

# NCCR BOILERMAKER PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR  
THE FULL VERSION STUDY GUIDE

<https://nccrboilermaker.examzify.com>



**Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.**

**ALL RIGHTS RESERVED.**

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

# 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 |

SAMPLE

# 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

SAMPLE

- 1. What should be done before furnace fittings for tube replacements are ground?**
  - A. The outside of the fitting should be cleaned
  - B. The inside of the fitting should be inspected
  - C. The surface of the fitting should be polished
  - D. New gaskets should be installed
- 2. What are lifting lugs used for?**
  - A. Rigging materials used to clamp onto surfaces such as shell plates or sheet metal
  - B. Decorative handles
  - C. Fastening hardware for bolts
  - D. Tools used for cutting sheet metal
- 3. The length of a rectangle is 8 Feet 6 Inches and the width is 4 Feet 7 Inches. What is the perimeter?**
  - A. 28 Ft 4 In
  - B. 26 Ft 2 In
  - C. 24 Ft 9 In
  - D. 26 Ft 0 In
- 4. Which fastener type is most commonly used in boiler construction?**
  - A. Welded
  - B. Bolted
  - C. Riveted
  - D. Threaded
- 5. How is a plate dog used?**
  - A. It clamps onto a flat shell-plate, for lifting the plate into position
  - B. It seals plate edges
  - C. It drills holes
  - D. It measures thickness

- 6. Which device is used to hold two 40-foot joints of pipe during setup?**
- A. Pipe stands
  - B. 4 legged roller top jacks
  - C. Wooden cribbing
  - D. Hydraulic jacks
- 7. If a diameter is 7 ft, what is the radius of the cylinder?**
- A. 3.5 ft
  - B. 7 ft
  - C. 3 ft
  - D. 1.75 ft
- 8. What is the purpose of spacers when an exchanger is blinded?**
- A. To space open the exchanger side for steaming or nitrogen purge
  - B. To seal leaks
  - C. To stop flow
  - D. To support insulation
- 9. What is the minimum distance between oxygen and acetylene cylinders in storage per OSHA?**
- A. 5 Ft
  - B. 10 Ft
  - C. 15 Ft
  - D. 20 Ft
- 10. All vessel elevations are taken from the \_\_\_\_.**
- A. top of steel on the embed ring (base plate)
  - B. centerline of the vessel
  - C. bottom of the vessel
  - D. top of the vessel head

## **Answers**

SAMPLE

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

SAMPLE

## **Explanations**

SAMPLE

**1. What should be done before furnace fittings for tube replacements are ground?**

- A. The outside of the fitting should be cleaned
- B. The inside of the fitting should be inspected**
- C. The surface of the fitting should be polished
- D. New gaskets should be installed

*Before grinding furnace fittings for tube replacements, you need to inspect the inside of the fitting. The interior is where issues like cracks, corrosion, pitting, burrs, or scale can hide and directly impact whether the tube will seat properly and seal reliably. By checking inside first, you can detect defects that grinding could either reveal too late or worsen, and you can address any internal damage before you alter the surface that actually contacts the tube and gasket. This helps ensure the joint will be leak-tight and fit correctly once ground. Cleaning the outside or polishing the surface won't catch interior problems that can compromise the joint, and installing new gaskets is part of reassembly, not a pre-grind inspection.*

**2. What are lifting lugs used for?**

- A. Rigging materials used to clamp onto surfaces such as shell plates or sheet metal**
- B. Decorative handles
- C. Fastening hardware for bolts
- D. Tools used for cutting sheet metal

*Lifting lugs provide a dedicated, rated point to attach rigging for hoisting. They are attached to a workpiece—often welded or bolted onto surfaces like shell plates or sheet metal—to give slings, shackles, or chains a secure place to grab and lift the part safely. This makes the lifting process controlled and reduces the risk of damage or failure during hoisting. The other options describe items that serve entirely different purposes—decorative handles, general fastening hardware for bolts, or tools for cutting sheet metal—so they don't match the role of a lifting point used in rigging.*

**3. The length of a rectangle is 8 Feet 6 Inches and the width is 4 Feet 7 Inches. What is the perimeter?**

- A. 28 Ft 4 In
- B. 26 Ft 2 In**
- C. 24 Ft 9 In
- D. 26 Ft 0 In

*The perimeter of a rectangle is twice the sum of its length and width. Add the dimensions while keeping consistent units: 8 ft 6 in plus 4 ft 7 in gives 12 ft and 13 inches. Since 13 inches equals 1 foot 1 inch, the total becomes 13 ft 1 in. Doubling this, the perimeter is 26 ft 2 in.*

#### 4. Which fastener type is most commonly used in boiler construction?

- A. Welded
- B. Bolted
- C. Riveted
- D. Threaded**

*In boiler construction, joints must be strong and leak-tight to handle high pressure and heat. Welding is the main method used because it creates a continuous metal bond across joints, giving uniform strength and eliminating gaps through which steam could leak. This approach also provides smoother interior surfaces and better stress distribution, which are crucial for pressure vessels and reliability under demanding conditions. Bolts and threaded fasteners come into play mainly where parts must be removable or reworked, such as flanges, gaskets, manways, or access doors. Riveting was common in older boilers, but modern practice has largely moved away from rivets in favor of welding for the shell and major joints. So, the most common approach for the boiler shell and major joints is welding, with bolts and threaded fasteners used to connect removable components rather than form the primary joint.*

#### 5. How is a plate dog used?

- A. It clamps onto a flat shell-plate, for lifting the plate into position**
- B. It seals plate edges
- C. It drills holes
- D. It measures thickness

*Plate dogs are tools used to grip and position flat plates during boiler plate assembly. They provide a secure clamping point on a flat shell plate so you can lift the plate into position or hold it steady while it's being aligned, riveted, or bolted. This makes handling large, heavy plates safer and more precise. They aren't used to seal edges, drill holes, or measure thickness, since those tasks require other tools.*

#### 6. Which device is used to hold two 40-foot joints of pipe during setup?

- A. Pipe stands
- B. 4 legged roller top jacks**
- C. Wooden cribbing
- D. Hydraulic jacks

*Positioning long pipe sections during setup requires a surface that can support them securely while still allowing you to move and align the pieces. A four-legged roller top jack provides a stable base and a rolling top surface, so you can rest the two 40-foot joints on it and roll and adjust their position as you align and tack them together. The rolling top reduces friction and makes fine adjustments easier without lifting each joint. Other options either hold pipe in a fixed, non-rolling position (pipe stands), provide a rough, non-rolling support (wooden cribbing), or focus on lifting rather than stabilizing during alignment (hydraulic jacks), none of which offer the combination of stability and rollability needed for setup.*

**7. If a diameter is 7 ft, what is the radius of the cylinder?**

- A. 3.5 ft**
- B. 7 ft
- C. 3 ft
- D. 1.75 ft

*The main idea is that the radius is half of the diameter. The diameter goes across the circle through the center, while the radius goes from the center to the edge, so  $d = 2r$  and  $r = d/2$ . With a diameter of 7 ft, the radius is  $7 \div 2 = 3.5$  ft. The other numbers come from misreading the relationship (they would correspond to using the diameter as the radius or dividing by 4).*

**8. What is the purpose of spacers when an exchanger is blinded?**

- A. To space open the exchanger side for steaming or nitrogen purge**
- B. To seal leaks
- C. To stop flow
- D. To support insulation

*When a heat exchanger is blinded, spacers create a clearance on that side so purge media can pass through. This space allows steam or nitrogen to circulate and flush the exchanger interior, removing air, moisture, and residual hydrocarbons before startup. The spacer's job is not to seal leaks, stop flow, or support insulation; those functions belong to other components. The purge ensures a safer, cleaner condition inside the exchanger before it's put back into service.*

**9. What is the minimum distance between oxygen and acetylene cylinders in storage per OSHA?**

- A. 5 Ft
- B. 10 Ft
- C. 15 Ft
- D. 20 Ft**

*Keep oxygen and acetylene apart because oxygen makes fires burn hotter and faster, and acetylene is highly flammable. If a leak or accidental ignition occurs near both, the combination can rapidly escalate into a dangerous blaze. To reduce that risk, OSHA/NFPA require either keeping oxidizers and fuel gases at least 20 feet apart, or placing them on opposite sides of a noncombustible barrier that's at least 5 feet high. That means, without a barrier, the minimum distance is 20 feet. The other distances fall short of this safety requirement.*

10. All vessel elevations are taken from the \_\_\_\_\_.

A. top of steel on the embed ring (base plate)

B. centerline of the vessel

C. bottom of the vessel

D. top of the vessel head

*All vessel elevations are taken from the top surface of the base plate sitting on the embed ring. This provides a fixed, level reference that remains constant regardless of the vessel's size or head type, giving a reliable datum for proper alignment with the foundation, supports, piping, and neighboring equipment. The embed ring is built into the foundation, and the base plate creates a flat, durable reference plane from which heights are measured. Taking elevations from the centerline would change with the vessel's dimensions, from the bottom would shift with wall thickness and supports, and from the top of the vessel head would vary with different head designs—none of which offer the same consistent reference as the top of the base plate.*

SAMPLE

## 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](mailto:hello@examzify.com).

Or visit your dedicated course page for more study tools and resources:

<https://nccrboilermaker.examzify.com>

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

SAMPLE