

WELDING 101 PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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

<https://welding101.examzify.com>



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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. Which role is the conduit for information concerning new technologies that can improve the productivity, reliability and quality of the weld process?**
 - A. Welding Inspector
 - B. Welding Engineer
 - C. Welding Instructors
 - D. Tech Sales Representative

- 2. What information does the Safety Data Sheet provide?**
 - A. Storage Data Sheet
 - B. Safety Data Summary
 - C. Safety Data Design Sheet
 - D. Safety Data Sheet

- 3. Can humans conduct electricity?**
 - A. No
 - B. Only if damp
 - C. Yes
 - D. Only with protective gear

- 4. Which statement correctly describes both primary and secondary voltage shocks?**
 - A. Primary involves -230-460 volts and occurs when inside the machine touching a hot part while also touching the welded case or grounded metal; Secondary involves -20-100 volts and occurs when touching a bare electrode cable while touching the work.
 - B. Primary involves -20-100 volts; Secondary involves -230-460 volts.
 - C. Both shocks occur at the same voltage and have no distinguishing features.
 - D. Shocks are not related to voltage levels.

- 5. What is PWHT and when is it typically applied?**
 - A. Post-weld heat treatment; applied to relieve residual stresses and improve toughness for certain steels and thicker sections.
 - B. Pre-weld heat treatment; applied before welding.
 - C. Post-weld humidity test; checks moisture content.
 - D. Process of applying coating to weld.

- 6. Which role is defined as inspecting equipment, storage facilities, and material handling procedures?**
- A. Welding Inspector
 - B. Senior Welding Inspector
 - C. Certified Welding Inspector
 - D. Certified Associate Welding Inspector
- 7. What information does a Safety Data Sheet provide?**
- A. Weather conditions
 - B. Cleaning chemical composition and emergency actions
 - C. Welding technique
 - D. Portable power supply
- 8. In TIG welding, when is AC used and why?**
- A. AC is used for aluminum to melt oxide and provide cleaning action.
 - B. AC is used for all steels for better penetration.
 - C. AC is never used in TIG.
 - D. AC reduces heat input.
- 9. ANSI Standard Z87.1 governs eye protection in welding environments?**
- A. ANSI Standard Z87.1 governs eye protection
 - B. OSHA 29 CFR 1910
 - C. NFPA eye protection standard
 - D. ASTM safety glass standard
- 10. Which factor is most associated with porosity formation in a weld?**
- A. Hydrogen or vapors from surface contaminants entering weld pool.
 - B. Too little heat.
 - C. Excess filler metal.
 - D. Over-shielding gas.

Answers

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

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Explanations

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1. Which role is the conduit for information concerning new technologies that can improve the productivity, reliability and quality of the weld process?

- A. Welding Inspector
- B. Welding Engineer
- C. Welding Instructors

D. Tech Sales Representative

Staying current with new technologies and sharing that knowledge with the welding team is essential for boosting productivity, reliability, and quality. The person who most often fills this role is the tech sales representative, because they act as the bridge between technology providers and users. They continuously learn about the latest welding equipment, software, and process solutions, translate technical features into practical shop benefits, and bring demonstrations, specifications, and return-on-investment considerations to customers. They also relay feedback from real-world users back to manufacturers, helping inform improvements and support. A welding inspector focuses on verifying weld quality and compliance rather than sourcing or communicating new tech options. A welding engineer designs and optimizes processes, but isn't typically the primary channel for disseminating new technology information across the shop. Welding instructors teach current techniques and skills, often relying on others to introduce new tools and methods. The sales representative's role as the information bridge is what makes this the best fit.

2. What information does the Safety Data Sheet provide?

- A. Storage Data Sheet
- B. Safety Data Summary
- C. Safety Data Design Sheet

D. Safety Data Sheet

A Safety Data Sheet is the official, standardized source of safety information for a hazardous chemical. It gathers details on the chemical's hazards, ingredients, and safe handling, storage, and disposal, along with emergency measures (first aid, spill cleanup, fire fighting) and the protective equipment you should use. It also covers exposure controls, regulatory info, and transport guidelines, all arranged in a consistent format so workers know exactly how to work with the substance safely. Because these sheets are the recognized safety document used to communicate chemical hazards, they are the correct reference. The other terms aren't standard safety documents and don't provide the formal, comprehensive safety guidance you'd rely on.

3. Can humans conduct electricity?

- A. No
- B. Only if damp
- C. Yes**
- D. Only with protective gear

Electricity can flow through the human body because our tissues and bodily fluids contain ions that carry current. The skin's outer layer acts as a resistance, so dry skin limits conduction, but it doesn't stop it entirely. When skin is damp or there's a direct electrical path through a wet contact, resistance drops and more current can pass through the body. This is why exposure to electrical sources can be dangerous: the amount of current that flows depends on the voltage and the body's resistance. Protective gear doesn't enable conduction; it increases resistance and provides insulation, reducing the current that can reach the body. So, yes, humans can conduct electricity.

4. Which statement correctly describes both primary and secondary voltage shocks?

- A. Primary involves -230-460 volts and occurs when inside the machine touching a hot part while also touching the welded case or grounded metal; Secondary involves -20-100 volts and occurs when touching a bare electrode cable while touching the work.
- B. Primary involves -20-100 volts; Secondary involves -230-460 volts.
- C. Both shocks occur at the same voltage and have no distinguishing features.
- D. Shocks are not related to voltage levels.

Shocks from welding equipment come from two separate parts of the power system, each with its own voltage range and path through the body. The primary side is the mains supply, which is high voltage—typically about 230 to 460 volts. If you place a hand on a live hot part inside the machine while also touching the welded case or any grounded metal, current can flow through you from that high-voltage point to ground, giving you a shock. The secondary side provides the welding output and operates at a much lower voltage, usually around 20 to 100 volts. A shock here happens when you touch the bare electrode cable while also touching the workpiece, because your body completes a circuit between the electrode and the grounded work, with current limited by the secondary output. This matches the described scenario: high-voltage primary shock from inside-the-machine contact with grounded metal, and low-voltage secondary shock from the arc-related circuit between the electrode and the work. The other ideas misstate the voltage ranges or ignore the two distinct circuits, which is why this description is the correct one. Always treat both as hazardous and follow proper safety practices.

5. What is PWHT and when is it typically applied?

- A. Post-weld heat treatment; applied to relieve residual stresses and improve toughness for certain steels and thicker sections.
- B. Pre-weld heat treatment; applied before welding.
- C. Post-weld humidity test; checks moisture content.
- D. Process of applying coating to weld.

Post-weld heat treatment is a heat-treating step done after welding to relieve residual stresses that develop during the welding process and to improve toughness, especially in certain steels and thicker sections. By heating the welded area (and the surrounding heat-affected zone) to a controlled temperature, holding for a specified time, and then cooling slowly, the internal stresses relax and the microstructure can be tempered to reduce hardness and brittleness. This helps prevent cracking and improves ductility and fracture resistance, meeting mechanical requirements and code specifications for demanding welds. This is typically applied for high-strength or alloy steels, thick-walled welds, and joints where welding-induced stresses or brittle behavior are a concern. Other options described—heating before welding, testing moisture content after welding, or applying a coating—are different processes and do not achieve the same stress-relief and toughness benefits provided by PWHT.

6. Which role is defined as inspecting equipment, storage facilities, and material handling procedures?

- A. Welding Inspector**
- B. Senior Welding Inspector
- C. Certified Welding Inspector
- D. Certified Associate Welding Inspector

The essential idea here is that the role described involves more than just inspecting welds; it includes checking the overall readiness and safety of the welding environment. A Welding Inspector is responsible for evaluating equipment, storage facilities, and material handling procedures to ensure everything is up to standard, properly stored, and handled safely. This broad focus supports safe, efficient welding operations and quality control across the facility. The other titles denote certification or seniority, focusing mainly on welding inspections themselves rather than the broader facilities and handling aspects. So, the Welding Inspector best fits the description because it encompasses these facility and handling responsibilities.

7. What information does a Safety Data Sheet provide?

- A. Weather conditions
- B. Cleaning chemical composition and emergency actions**
- C. Welding technique
- D. Portable power supply

The main idea here is what Safety Data Sheets tell you about chemicals. An SDS provides details on what a chemical contains (its composition) and what to do in emergencies, along with guidance for safe handling, storage, and protective measures. It often includes first-aid instructions, spill or exposure responses, and steps for fire-fighting and disposal, all aimed at reducing risk in the workplace. In welding or metalworking, this helps you understand any solvents, cleaners, coatings, or other chemicals you might use and how to respond to incidents involving them. Weather conditions, welding technique, and portable power supplies aren't the focus of an SDS, which is why they aren't the best fit.

8. In TIG welding, when is AC used and why?

- A. AC is used for aluminum to melt oxide and provide cleaning action.**
- B. AC is used for all steels for better penetration.
- C. AC is never used in TIG.
- D. AC reduces heat input.

The main idea is why AC helps when TIG welding aluminum. Aluminum forms a stubborn oxide layer that isn't conductive and quickly builds up at the weld area. To weld aluminum effectively, you need to melt through that oxide and keep it from re-forming as you weld. Using alternating current does exactly that: the arc polarity switches so you get a cleaning action on the oxide during the positive half-cycle and strong heating/penetration into the metal during the negative half-cycle. This continuous surface cleaning and stable arc are what make aluminum welds possible and quality consistent. Steels aren't typically welded with AC to get better penetration; they're usually welded with direct current, chosen to optimize heat distribution and fusion for the metal. AC is not never used in TIG—it's standard for aluminum and some other metals—but the reason it's used here is cleaning the oxide, not simply reducing heat input, which isn't how heat input is determined.

9. ANSI Standard Z87.1 governs eye protection in welding environments?

A. ANSI Standard Z87.1 governs eye protection

B. OSHA 29 CFR 1910

C. NFPA eye protection standard

D. ASTM safety glass standard

Eye protection in welding is guided by a standard that spells out what protective eyewear must do to be safe. It defines the performance criteria for lenses and frames—how strong they must be against impacts, how clear the optics need to be, and how well the device shields the eyes from sparks and the bright arc, including UV and IR radiation. This standard is ANSI Z87.1, and eyewear that meets it is marked accordingly. In welding, where the arc emits intense light and heat, using gear that complies with Z87.1 ensures you have reliable protection. OSHA's regulations require workers to use appropriate PPE and often reference ANSI Z87.1 for the actual technical specs, but OSHA itself does not set those specs. The NFPA standards focus on fire protection and related safety, not eye protection specifications. The ASTM safety glass standard deals with glass properties rather than the protective eyewear performance criteria used in welding. So ANSI Z87.1 is the standard that governs eye protection in welding environments.

10. Which factor is most associated with porosity formation in a weld?

A. Hydrogen or vapors from surface contaminants entering weld pool.

B. Too little heat.

C. Excess filler metal.

D. Over-shielding gas.

Porosity happens when gas becomes trapped in the weld as it solidifies. The most common gas causing porosity is hydrogen, which enters the weld pool from moisture or vapors on the surface—things like damp metal, oil, grease, cleaning solvents, rust, or flux residues. Hydrogen dissolves in the molten metal and, as the weld cools, forms tiny gas pockets that become pores in the solid weld. That's why keeping parts clean and dry, preheating when needed, and using proper low-hydrogen materials and shielding practices are crucial to preventing porosity. The other factors listed don't consistently cause porosity: too little heat tends to produce poor fusion rather than trapped gas; excess filler metal affects geometry and may cause other defects; over-shielding gas can cause instability or turbulence but is not the primary driver of porosity like hydrogen from surface contaminants is.

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://welding101.examzify.com>

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

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