

Minnesota High Pressure Piping Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

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- 1. What is the maximum amount of NH₃ allowed to be stored in a mechanical room, excluding the liquid charge?**
 - A. 250 lbs**
 - B. 330 lbs**
 - C. 400 lbs**
 - D. 500 lbs**
- 2. What is the maximum allowable pressure for threaded fittings for a 2" diameter?**
 - A. 400 psi**
 - B. 600 psi**
 - C. 800 psi**
 - D. 1000 psi**
- 3. What is the designation of a horizontal weld test?**
 - A. 2B**
 - B. 2G**
 - C. 3G**
 - D. 1G**
- 4. What is the maximum room temperature for NH₃ mechanical rooms?**
 - A. 100 degrees F**
 - B. 110 degrees F**
 - C. 122 degrees F**
 - D. 130 degrees F**
- 5. How are low-pressure receivers protected from pressure increases during high-pressure discharges?**
 - A. By installing a pressure controller**
 - B. By using adequate venting**
 - C. By employing high-grade materials**
 - D. By installing an additional pump**

6. What type of valve allows water to enter a steam system?

- A. Main stop valve**
- B. Feed water valve**
- C. Blowdown valve**
- D. Safety valve**

7. What function does a receiver serve in a refrigeration system?

- A. Release vapor**
- B. Store liquid refrigerant**
- C. Measure pressure**
- D. Control flow**

8. What is the required length of an NH₃ drip leg?

- A. 18 inches**
- B. 24 inches**
- C. 30 inches**
- D. 36 inches**

9. Eyewash and dump showers must be located how close outside of the machinery room?

- A. As close as possible**
- B. At least 10 feet away**
- C. At least 20 feet away**
- D. As per manufacturer's guidelines**

10. What is the inside diameter (ID) of a 16" pipe with a .84 wall?

- A. 14.32 inches**
- B. 15.16 inches**
- C. 16.00 inches**
- D. 14.84 inches**

Answers

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

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Explanations

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1. What is the maximum amount of NH₃ allowed to be stored in a mechanical room, excluding the liquid charge?

- A. 250 lbs
- B. 330 lbs**
- C. 400 lbs
- D. 500 lbs

The maximum amount of ammonia (NH₃) allowed to be stored in a mechanical room, excluding the liquid charge, is set at 330 pounds. This limit is established based on safety regulations to minimize the risks associated with ammonia storage, such as exposure to toxic vapors and potential environmental hazards in case of a leak or spill. Regulatory guidelines often categorize substances like ammonia based on their potential dangers, and the 330-pound threshold reflects a balance between practicality for operations and maintaining a safe environment within mechanical rooms. Exceeding this limit could require additional safety measures or approvals, such as specialized ventilation systems, secondary containment, or the involvement of emergency response protocols. Understanding these safety measures is crucial for compliant operations in facilities that handle ammonia and similar hazardous materials. This knowledge helps ensure that suitable precautions are taken to protect workers and the public from potential risks associated with ammonia storage.

2. What is the maximum allowable pressure for threaded fittings for a 2" diameter?

- A. 400 psi
- B. 600 psi**
- C. 800 psi
- D. 1000 psi

The maximum allowable pressure for threaded fittings is determined by various factors including the material of the fitting, the diameter, and the temperature at which it is operating. For a 2" diameter threaded fitting, the allowable pressure is commonly standardized in industry practices and codes, which typically consider these specific dimensions and conditions. In this case, the choice of 600 psi aligns with common standards established by piping codes, particularly when dealing with standard pressure ratings for threaded steel or other related materials. These standards ensure that the fittings can safely handle the pressures expected in typical applications without risking failure. Additionally, while threaded connections are widely used and have adequate strength, they are also subject to certain limitations, including the potential for leakage or failure under excessive pressure. Operating within the prescribed limits, such as the 600 psi standard for 2" diameter fittings, ensures safety and reliability in high-pressure piping systems.

3. What is the designation of a horizontal weld test?

- A. 2B
- B. 2G**
- C. 3G
- D. 1G

The designation of a horizontal weld test is indeed 2G. This label indicates a specific welding position as defined by the American Welding Society (AWS) standards. In the context of welding positions, the first digit prior to the letter specifies the position of the pipe. In the case of 2G, the "2" denotes a horizontal position, meaning the weld is performed on the horizontal plane. This position is crucial in testing a welder's ability to work on joints that lie flat and typically involves added challenges such as controlling the weld pool due to gravity. Understanding these designations is important for anyone in the field, as welders must be proficient in various positions to ensure sound welding practices across different applications. The other designations refer to different positions, with "1G" indicating a flat position, "3G" indicating a vertical position, and "2B" not being a recognized designation in this context. Therefore, the recognition of 2G for horizontal welding reflects industry standards for assessing welding capabilities.

4. What is the maximum room temperature for NH3 mechanical rooms?

- A. 100 degrees F
- B. 110 degrees F
- C. 122 degrees F**
- D. 130 degrees F

The maximum room temperature for ammonia (NH3) mechanical rooms is specified as 122 degrees Fahrenheit. This temperature limit is crucial for maintaining the safety and integrity of systems that utilize ammonia, particularly because ammonia is a highly volatile substance. Exceeding this temperature can pose risks, including increased pressure within the system, potential leaks, or even catastrophic failures. Additionally, maintaining a temperature below this threshold helps ensure the proper functioning of ammonia equipment, optimizing both safety and efficiency. It is important for personnel working in or around NH3 mechanical rooms to adhere to this temperature regulation to mitigate hazards associated with high-pressure systems and the characteristics of ammonia.

5. How are low-pressure receivers protected from pressure increases during high-pressure discharges?

- A. By installing a pressure controller
- B. By using adequate venting**
- C. By employing high-grade materials
- D. By installing an additional pump

Low-pressure receivers are equipped with adequate venting to protect them from pressure increases when high-pressure discharges occur. Venting allows for the controlled release of excess pressure that might build up due to rapid influxes of fluid or gas. This mechanism helps to prevent potential hazards such as ruptures or leaks that could result from excessive pressure. The use of adequate venting ensures that the receiver operates within a safe pressure range, allowing for the safe management of pressure differentials that can occur during various operational scenarios. Proper ventilation routes the excess pressure safely away, thereby maintaining the structural integrity of the receiver and ensuring the safety of the system as a whole. While the other options may seem relevant, they do not specifically address the issue of managing pressure increases due to high-pressure discharges adequately. For instance, a pressure controller can help regulate pressure, but it doesn't directly vent excess pressure out of the system. Similarly, using high-grade materials enhances durability but does not inherently prevent pressure increases. An additional pump could be part of a larger system for different purposes, but it does not offer a direct means of relieving pressure in low-pressure receivers during high-pressure influxes.

6. What type of valve allows water to enter a steam system?

- A. Main stop valve
- B. Feed water valve**
- C. Blowdown valve
- D. Safety valve

The feed water valve is designed specifically to allow water to enter a steam system. Its primary function is to control the flow of water into the boiler or steam generator, ensuring that there is an adequate water supply for producing steam. The valve helps maintain the proper water level, which is critical for safe and efficient operation of the steam system. In contrast, other types of valves serve different purposes. The main stop valve is used to isolate the entire system from the water supply, while the blowdown valve is utilized to remove sediment and impurities from the boiler water. The safety valve, on the other hand, is a critical safety device that opens to release pressure when it exceeds a predetermined level, preventing potential explosions or system failures. Thus, the feed water valve is the correct choice for allowing water entry into the steam system, highlighting its role in maintaining operational efficiency and safety.

7. What function does a receiver serve in a refrigeration system?

- A. Release vapor**
- B. Store liquid refrigerant**
- C. Measure pressure**
- D. Control flow**

In a refrigeration system, the receiver plays a crucial role by serving as a storage vessel for liquid refrigerant. Once the refrigerant condenses from gas to liquid, it flows into the receiver, which allows for the collection and storage of the refrigerant before it is sent to the expansion device or evaporator. This storage function is important because it helps manage the flow of refrigerant through the system, maintains system efficiency, and ensures that there is always an adequate supply of liquid refrigerant to meet the cooling demands. Other functions, such as releasing vapor, measuring pressure, or controlling flow, are not typically performed by the receiver. While some systems may include components that manage vapor release or control flow, these functions are associated with other parts of the refrigeration system. The receiver specifically focuses on safely storing the liquid refrigerant until it is needed for the cooling process.

8. What is the required length of an NH₃ drip leg?

- A. 18 inches**
- B. 24 inches**
- C. 30 inches**
- D. 36 inches**

In the context of ammonia (NH₃) piping systems, the required length of a drip leg is crucial for ensuring that any liquid ammonia that may condense in the piping is collected and drained safely. A drip leg serves this purpose by allowing the condensed ammonia to accumulate at a low point in the system, where it can be effectively removed without impacting the flow of gas. The specified length of 24 inches is established as a standard in many industry guidelines and codes related to ammonia handling and piping systems. This length is deemed adequate to ensure that sufficient liquid is trapped, allowing for effective drainage while minimizing the risks associated with liquid carryover in gas systems. Using the correct length for the drip leg is essential not just for the efficiency of the system but also for safety, as improper lengths could lead to potential leaks or failures in the piping system. The standard of 24 inches is a balance between performance and safety, taking into consideration the physical properties of ammonia and the operating conditions typical for such systems. This understanding is vital for anyone working with high-pressure ammonia piping, ensuring adherence to safety standards and operational efficiency.

9. Eyewash and dump showers must be located how close outside of the machinery room?

- A. As close as possible**
- B. At least 10 feet away**
- C. At least 20 feet away**
- D. As per manufacturer's guidelines**

The guidance surrounding the placement of eyewash stations and dump showers emphasizes the importance of having these safety measures readily accessible in case of an emergency. Having them located as close as possible to the machinery room ensures that employees can quickly reach emergency decontamination in the event of chemical spills, burns, or other hazardous incidents. In high-pressure piping environments, where exposure to harmful substances can occur, timely access to eyewash stations and dump showers is critical to minimize the potential for serious injuries. The close proximity reduces the time it takes for an individual to receive aid, which can be vital in preventing permanent damage to the eyes or skin. While some regulations or guidelines may suggest specific distances, the primary focus remains on minimizing the time and distance between work areas and these safety stations to enhance employee safety and compliance with safety standards.

10. What is the inside diameter (ID) of a 16" pipe with a .84 wall?

- A. 14.32 inches**
- B. 15.16 inches**
- C. 16.00 inches**
- D. 14.84 inches**

To calculate the inside diameter (ID) of a pipe, you need to start with the outside diameter (OD) and subtract twice the wall thickness from it. In this case, a 16-inch pipe has an outside diameter of 16 inches, and the wall thickness is given as 0.84 inches. The formula to find the inside diameter would be: $ID = OD - (2 * \text{wall thickness})$ Substituting the values, we have: $ID = 16 \text{ inches} - (2 * 0.84 \text{ inches})$ $ID = 16 \text{ inches} - 1.68 \text{ inches}$ $ID = 14.32 \text{ inches}$ This calculation demonstrates that the inside diameter of the pipe is indeed 14.32 inches. Understanding the relationship between the outside diameter, wall thickness, and inside diameter is crucial in high-pressure piping systems for ensuring proper sizing and compatibility with fittings and other pipe sections.

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://mvhighpressurepiping.examzify.com>

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

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