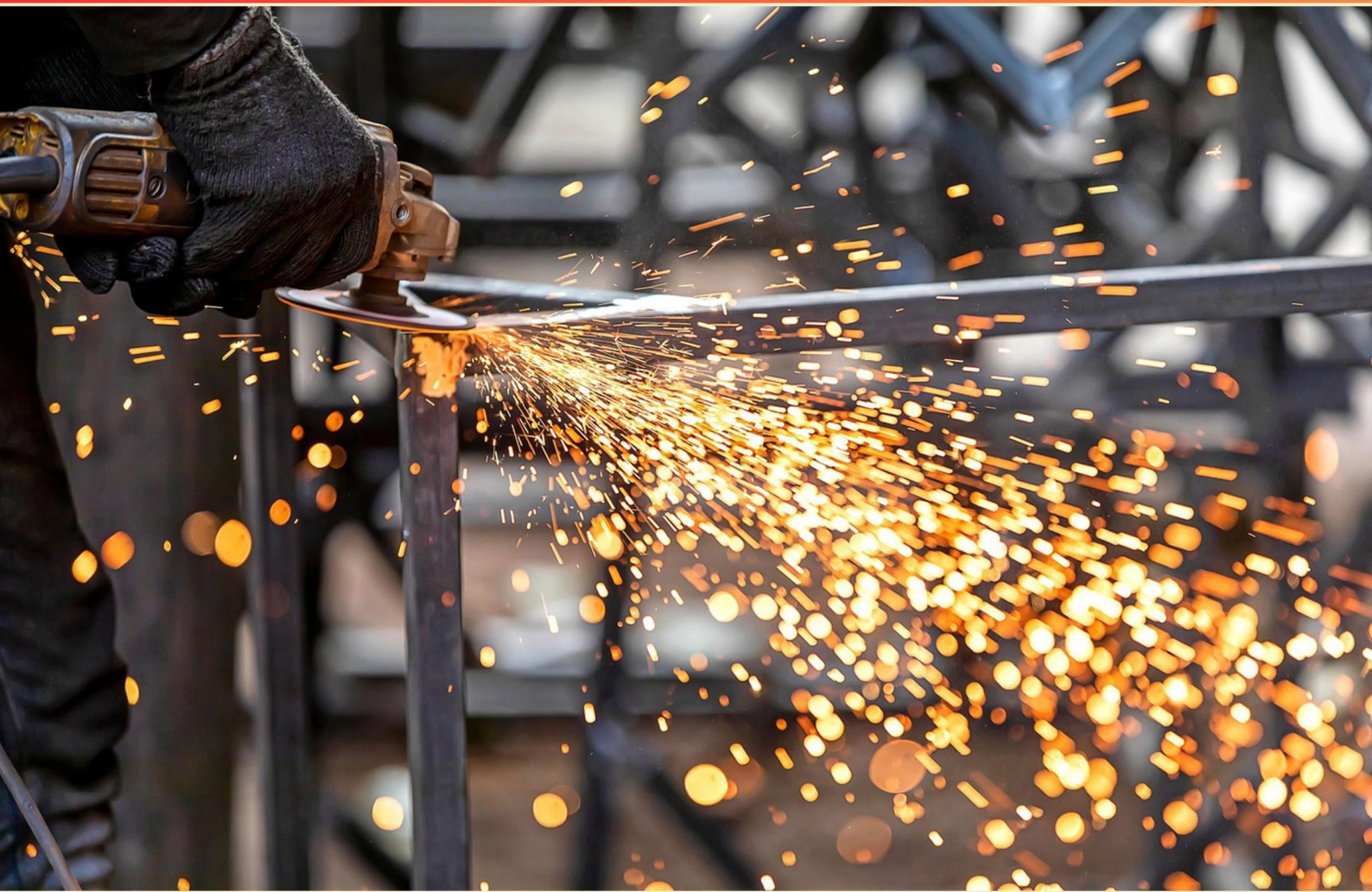


STRUCTURAL WELDING CODE – STEEL (D1.1) CITY CERTIFICATION PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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

<https://structuralweldingcodesteel.examzify.com>



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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. In FCAW-SS, what does the 'SS' stand for?**
 - A. Solid Shield
 - B. Soft Shield
 - C. Single Shield
 - D. Inner Shield

- 2. In the context of electrode identification, what is the significance of the last digit?**
 - A. Indicates the current type
 - B. Indicates welding power supply
 - C. Indicates the need for preheating
 - D. Indicates the electrode brand

- 3. What does S in the designation stand for in structural beams?**
 - A. Standard beam
 - B. Structural beam
 - C. Steel beam
 - D. Sectional beam

- 4. FCAW and GMAW are welding processes that operate on DC polarity and never on what?**
 - A. Single Phase Current
 - B. AC Current
 - C. Dipole Current
 - D. Low Voltage Current

- 5. Rod ends that include the numbers 2, 3, 4, 5, 6, 7, and 8 typically use what method of manipulation?**
 - A. Dragging
 - B. Forceful
 - C. Oscillating
 - D. Push

- 6. What does ASTM stand for?**
- A. Association of Standard Testing Methods
 - B. American Society of Testing Materials
 - C. American Standard for Testing Mechanics
 - D. American Standards for Test Measurements
- 7. What alternate name is often given to Direct Current Electrode Positive (DCEP)?**
- A. Forward polarity
 - B. Reverse polarity
 - C. Common polarity
 - D. Stable polarity
- 8. Which of the following is a function of shielding gases in GMAW?**
- A. To increase weld penetration
 - B. To reduce oxidation
 - C. To improve metal flow
 - D. To ensure proper cooling
- 9. Who has the authority to make changes to the weld specifications such as size and location?**
- A. The welder
 - B. The project manager
 - C. The project engineer
 - D. The quality control inspector
- 10. What does the "8" in the designation E71T-8 indicate?**
- A. AC polarity and gas use
 - B. DC positive and gas use
 - C. DC negative and no gas
 - D. AC voltage and shield gas required

Answers

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

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Explanations

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

- A. Solid Shield
- B. Soft Shield
- C. Single Shield
- D. Inner Shield**

In the context of FCAW-SS, the 'SS' stands for 'Self-Shielded.' This type of flux-cored arc welding does not require an external shielding gas because the flux contained in the cored wire generates a protective shielding atmosphere during the welding process. This makes it particularly advantageous for outdoor applications, where wind could disrupt the effectiveness of shielding gases typically used in other welding processes. The use of self-shielding allows for increased productivity since additional gas equipment is unnecessary, providing greater flexibility and portability. It is important to understand different shielded welding techniques to choose the appropriate method for specific welding environments and requirements.

2. In the context of electrode identification, what is the significance of the last digit?

- A. Indicates the current type**
- B. Indicates welding power supply
- C. Indicates the need for preheating
- D. Indicates the electrode brand

The last digit of an electrode identifier plays a crucial role in defining the type of current suitable for that particular electrode, which is essential for ensuring effective welding quality and performance. In the context of the AWS classification system, for example, a specific last digit can denote whether the electrode is designed for use with alternating current (AC), direct current electrode positive (DCEP), or direct current electrode negative (DCEN). Understanding this characteristic allows welders to select the appropriate electrode for their welding power supply setup, leading to better arc stability, penetration, and overall weld integrity. This knowledge is foundational for implementing suitable welding procedures and achieving desired results during the welding process.

3. What does S in the designation stand for in structural beams?

- A. Standard beam**
- B. Structural beam
- C. Steel beam
- D. Sectional beam

In the context of structural beam designations, the "S" typically stands for "Structural" beam. This designation indicates that the beam is intended for use in structural applications, where it must meet specific standards for load-bearing capacity, durability, and safety in construction. The other terms listed—standard beam, steel beam, and sectional beam—do not accurately capture the broad category and qualifications that "structural" encompasses. While a structural beam may be made of steel, the "S" designation refers directly to its purpose in supporting structures, rather than limiting it to material composition or other characteristics. Understanding this definition is crucial for anyone working with structural engineering and code compliance, as it impacts the selection and application of beams in various building projects.

4. FCAW and GMAW are welding processes that operate on DC polarity and never on what?

- A. Single Phase Current
- B. AC Current**
- C. Dipole Current
- D. Low Voltage Current

FCAW (Flux-Cored Arc Welding) and GMAW (Gas Metal Arc Welding) are welding processes that are primarily designed to operate using direct current (DC) polarity. When we discuss AC (Alternating Current) in this context, it's crucial to understand that these specific processes do not utilize it as a power source for several reasons. One primary requirement for FCAW and GMAW is a consistent arc and stable heat input, which are achieved more reliably with DC polarity. AC, while suitable for some types of welding (like GTAW for aluminum), tends to fluctuate in polarity, which can lead to inconsistencies in the arc stability and heat input that are needed for optimal weld quality in FCAW and GMAW. The use of DC enhances the efficiency of these processes, allowing for faster travel speeds and better penetration of the weld. This reliability in the welding process helps manufacturers produce high-quality welds and meet stringent fabrication standards set forth in welding codes. Therefore, the answer indicating that FCAW and GMAW never operate on AC current is accurate due to the inherent nature of how these processes are designed to function most effectively.

5. Rod ends that include the numbers 2, 3, 4, 5, 6, 7, and 8 typically use what method of manipulation?

- A. Dragging**
- B. Forceful
- C. Oscillating
- D. Push

The manipulation of rod ends numbered 2 through 8 typically involves the dragging method. This technique is characterized by a smooth, continuous movement that helps maintain control and precision during the welding process. Dragging allows for consistent heat application and better distribution of weld material, which is vital for achieving strong, high-quality welds in structural applications. This method is particularly effective in minimizing the creation of spatter and ensuring a proper fusion between the base metal and the welding filler. It's often utilized when working with these specific rod ends due to their design and intended use, which require careful handling to maintain the integrity of the weld. By adopting the dragging method, welders can ensure that they create a reliable bond between components, optimizing structural performance and safety in line with the guidelines set forth in the Structural Welding Code – Steel.

6. What does ASTM stand for?

- A. Association of Standard Testing Methods
- B. American Society of Testing Materials**
- C. American Standard for Testing Mechanics
- D. American Standards for Test Measurements

The correct answer refers to ASTM as the "American Society for Testing Materials." This organization is responsible for developing and publishing voluntary consensus technical standards for a wide range of materials, products, systems, and services. Established in 1898, ASTM standards are widely recognized and utilized across various industries for ensuring quality and safety in manufacturing and construction processes. The significance of ASTM lies not only in its establishment of standards for testing materials but also in its role in facilitating collaboration among technical experts, manufacturers, and users to improve product performance and sustainability. These standards often serve as a crucial reference for compliance with regulatory requirements and industry benchmarks, making knowledgeable engagement with them essential for professionals in fields like structural welding. Notably, other options either misstate the organization's founding name or misinterpret its primary focus on testing rather than solely on production standards, which is reflected in the correct choice.

7. What alternate name is often given to Direct Current Electrode Positive (DCEP)?

- A. Forward polarity
- B. Reverse polarity**
- C. Common polarity
- D. Stable polarity

Direct Current Electrode Positive (DCEP) is commonly referred to as forward polarity. This designation comes from the fact that during the welding process, the electrode (or the positive terminal) connects to the torch, which results in the workpiece being the negative terminal. This polarity configuration is crucial when considering the effects on the weld pool. DCEP facilitates deeper penetration of the weld and contributes to a stable arc. The positive polarity helps in heating the tungsten or consumable electrode while simultaneously directing a significant portion of the current towards the workpiece, which enhances the quality of the arc and the weld bead. Additionally, this type of polarity results in a cleaner weld, as the positive charge helps to repel impurities from the weld area. Understanding this concept is vital for selecting the appropriate welding setup for various applications, as it influences the overall welding characteristics and outcomes. The term "reverse polarity" typically refers to Direct Current Electrode Negative (DCEN), where the electrode is negative, and most of the heat is generated at the workpiece. Other terms like "common polarity" or "stable polarity" do not accurately convey the principle of DCEP and might not be recognized in standard welding terminology.

8. Which of the following is a function of shielding gases in GMAW?

- A. To increase weld penetration
- B. To reduce oxidation**
- C. To improve metal flow
- D. To ensure proper cooling

The function of shielding gases in Gas Metal Arc Welding (GMAW) is primarily to protect the weld area from atmospheric contamination, particularly oxidation. When metal is heated during the welding process, it becomes susceptible to reacting with elements in the air, such as oxygen and nitrogen, which can lead to defects like porosity and a weak weld. By using shielding gases, welders create an inert atmosphere around the weld pool, preventing oxidation and promoting a stronger, cleaner weld. This is vital for ensuring the integrity and durability of the weld in structural applications. Other purposes, such as improving weld penetration or ensuring proper cooling, are influenced by different factors, including the welding parameters and techniques used, rather than being direct functions of the shielding gas. Enhancements to metal flow can also occur through adjustments in technique and equipment settings, rather than relying solely on the presence of shielding gas.

9. Who has the authority to make changes to the weld specifications such as size and location?

- A. The welder
- B. The project manager
- C. The project engineer**
- D. The quality control inspector

The project engineer holds the authority to make changes to the weld specifications, including aspects such as size and location. This authority stems from their role in the overall design and engineering of the project, where they are responsible for ensuring that the specifications meet the engineering requirements and that the plans adhere to the relevant standards and codes, such as the Structural Welding Code – Steel (D1.1). Changes to weld specifications typically involve considerations of structural integrity, design compliance, and safety, which fall within the expertise of an engineer. The project engineer coordinates with other stakeholders, including welders and quality control inspectors, to ensure that modifications align with the overall project goals and regulatory requirements. Thus, the project engineer's role is critical in maintaining the necessary technical oversight for any alterations in weld specifications.

10. What does the "8" in the designation E71T-8 indicate?

- A. AC polarity and gas use
- B. DC positive and gas use
- C. DC negative and no gas**
- D. AC voltage and shield gas required

The "8" in the designation E71T-8 signifies the type of shielding gas used and the current polarity suitable for the electrode. In this context, it denotes that the electrode is designed for use with a specific shielding gas, usually CO₂ or a mixture of gases, and that it generally operates with DC negative polarity. This indication is critical for ensuring proper welding characteristics, such as arc stability and penetration, which depend significantly on the polarity and gas mixture utilized. The number also suggests that electrodes with this designation are intended for all-position welding applications and can effectively handle various materials and joint configurations. The right shielding gas, along with the designated polarity, contributes to the overall performance and quality of the weld, making it essential for welders to understand this designation clearly.

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://structuralweldingcodesteel.examzify.com>

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

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