

OXYFUEL CUTTING PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. What happens when acetylene is combined with oxygen?**
 - A. Creates a cold flame
 - B. Burns at temperatures exceeding 5,000 degrees F
 - C. Forms an explosive mixture
 - D. Generates carbon dioxide
- 2. According to ANSI Z 49.1, what thickness is recommended for a face shield?**
 - A. 1 to 2 filter
 - B. 3 to 6 filter
 - C. 4 to 8 filter
 - D. 1 to 5 filter
- 3. What is the ideal pressure range for the oxygen cylinder in oxyfuel cutting?**
 - A. 10 to 15 psi
 - B. 20 to 40 psi
 - C. 50 to 70 psi
 - D. 80 to 100 psi
- 4. In the cutting process, the torch should be held at what angle relative to the workpiece?**
 - A. 0 degrees
 - B. 15 to 20 degrees
 - C. 30 to 45 degrees
 - D. 90 degrees
- 5. In what order should you turn on the gases when igniting the torch?**
 - A. Oxygen first, then acetylene
 - B. Acetylene first, then oxygen
 - C. Both at the same time
 - D. Oxygen last, then acetylene

- 6. What is a risk associated with improper handling of oxygen in oxyfuel cutting?**
- A. It can cool the cutting process significantly.
 - B. It may cause an unexpected increase in flame size.
 - C. It can create an explosive hazard when combined with flammable substances.
 - D. It decreases the overall cutting quality.
- 7. What occurs if the cutting speed during oxyfuel cutting is excessively slow?**
- A. It leads to faster cuts and reduced slag.
 - B. It increases the heat transfer efficiency.
 - C. It can cause excessive slag and poor cut quality.
 - D. It results in smoother cuts with fewer defects.
- 8. What are flashback arrestors used for?**
- A. To increase cutting speed
 - B. To prevent flames from traveling back into the gas supply
 - C. To cool down the cutting area
 - D. To enhance the cutting quality
- 9. Why is acetylene gas odorized during production?**
- A. To enhance its burning efficiency
 - B. To make it safer and detectable
 - C. To stabilize the gas against decomposition
 - D. To reduce its flammability
- 10. What is the primary function of a cutting torch?**
- A. To fuse materials together
 - B. To heat metal for bending
 - C. To cut metal using a flame
 - D. To cool metal after cutting

Answers

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

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Explanations

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1. What happens when acetylene is combined with oxygen?

- A. Creates a cold flame
- B. Burns at temperatures exceeding 5,000 degrees F**
- C. Forms an explosive mixture
- D. Generates carbon dioxide

When acetylene is combined with oxygen, it generates a flame that can burn at extremely high temperatures, exceeding 5,000 degrees Fahrenheit. This high-temperature flame is ideal for oxyfuel cutting and welding processes, where intense heat is necessary to melt or cut through metal effectively. The proper ratio of acetylene to oxygen is crucial in achieving the desired flame characteristics required for precision in various tasks. The other options do not accurately reflect the properties of the acetylene and oxygen reaction. For instance, while the reaction does create carbon dioxide as a combustion byproduct, this is a result of burning rather than the primary outcome. An explosive mixture can occur if not properly controlled, but that is not the typical result when using the gases correctly in welding or cutting practices. A cold flame does not apply in this context, as the reaction produces a very hot flame instead.

2. According to ANSI Z 49.1, what thickness is recommended for a face shield?

- A. 1 to 2 filter
- B. 3 to 6 filter**
- C. 4 to 8 filter
- D. 1 to 5 filter

The correct choice specifies a thickness of 3 to 6 filter for a face shield, which aligns with ANSI Z 49.1 guidelines for oxyfuel cutting operations. This range provides adequate protection for the eyes and face from harmful light radiation, including infrared and ultraviolet rays produced during cutting processes. A face shield with this filter thickness enables workers to perform their tasks safely while ensuring clarity of vision without compromising safety. The recommended thickness is crucial because insufficient protection could expose workers to eye damage or injuries from sparks and molten metal. Choices that suggest lower or excessively high filter thicknesses may not provide the balanced protection necessary for effective visibility and safety during oxyfuel cutting tasks. It's important to adhere to established safety standards like ANSI Z 49.1 to ensure a safe working environment.

3. What is the ideal pressure range for the oxygen cylinder in oxyfuel cutting?

- A. 10 to 15 psi
- B. 20 to 40 psi**
- C. 50 to 70 psi
- D. 80 to 100 psi

The ideal pressure range for the oxygen cylinder in oxyfuel cutting is between 20 to 40 psi. This pressure range is important for several reasons. First, at this pressure, the oxygen can effectively fuel the cutting process, ensuring that the flames are hot enough to melt through the metal being cut. If the pressure is too low, the combustion may not be sufficient, leading to poor cutting quality and slower cutting speeds. Moreover, maintaining oxygen pressure within this range helps achieve a steady and stable flow of gas. This consistency is crucial when cutting, as fluctuations in pressure can lead to disruptions in the flame stability, affecting the overall performance and safety of the cutting operation. Pressures above this range, such as those in the 50 to 70 psi or higher categories, can be excessive for most cutting applications and could potentially increase the risk of flashback or other safety hazards. Thus, the 20 to 40 psi range is recommended as it strikes an optimal balance between efficient cutting performance and safety while utilizing the oxyfuel cutting process.

4. In the cutting process, the torch should be held at what angle relative to the workpiece?

- A. 0 degrees
- B. 15 to 20 degrees**
- C. 30 to 45 degrees
- D. 90 degrees

In the oxyfuel cutting process, holding the torch at an angle of 15 to 20 degrees relative to the workpiece is the recommended practice. This angle allows for a more efficient cutting action by optimizing the interaction between the flame and the metal. When the torch is held at this angle, it enhances the preheating of the metal before the cutting begins, which is crucial for effective oxidation and ensures a smoother cut with reduced slag formation. Maintaining a slight angle also helps in directing the heat and the cutting oxygen jet more precisely across the metal surface, resulting in a cleaner edge. If the torch were held at a zero-degree angle, it would concentrate heat in a smaller area, possibly leading to excessive burning or warping of the material. Holding the torch at too high an angle, such as 30 to 45 degrees or even 90 degrees, would diminish the cutting efficiency and could result in incomplete cuts or increased heat loss, which is not ideal for oxyfuel cutting. Therefore, the 15 to 20-degree angle strikes the right balance for effective and efficient cutting.

5. In what order should you turn on the gases when igniting the torch?

- A. Oxygen first, then acetylene
- B. Acetylene first, then oxygen**
- C. Both at the same time
- D. Oxygen last, then acetylene

When igniting the oxyfuel torch, it's essential to turn on the acetylene first, followed by the oxygen. This sequence is crucial for safety and proper operation. When acetylene is first introduced, it creates a fuel-rich mixture suitable for ignition. Turning on the oxygen afterward allows for a controlled increase in the oxygen concentration, which helps create the desired flame characteristics without risking backfire or flashback—a dangerous situation where the flame travels back into the hoses. Furthermore, if oxygen were to be turned on first, it could create a high-pressure situation that might lead to the acetylene igniting too rapidly or unpredictably, increasing the risk of an accident. Thus, following the correct procedure of turning on the acetylene first ensures both safety and effective use of the torch. This order is standard practice in oxyfuel cutting and welding tasks.

6. What is a risk associated with improper handling of oxygen in oxyfuel cutting?

- A. It can cool the cutting process significantly.
- B. It may cause an unexpected increase in flame size.
- C. It can create an explosive hazard when combined with flammable substances.**
- D. It decreases the overall cutting quality.

The handling of oxygen in oxyfuel cutting is critical because oxygen supports combustion. When oxygen is improperly handled or stored, and if it comes into contact with flammable materials or contaminants, it can enhance combustion to the point of creating a fire or even an explosion. This risk arises because oxygen accelerates the burning of flammable materials, significantly raising the potential for hazards in the work environment. In contrast, while improper handling might lead to other issues, such as those related to flame size or cutting quality, the unique property of oxygen as a fuel enhancer makes its improper handling especially dangerous. Oxygen does not burn itself but increases the intensity of any fire it fuels, creating an explosive risk in combination with flammable substances. This is why safety precautions around oxygen handling are paramount in oxyfuel cutting operations.

7. What occurs if the cutting speed during oxyfuel cutting is excessively slow?

- A. It leads to faster cuts and reduced slag.
- B. It increases the heat transfer efficiency.
- C. It can cause excessive slag and poor cut quality.**
- D. It results in smoother cuts with fewer defects.

When the cutting speed during oxyfuel cutting is excessively slow, it significantly impacts the quality of the cut. A slow cutting speed means that the oxygen and fuel are applied to a smaller area for a longer duration, which can result in the base material overheating. This excessive heat can lead to the formation of more slag, which is the molten material that is expelled from the cut, and it can also cause poor cut quality. With a slow cutting speed, there may be an uneven cut surface, increased warpage, and an inability to maintain a straight cut. All of these factors contribute to an overall degradation in the quality of the cut, as the excessive slag can interfere with the desired cutting dimensions and finish. Thus, maintaining an appropriate cutting speed is crucial in achieving clean and effective cuts without excessive slag accumulation.

8. What are flashback arrestors used for?

- A. To increase cutting speed
- B. To prevent flames from traveling back into the gas supply**
- C. To cool down the cutting area
- D. To enhance the cutting quality

Flashback arrestors are crucial safety devices used in oxyfuel cutting operations to prevent flames from traveling back into the gas supply line. This function is vital because if a flashback occurs, it can lead to dangerous situations such as explosions or fires that can endanger the operator and damage equipment. Flashback arrestors contain a flame trap, typically composed of a fine mesh or baffle that extinguishes the flame, as well as check valves that prevent the backflow of gases. They help maintain the integrity of the gas supply systems and provide a protective barrier, ensuring that the flames generated during cutting do not ignite in the gas supply lines. In comparison, other options focus on enhancing operational characteristics, such as cutting speed or quality, but they do not address the primary safety function of flashback arrestors, which is the prevention of backfire hazards. Cooling down the cutting area is also unrelated to the primary purpose of these devices. Therefore, the use of flashback arrestors is essential for safe oxyfuel cutting practices.

9. Why is acetylene gas odorized during production?

- A. To enhance its burning efficiency
- B. To make it safer and detectable**
- C. To stabilize the gas against decomposition
- D. To reduce its flammability

Acetylene gas is odorized during production specifically to enhance safety. The gas itself is colorless and has a faint smell that might not be easily detectable in case of a leak. By adding an odorant, a distinct smell is created that allows individuals to detect the presence of acetylene even in low concentrations. This is crucial in preventing dangerous situations, as acetylene is highly flammable and can form explosive mixtures with air. The addition of an odorant acts as an early warning sign, enabling quick action to avoid accidents related to gas leaks. The other options, though relevant to different aspects of gas handling and usage, do not accurately represent the primary reason for odorizing acetylene. Enhancing burning efficiency, stabilizing the gas, or reducing flammability are not the main purposes of the odorization process.

10. What is the primary function of a cutting torch?

- A. To fuse materials together
- B. To heat metal for bending
- C. To cut metal using a flame**
- D. To cool metal after cutting

The primary function of a cutting torch is to cut metal using a flame. The cutting torch utilizes a high-temperature flame produced by the combustion of oxygen and a fuel gas, typically acetylene. This intense heat rapidly raises the temperature of the targeted metal to its ignition point, allowing it to burn in a reaction with the oxygen. As the flame is directed onto the metal, it not only melts the material but also allows for a controlled oxidation process, which effectively separates the metal into two pieces. This method is widely used in various industries for its efficiency in cutting through thick and thin materials alike. Other options, such as fusing materials together or heating metal for bending, pertain to different processes like welding or heating tasks, which do not match the primary function of a cutting torch. Cooling metal after cutting is irrelevant to the cutting process itself, as it would not be a function of the torch but rather a post-processing step.

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://oxyfuelcutting.examzify.com>

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

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