

FDNY COF – TORCH OPERATIONS (G-60) PRACTICE EXAM (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. Which gas is not considered oxidizing when used with flammable gases?**
 - A. Acetylene
 - B. CNG
 - C. Oxygen
 - D. LPG

- 2. What type of materials are included in combustibles?**
 - A. Plastics and metals
 - B. Wood and paper products
 - C. Glass and ceramics
 - D. Water and foam

- 3. What must a Certificate of Fitness holder regulate when using a torch?**
 - A. The temperature of the torch flame
 - B. The pressure and flow of oxygen and natural gas
 - C. The color of the flame
 - D. The volume of the gas containers

- 4. What might indicate that the welding is compromised during high humidity?**
 - A. Higher efficiency in weld completion.
 - B. Visible oxidation and poor weld quality.
 - C. Uniformity in welds across all pieces.
 - D. Reduced time spent on weld maintenance.

- 5. What color is typically associated with an oxygen cylinder in torch operations?**
 - A. Red
 - B. Blue
 - C. Green
 - D. Yellow

- 6. For how long is a temporary permit for torch operations valid?**
- A. 1 day to 12 months
 - B. 1 week to 6 months
 - C. 1 month to 1 year
 - D. A few hours
- 7. In torch operations, what is the consequence of using an incorrect tip size?**
- A. Improved safety measures
 - B. Improper heating of materials
 - C. Decreased material costs
 - D. No impact on the process
- 8. Which gas is considered the most efficient for cutting metals with a torch?**
- A. Propane
 - B. Hydrogen
 - C. Acetylene
 - D. Nitrogen
- 9. How should operators prepare to wear flame-resistant gear?**
- A. Wear it over regular clothes
 - B. Ensure it fits snugly without pockets
 - C. Purchase new items as needed
 - D. Store them in a safe location
- 10. What should be monitored continuously during hot work?**
- A. Weather changes
 - B. Noise levels
 - C. Fumes and smoke levels
 - D. Worker interactions

Answers

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

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Explanations

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1. Which gas is not considered oxidizing when used with flammable gases?

- A. Acetylene
- B. CNG
- C. Oxygen**
- D. LPG

Oxygen is a vital component for combustion, but in the context of this question, it is not classified as an oxidizing gas when used with flammable gases. An oxidizing agent is a substance that promotes or facilitates the burning of another substance; therefore, in mixtures, oxygen serves primarily as a reactant that supports combustion. Acetylene, CNG (compressed natural gas), and LPG (liquefied petroleum gas) are all types of fuel gases that require an oxidizer for combustion to occur and are typically used in conjunction with other gases to maintain combustion processes. These gases can readily react, producing energy and flames, especially in environments with sufficient oxygen. However, defining oxygen specifically as an oxidizing agent in this context would not align with the inquiry regarding which gas does not fit that description, as it inherently supports oxidation. In summary, oxygen's role complements combustible gases, allowing them to ignite and burn efficiently, but it does not itself oxidize in the same manner that fuels do when mixed with oxidizers.

2. What type of materials are included in combustibles?

- A. Plastics and metals
- B. Wood and paper products**
- C. Glass and ceramics
- D. Water and foam

Combustibles refer to materials that can ignite and burn under certain conditions. Wood and paper products are classic examples of combustible materials because they contain organic compounds that readily catch fire and support combustion. These materials contribute to fuel loads in various environments, such as construction sites or storage facilities, and understanding their characteristics is crucial for fire safety. In contrast, plastics and metals are not typically categorized solely as combustibles. While certain plastics can burn, they may not do so as readily as wood or paper, and metals generally do not ignite in a traditional sense. Glass and ceramics have high melting points and are non-combustible, meaning they do not support combustion. Water and foam are extinguishing agents used in fire suppression and do not qualify as combustible materials, as they are intended to prevent fires rather than burn. Hence, the inclusion of wood and paper products as combustibles aligns accurately with definitions used in fire safety and torch operations.

3. What must a Certificate of Fitness holder regulate when using a torch?

- A. The temperature of the torch flame
- B. The pressure and flow of oxygen and natural gas**
- C. The color of the flame
- D. The volume of the gas containers

When using a torch, a Certificate of Fitness holder must focus on regulating the pressure and flow of oxygen and natural gas. This is critical because ensuring the correct mixture of gases and maintaining appropriate pressure levels is essential for safe and effective torch operation. An improper flow can lead to inefficient combustion, resulting in inadequate heating, increases the risk of backfire, and may create hazardous situations. Regulating the pressure and flow ensures that the torch operates within the safe parameters, minimizing the potential for accidents and ensuring the job is completed efficiently. Understanding how to manipulate these factors is a key responsibility of someone holding a Certificate of Fitness, as it directly impacts the safety of the operation.

4. What might indicate that the welding is compromised during high humidity?

- A. Higher efficiency in weld completion.
- B. Visible oxidation and poor weld quality.**
- C. Uniformity in welds across all pieces.
- D. Reduced time spent on weld maintenance.

When welding is compromised during high humidity, one of the key indicators is visible oxidation and poor weld quality. High humidity can introduce moisture into the welding environment, which may lead to several issues such as the formation of rust or oxidation on the metal surfaces being welded. This contamination can adversely affect the bonding of the materials, resulting in weaker welds or defects such as porosity. Poor weld quality may manifest as inconsistent bead appearance, cracks, or insufficient penetration. These defects stem from moisture interfering with the welding arc or the filler material, which can disrupt the melting and fusion process needed for a strong joint. Therefore, observing visible signs of oxidation or noticing subpar weld quality serves as a clear warning that the welding operation may not be performing optimally when humidity levels are high.

5. What color is typically associated with an oxygen cylinder in torch operations?

- A. Red
- B. Blue
- C. Green**
- D. Yellow

In torch operations, the color green is typically associated with oxygen cylinders. This standardized color-coding is crucial for ensuring safety and quick identification in various environments, particularly in emergency situations. When operators see a green cylinder, they can immediately recognize that it contains oxygen, which is essential for combustion processes in cutting and welding tasks. Using a consistent color for oxygen helps to prevent confusion with other gas types, such as acetylene, which is often designated with a different color. This practice aligns with industry safety standards and regulations to promote safe handling and usage of gas cylinders in torch operations.

6. For how long is a temporary permit for torch operations valid?

- A. 1 day to 12 months**
- B. 1 week to 6 months
- C. 1 month to 1 year
- D. A few hours

A temporary permit for torch operations is valid for a duration that ranges from 1 day to 12 months. This timeframe allows for flexibility in scheduling and project timelines, accommodating various types of work that may require the use of torches for cutting or welding. The permit ensures that safety protocols are adhered to during the operation and that adequate precautions are taken to prevent fire hazards. This validity period aligns with the nature of temporary projects, which can range in length significantly. Thus, having a permit that can cover a wide range of time, from a single day for short, urgent tasks to a full year for longer-term projects, ensures that operators can remain compliant with regulations.

7. In torch operations, what is the consequence of using an incorrect tip size?

- A. Improved safety measures
- B. Improper heating of materials**
- C. Decreased material costs
- D. No impact on the process

Using an incorrect tip size in torch operations can lead to improper heating of materials, which is critical to the success and safety of the operation. Each tip size is designed to produce a specific flame pattern and heat output, tailored for different types of materials and their required applications. When the wrong tip size is used, it may either overheat or underheat the material, resulting in ineffective heating. Improper heating can affect the quality of the work, including issues like insufficient melting of the base metal, leading to weak or faulty joints, or excessive heat that may cause warping, burning, or damage to the material. Thus, selecting the appropriate tip size is essential to ensure optimal heating according to the specific needs of the operation. Properly matched torch components maximize efficiency, maintain safety, and produce the desired results in welding or cutting tasks.

8. Which gas is considered the most efficient for cutting metals with a torch?

- A. Propane
- B. Hydrogen
- C. Acetylene**
- D. Nitrogen

Acetylene is recognized as the most efficient gas for cutting metals with a torch due to its high flame temperature and energy output. When combined with oxygen, acetylene can reach flame temperatures of around 3,500 degrees Celsius (6,332 degrees Fahrenheit), which is hot enough to cut through various types of metals, including steel and other alloys effectively. The intense heat allows for a quicker and cleaner cut, making it highly preferable in welding and cutting applications. Additionally, acetylene's characteristics enable it to produce a stable and controllable flame, which is essential for precision cutting and welding tasks. This stability contributes to the effectiveness of the cutting process, reducing the risk of introducing impurities or causing structural issues with the metal being worked on. Other gases, while useful in different scenarios, do not provide the same combination of high heat and efficiency for cutting metals as acetylene does. For instance, propane can be a more economical choice for heating applications but does not reach temperatures as high as acetylene, making it less effective for cutting tasks. Therefore, acetylene stands out as the preferred choice for efficient metal cutting with a torch.

9. How should operators prepare to wear flame-resistant gear?

- A. Wear it over regular clothes
- B. Ensure it fits snugly without pockets**
- C. Purchase new items as needed
- D. Store them in a safe location

Wearing flame-resistant gear is critical for ensuring the safety of operators in hazardous environments. To maximize the protective features of the gear, it should fit snugly against the body without any unnecessary gaps that could allow heat or flames to reach the skin. A snug fit also minimizes the risk of the gear becoming snagged on equipment or other obstacles, which could lead to injury. Avoiding pockets is important as they can trap heat and flames, potentially leading to severe burns. Thus, ensuring that the flame-resistant gear fits correctly and is designed without pockets is a fundamental aspect of proper preparation before engaging in torch operations.

10. What should be monitored continuously during hot work?

- A. Weather changes
- B. Noise levels
- C. Fumes and smoke levels
- D. Worker interactions

Monitoring fumes and smoke levels continuously during hot work is critical for ensuring the safety of all personnel involved. This is because hot work, such as welding, cutting, or grinding, can generate harmful fumes and smoke that may pose serious health risks. These fumes can be toxic and may cause respiratory issues, eye irritation, or other health complications if inhaled. Continuous monitoring allows workers to take immediate action if fume concentrations rise to unsafe levels, such as implementing ventilation or evacuating the area. While weather changes, noise levels, and worker interactions are important to consider in a work environment, they do not have the same immediate and direct impact on health as fumes and smoke produced from hot work activities. For example, although weather can affect visibility and working conditions, it does not typically create an immediate hazard like toxic fumes. Similar to noise levels, while they present potential occupational risks, they are not as pressing as ensuring a safe respiratory environment. Worker interactions, on the other hand, pertain more to safety protocols and communication but do not affect the immediate physical environment in terms of air quality. In summary, the continuous monitoring of fumes and smoke levels is of utmost importance to maintain safe working conditions and to protect workers from the potential dangers associated with hot work operations.

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://fdnycofg60.examzify.com>

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

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