

Canadian Welding Bureau (CWB) Level I 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

- 1. When is a backing weld applied?**
 - A. After all initial welding is completed.**
 - B. Prior to the completion of a groove weld.**
 - C. When there is no access to the other side of the joint.**
 - D. When a double-sided groove weld is required.**
- 2. When is a backing weld applied?**
 - A. After all initial welding is completed.**
 - B. Prior to the completion of a groove weld.**
 - C. When there is no access to the other side of the joint.**
 - D. When a double-sided groove weld is required.**
- 3. Which is the correct sequence of operations when using multiple reference lines in welding symbols?**
 - A. Always start with arrow side significant weld symbols.**
 - B. Always start at the top reference line and work down.**
 - C. Always start with the groove weld symbols, followed by fillet welds.**
 - D. Always start with the reference line closest to the arrow.**
- 4. True or False: Groove weld size and effective throat size for a partial joint penetration groove weld must be included in a welding symbol.**
 - A. True**
 - B. False**
 - C. Not specified**
 - D. Depends**
- 5. Where is the fillet weld's size shown?**
 - A. On the right of the fillet weld symbol**
 - B. At the left of the fillet weld symbol**
 - C. After the effective throat size**
 - D. Inside the tail of the welding symbol**

- 6. True or False: The tail of a welding symbol is optional.**
- A. True**
 - B. False**
 - C. Not applicable**
 - D. Cannot be determined**
- 7. True or False: ISO 2553 System A symbolic representation consists of one solid and one dashed reference line in parallel.**
- A. True**
 - B. False**
 - C. Not applicable**
 - D. Cannot be determined**
- 8. What does SMAW stand for and what is its basic principle?**
- A. Shielded Metal Arc Welding; it uses a consumable electrode coated with flux and an electric arc to weld.**
 - B. Solid Metal Arc Welding; relies on a solid electrode without flux**
 - C. Shielded Metal Arc Work; uses manual arc with no shielding**
 - D. Submerged Metal Arc Welding; uses a flux to shield and continuous wire**
- 9. Which element in a welding drawing most directly communicates the units for all dimensions?**
- A. Title block**
 - B. Dimension lines**
 - C. Revision history**
 - D. Notes**
- 10. What is lack of fusion in a weld, and what is a common cause?**
- A. Excess filler metal causing a larger bead**
 - B. Porosity caused by contamination**
 - C. Undercut at the weld toe is the main defect**
 - D. Weld metal fails to fuse with base metal or previous pass; often caused by insufficient heat or poor joint fit-up.**

Answers

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

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Explanations

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1. When is a backing weld applied?

- A. After all initial welding is completed.
- B. Prior to the completion of a groove weld.**
- C. When there is no access to the other side of the joint.
- D. When a double-sided groove weld is required.

Backing welds are placed to support and define the root of a groove weld. They are added during the initial weld stage, before the groove weld is completed, so the root bead has something to fuse to and so proper penetration and weld geometry are established from the start. If you wait until the groove weld is finished, the root may not fuse properly and you lose the backing support, which can lead to lack of penetration or defects. The timing described ensures a solid root and a stable base for the remaining weld passes.

2. When is a backing weld applied?

- A. After all initial welding is completed.
- B. Prior to the completion of a groove weld.**
- C. When there is no access to the other side of the joint.
- D. When a double-sided groove weld is required.

Backing welds are placed to provide a solid root-side base for a groove weld, supporting and sealing the root as the weld from the accessible side is laid. The key timing is before the groove weld is completed, so the root is already backed and fused as you progress. This helps ensure complete penetration and prevents issues at the root such as lack of fusion or burn-through. If you wait until after finishing the groove weld, you'd miss the opportunity to back the root properly, which can compromise the joint.

3. Which is the correct sequence of operations when using multiple reference lines in welding symbols?

- A. Always start with arrow side significant weld symbols.
- B. Always start at the top reference line and work down.
- C. Always start with the groove weld symbols, followed by fillet welds.
- D. Always start with the reference line closest to the arrow.**

When multiple reference lines are used, you read the welding requirements starting with the line closest to the arrow and then move away from the arrow. The line nearest the arrow applies to the first location on the joint, and each subsequent reference line describes additional welds at other locations along the joint in the order from closest to farthest. This reading order keeps the interpretation clear and matches how the symbol is laid out, so you know exactly where and in what sequence each weld is required.

4. True or False: Groove weld size and effective throat size for a partial joint penetration groove weld must be included in a welding symbol.

A. True

B. False

C. Not specified

D. Depends

Groove weld symbols carry two essential measurements when the joint is a partial penetration weld: the size of the weld to be deposited and the effective throat size, which is the actual load-carrying portion of the weld. In a partial joint penetration (PJP) groove weld, the weld does not fuse through the full thickness, so the throat through which shear and tensile stresses act is smaller than the plate thickness. To prevent ambiguity and ensure the weld meets both fabrication and design requirements, the symbol must specify both the overall weld size and the effective throat size. That way the welder knows exactly how much material to deposit and the exact depth that will carry the load, and inspectors can verify the correct penetration and strength.

5. Where is the fillet weld's size shown?

A. On the right of the fillet weld symbol

B. At the left of the fillet weld symbol

C. After the effective throat size

D. Inside the tail of the welding symbol

In welding symbols, the size of a fillet weld (its leg length) is shown on the left side of the fillet weld symbol on the reference line. This placement makes the weld size immediately associated with the weld itself as you read the symbol from left to right. The right side of the symbol is used for the weld length and other details like contour or finish, while the tail holds notes or supplementary information. So the size sits to the left, not on the right or inside the tail.

6. True or False: The tail of a welding symbol is optional.

A. True

B. False

C. Not applicable

D. Cannot be determined

The tail on a welding symbol is optional and used only when there's extra information to convey beyond the main symbol. If there are no supplementary requirements (for example, no reference to a welding procedure specification, standards, preheat, post-weld heat treatment, or other special instructions), the tail isn't included and the symbol communicates everything needed. So this statement is true: you omit the tail when there's no additional instruction to record. If additional requirements exist, the tail is added to carry that information. The other options don't fit because they imply the tail must always be present or provide no usable guidance about when it's used.

7. True or False: ISO 2553 System A symbolic representation consists of one solid and one dashed reference line in parallel.

A. True

B. False

C. Not applicable

D. Cannot be determined

In ISO 2553 System A, the welding symbol framework uses a solid reference line as the main line along the joint, and, when needed, a second parallel line drawn as dashed to represent the opposite face of the joint. This setup lets you convey welds on both sides within the same notation: the solid line carries the primary symbols for one side, and the dashed parallel line carries the corresponding symbols for the other side. The presence of both a solid and a dashed reference line in parallel is the standard way System A communicates bilateral weld information, which is why this statement is correct.

8. What does SMAW stand for and what is its basic principle?

A. Shielded Metal Arc Welding; it uses a consumable electrode coated with flux and an electric arc to weld.

B. Solid Metal Arc Welding; relies on a solid electrode without flux

C. Shielded Metal Arc Work; uses manual arc with no shielding

D. Submerged Metal Arc Welding; uses a flux to shield and continuous wire

Shielded Metal Arc Welding uses a consumable electrode coated with flux and an electric arc to weld. The arc melts the electrode and the base metal, forming a weld pool, while the flux coating decomposes under heat to create a shielding atmosphere and slag that protect the molten metal from contamination by air. Because the electrode is consumable, it becomes part of the weld metal, and the protective slag must be chipped away after the weld cools. The current can be AC or DC, and the process is versatile for various metals and positions. This description aligns with the statement that SMAW stands for Shielded Metal Arc Welding and that it uses a flux-coated consumable electrode along with an electric arc to weld. The other options describe different concepts (no flux, wrong terminology, or a different process that uses a granular flux and continuous wire) and do not fit SMAW.

9. Which element in a welding drawing most directly communicates the units for all dimensions?

- A. Title block**
- B. Dimension lines**
- C. Revision history**
- D. Notes**

Units are defined in the title block, which is where a drawing communicates the standard information for the entire sheet—such as the drawing title, scale, material, and the units used (millimeters or inches). Because all dimensions on the drawing follow the same unit system, the title block provides the universal reference that tells you how to interpret every dimension. Dimension lines themselves show the numeric values, but the unit isn't shown with each one; it's the title block that establishes the global unit context for the whole drawing. Revision history and notes serve other purposes (tracking changes and conveying special instructions), but they don't establish the universal unit system as clearly or consistently as the title block.

10. What is lack of fusion in a weld, and what is a common cause?

- A. Excess filler metal causing a larger bead**
- B. Porosity caused by contamination**
- C. Undercut at the weld toe is the main defect**
- D. Weld metal fails to fuse with base metal or previous pass; often caused by insufficient heat or poor joint fit-up.**

Lack of fusion occurs when the weld metal does not fuse with the base metal or with a previously deposited weld pass. You'll see a gap or an un-fused area at the interface where the bead should have welded to the parent metal or to an earlier layer. The most common causes are not enough heat in the joint or poor joint fit-up—conditions that prevent the molten metal from bonding across the interface. If the amperage is too low, the travel speed is too fast, the arc length is too short, or the joint isn't properly prepared and cleaned, fusion can fail. Ensuring adequate heat input and a clean, well-fitted joint typically prevents this defect.

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://cwblevel1.examzify.com>

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