

API 574 – INSPECTION PRACTICES FOR PIPING SYSTEM COMPONENTS PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://api574.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	16

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 method of construction is often used when making pipe larger than 16"?**
 - A. Spinning
 - B. Rolling plate
 - C. Bending
 - D. Welding
- 2. Which document addresses the thickness requirements for valves?**
 - A. ASME B 16.34
 - B. API 574
 - C. ASME B 31.3
 - D. ASTM A 106
- 3. Which type of inspection would most likely reveal hidden issues in piping systems?**
 - A. Visual inspection only
 - B. Non-destructive testing methods
 - C. Routine operational checks
 - D. Periodic maintenance logs review
- 4. Which of these is a characteristic of FRP piping systems?**
 - A. FRP systems are prone to environmental stress cracking
 - B. FRP is less durable than metallic piping
 - C. FRP piping has unique advantages and construction mechanisms
 - D. FRP piping is only used in non-corrosive environments
- 5. When searching for cracking on a piping system, which of the following is not mandatory?**
 - A. A visual inspection of surfaces
 - B. A sample should be removed for microscopic inspection
 - C. Ultrasonic testing of welds
 - D. A review of maintenance records

- 6. What is one common reason for the failure of joint connections in piping?**
- A. Improper alignment during installation
 - B. Excessive use of lubricant
 - C. Incorrect material selection
 - D. Insufficient training of personnel
- 7. What describes the operation of a ball valve?**
- A. A ball rotates to align with the valve port
 - B. A diaphragm expands to stop flow
 - C. A disc slides across the flow path
 - D. A cone is pivoted to vary flow
- 8. Fully ported gate valves are best described as which of the following?**
- A. Valves with reduced ports
 - B. Valves with port openings the same size as the valve end openings
 - C. Valves with varied opening sizes
 - D. Standard size valves
- 9. What is of particular concern when combining a high sulfur process stream at low temperature with a higher temperature stream?**
- A. The formation of gas bubbles in the system
 - B. Increased pressure in the piping system
 - C. The increased temperature may activate high temperature sulfidation
 - D. The potential for material fatigue
- 10. Contact point corrosion is characterized by which of the following?**
- A. General corrosion across the entire pipe
 - B. Localized corrosion at pipe support contact points
 - C. Corrosion due to chemical exposure
 - D. Corrosion from high-pressure environments

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What method of construction is often used when making pipe larger than 16"?

- A. Spinning
- B. Rolling plate**
- C. Bending
- D. Welding

Rolling plate is the correct method of construction for making pipes larger than 16 inches. This process involves forming a flat plate into a circular shape and then welding the edges to create a seamless tube. The rolling plate method is ideal for larger diameters because it can accommodate the thickness and size of material required, ensuring structural integrity and durability. In contrast, the spinning method is more commonly used for smaller diameters where shaping the pipe with rotational forces is feasible. Bending is typically applied to achieve specific angles or curves in piping, rather than to create larger diameter pipes from flat stock. Welding is an essential part of many processes, including rolling plate, but it is not a construction method by itself for forming the pipe's shape. Overall, rolling plate is specifically tailored for the production of larger pipes, making it the most efficient and effective choice for diameters over 16 inches.

2. Which document addresses the thickness requirements for valves?

- A. ASME B 16.34**
- B. API 574
- C. ASME B 31.3
- D. ASTM A 106

The document that addresses the thickness requirements for valves is ASME B 16.34. This standard specifically covers the design and materials requirements for valves, including their pressure-temperature ratings and wall thickness. It provides essential guidelines that ensure the structural integrity and safety of valves under various operating conditions. By establishing uniform thickness criteria, ASME B 16.34 helps to enhance the reliability of valves in piping systems, ensuring they can withstand the pressures and temperatures they might encounter in service. API 574 is primarily focused on inspection practices, providing guidelines for the assessment of piping system components rather than establishing thickness requirements. ASME B 31.3, although related to process piping, outlines general requirements for the piping itself rather than specifically detailing valve dimensions. ASTM A 106 is a specification for seamless carbon steel pipe and does not pertain to valve thickness requirements either. Thus, ASME B 16.34 is the appropriate standard for understanding valve thickness criteria.

3. Which type of inspection would most likely reveal hidden issues in piping systems?

- A. Visual inspection only
- B. Non-destructive testing methods**
- C. Routine operational checks
- D. Periodic maintenance logs review

Non-destructive testing (NDT) methods are highly effective for uncovering hidden issues within piping systems. These techniques allow inspectors to evaluate the integrity of materials without causing any damage, making them ideal for detecting flaws such as cracks, corrosion, and other structural weaknesses that may not be visible through routine visual inspections or operational checks. NDT encompasses various techniques such as ultrasonic testing, radiographic testing, magnetic particle testing, and eddy current testing. Each of these methods can penetrate the surface of materials and provide insights into the internal conditions of piping systems, which is crucial for identifying potential failures before they lead to serious accidents or costly repairs. In contrast, visual inspections are limited to what is immediately observable and may miss subsurface issues. Routine operational checks focus primarily on the performance of the system under normal operating conditions rather than inspecting for structural integrity. Periodic maintenance logs can provide insights into the history of inspections and repairs but do not offer real-time assessment of the current condition of the piping. Overall, NDT methods offer a comprehensive and proactive approach to ensuring the safety and reliability of piping systems.

4. Which of these is a characteristic of FRP piping systems?

- A. FRP systems are prone to environmental stress cracking
- B. FRP is less durable than metallic piping
- C. FRP piping has unique advantages and construction mechanisms**
- D. FRP piping is only used in non-corrosive environments

FRP, or Fiberglass Reinforced Plastic piping, is recognized for its unique advantages and construction mechanisms, which make it a popular choice in various industrial applications. One of the significant characteristics of FRP systems is their versatility in design and materials, allowing for tailored solutions to meet specific operational requirements. For instance, FRP piping can be engineered to have specific corrosion resistance, strength, and thermal insulation properties that can surpass traditional materials in certain contexts. Additionally, the lightweight nature of FRP makes it easier to handle and install compared to heavier metallic piping options, contributing to lower labor and transportation costs. Furthermore, FRP systems can be manufactured in a variety of shapes and sizes, enhancing their applicability in different environments, including those that are harsh or involve corrosive substances. This adaptability is one of the distinctive traits of FRP that sets it apart from other piping materials. In contrast, the other options suggest concerns or limitations rather than highlighting its advantages. While it's true that environmental stress cracking can be an issue for some materials, FRP is often engineered specifically to mitigate such risks. Comparing durability between FRP and metallic piping doesn't straightforwardly indicate superiority since it depends greatly on the application's specific conditions. Lastly, while some people might assume that FRP is

5. When searching for cracking on a piping system, which of the following is not mandatory?

- A. A visual inspection of surfaces
- B. A sample should be removed for microscopic inspection**
- C. Ultrasonic testing of welds
- D. A review of maintenance records

The aspect that is not mandatory when searching for cracking in a piping system is the removal of a sample for microscopic inspection. While microscopic examination can provide valuable information about material integrity and failure mechanisms, it is not a requirement under typical inspection practices. Visual inspections of surfaces, ultrasonic testing of welds, and reviews of maintenance records are generally required components of a comprehensive inspection regimen. Visual inspections are essential for identifying surface defects and discontinuities that may indicate cracking. Ultrasonic testing is a non-destructive method that helps assess the integrity of welds and can detect internal flaws. Reviewing maintenance records provides insight into the history of the piping system, including prior repairs or issues that may affect current conditions. In practice, while sampling for microscopic inspection can enhance understanding of material properties and failures, it is not a standard requirement, allowing inspectors to rely on a combination of visual assessments, non-destructive testing, and historical data for effective evaluation of the piping system.

6. What is one common reason for the failure of joint connections in piping?

- A. Improper alignment during installation**
- B. Excessive use of lubricant
- C. Incorrect material selection
- D. Insufficient training of personnel

One common reason for the failure of joint connections in piping is improper alignment during installation. When pipes and their fittings are not aligned correctly, it can create undue stress on the joints. This misalignment may lead to unequal loading, which can result in leaks or complete joint failure over time. Proper alignment is crucial to ensure that forces acting on the piping system are distributed evenly and that the joint can maintain a secure and effective seal. The other options, while contributing factors in some contexts, do not capture the fundamental issue of physical connection in the same direct manner. For instance, excessive use of lubricant can potentially lead to problems, but it is not typically a primary cause of joint failure. Incorrect material selection can indeed compromise the integrity of the piping system, but alignment issues most directly affect the mechanical stability of joint connections that are crucial for maintaining pressure and preventing leaks. Insufficient training of personnel affects installation practices broadly, but proper alignment specifically focuses on the immediate technical requirement needed during the joint assembly process.

7. What describes the operation of a ball valve?

A. A ball rotates to align with the valve port

B. A diaphragm expands to stop flow

C. A disc slides across the flow path

D. A cone is pivoted to vary flow

A ball valve operates by utilizing a spherical ball with a hole through the center, known as the port. When the handle of the valve is turned, this ball rotates, aligning the port either with the flow of the medium or perpendicular to it, effectively opening or closing the valve. This design allows for quick and easy control of flow, providing full shut-off capabilities when required. In addition to its efficient operation, the ball's smooth surface minimizes turbulence and friction, making it suitable for both on and off service in various applications. The other options describe different types of valves and their operations. Diaphragm valves utilize a flexible diaphragm that moves up and down to control flow, sliding disc valves work by moving a circular disc across the flow path to regulate the medium, and cone valves adjust the flow by pivoting a cone shape within the body of the valve. Each of these designs serves specific purposes but does not describe the mechanism of a ball valve, which is characterized by the rotational movement of the ball to control flow.

8. Fully ported gate valves are best described as which of the following?

A. Valves with reduced ports

B. Valves with port openings the same size as the valve end openings

C. Valves with varied opening sizes

D. Standard size valves

Fully ported gate valves are best described as those with port openings that are the same size as the valve end openings. This design allows for minimal obstruction of fluid flow, ensuring that the flow path is consistent with the piping system's diameter. Such engineering minimizes pressure drops and turbulence during flow, making fully ported gate valves ideal for applications requiring high flow rates and effective shut-off capabilities. When the port size matches the valve end openings, it also promotes efficient operation, reducing the risk of erosion and wear, which can occur if the flow is restricted or disturbed. This characteristic is essential for maintaining system performance, particularly in critical applications where fluid dynamics play a significant role in overall operational efficiency. Thus, option B accurately captures the defining feature of fully ported gate valves.

9. What is of particular concern when combining a high sulfur process stream at low temperature with a higher temperature stream?

A. The formation of gas bubbles in the system

B. Increased pressure in the piping system

C. The increased temperature may activate high temperature sulfidation

D. The potential for material fatigue

The correct choice emphasizes the concern that increased temperatures can activate high temperature sulfidation, a detrimental process that occurs in environments containing sulfur compounds. When a high sulfur process stream at low temperatures is mixed with a hotter stream, the increase in temperature can enhance the rate of corrosion of carbon steel and other alloys by promoting sulfidation reactions. Sulfidation is a form of corrosion where iron sulfides form, leading to significant metal loss and structural integrity issues. The higher temperatures augment the chemical activity, making steel more susceptible to this interaction, which can ultimately compromise the piping system's integrity. Understanding this phenomenon is crucial for maintaining the safety and reliability of piping components in industrial processes where sulfur is involved. In contrast, the formation of gas bubbles, increased pressure, and material fatigue, while they are relevant factors in the integrity of piping systems, are not the primary concern in this specific scenario involving sulfur streams. It is the effect of temperature on sulfidation that stands out as particularly critical.

10. Contact point corrosion is characterized by which of the following?

- A. General corrosion across the entire pipe
- B. Localized corrosion at pipe support contact points**
- C. Corrosion due to chemical exposure
- D. Corrosion from high-pressure environments

Contact point corrosion is specifically associated with localized corrosion that occurs at the points where pipes make contact with supports or other fixed structures. This type of corrosion often arises due to factors such as moisture accumulation, the presence of dissimilar metals, or mechanical stress at the contact points, leading to deterioration that's concentrated in small areas rather than spread out across a larger surface. Localized corrosion at pipe support contact points can be exacerbated by conditions like abrasion or a lack of protective coatings, which can allow corrosive agents to infiltrate and cause damage. In contrast, general corrosion affects the entire surface area of the pipe evenly, while corrosion due to chemical exposure and corrosion from high-pressure environments usually involve different mechanisms and forms of damage. Understanding the specific nature of contact point corrosion helps in implementing targeted inspection and maintenance strategies to mitigate its effects.

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.

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

<https://api574.examzify.com>

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

SAMPLE