimizing defects such as porosity, undercutting, or inclusions, ensuring a stronger and more reliable weld. In contrast, the other options, while important in welding, do not encompass the specific concept of welding progression. Welding speed pertains to how quickly a welder performs the welding operation, welding method refers to the specific technique or process employed (such as MIG, TIG, or stick welding), and welding equipment indicates the tools or machinery used to facilitate the welding process. None of these aspects focus specifically on the directional approach of the welding, which is what welding progression encapsulates.

9. What AWS electrode specification number represents NR 232?

- A. E70T-4
- B. E70T-3
- C. E71T-8**
- D. E71T-5

The AWS electrode specification number that represents NR 232 is, in fact, E71T-5. The NR 232 is a type of E71T-5 flux cored electrode, which means it is designed for all-position welding of carbon steel and offers excellent weldability, especially in out-of-position applications. E71T-5 has specific characteristics including a wire diameter appropriate for different applications, the ability to produce sound welds without the necessity for a shielding gas, and suitability for a variety of plate thicknesses. This classification is part of the larger E71T series, indicating it is a tubular wire filled with a flux to facilitate the welding process. The other specifications listed, such as E70T-4, E70T-3, and E71T-8, do not correspond to NR 232, as they are classified differently based on their chemical composition and intended uses for welding. Each of these specifications has its distinct properties and applications that make them unsuitable as representations for NR 232. Understanding these specifications helps welders choose the appropriate electrode for their specific projects in compliance with the relevant standards.

10. If the workpiece is positive, what polarity is used?

- A. DCEN or DCSP**
- B. AC
- C. DC+ or AC
- D. ACEN

When the workpiece is positive, the correct polarity used is DCEN (Direct Current Electrode Negative) or DCSP (Direct Current Straight Polarity). This choice highlights the relationship between the polarity of the weld and the characteristics of the welding process. In DCEN, the workpiece is connected to the positive terminal of the power source, while the electrode is connected to the negative terminal. Using DCEN is particularly advantageous for achieving deeper penetration in the weld due to the higher heat concentration at the workpiece. This polarity is commonly used in processes like shielded metal arc welding (SMAW) and gas tungsten arc welding (GTAW), providing optimal conditions for welding ferrous materials effectively. On the other hand, the other options listed involve either alternating current (AC) or polarities that do not align with traditional definitions and practices in welding. For instance, while AC can be suitable for certain applications, it does not have the same penetration characteristics as DCEN when the workpiece is positive. Understanding these principles is crucial for selecting the right polarity in various welding scenarios.

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://losangelesd11.examzify.com>

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

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