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35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

American Petroleum Institute: Individual Certification Programs (API)

570

570 - Piping Inspector Certification

EDITION

Demo

QUESTIONS

9

ISSUED

September 3, 2026

Before you begin

What this is

9 practice questions for American Petroleum Institute: Individual Certification Programs (API) 570, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, 570
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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QUESTION 1 SINGLE CHOICE

During a visual examination of a welded joint on an in-service carbon steel piping system, an inspector identifies localized wall-thinning on the outside surface adjacent to the weld. Which form of corrosion is most consistent with this observation?

- ☐ A Pitting corrosion distributed across the pipe surface
- ☐ B Erosion-corrosion at a piping bend
- ☒ C External corrosion at a pipe support saddle
- ☐ D Graphitic corrosion of cast iron piping

ANSWER C

WHY Localized wall-thinning on the outside surface of a pipe adjacent to a weld, especially at a support location, is most consistent with external corrosion where moisture or contaminants collect at the pipe-to-support interface. Pitting would appear as discrete pits distributed over the surface, erosion-corrosion produces characteristic grooves at high-velocity locations such as bends, and graphitic corrosion applies specifically to cast iron. The location described (adjacent to a weld at a support) points to external corrosion at a pipe support.

QUESTION 2 SINGLE CHOICE

Which nondestructive examination method is most commonly used to determine the remaining wall thickness of in-service piping during an external inspection?

- ☐ A Magnetic particle examination
- ☒ B Ultrasonic thickness measurement
- ☐ C Radiographic examination
- ☐ D Dye penetrant examination

ANSWER B

WHY Ultrasonic thickness measurement (UT thickness gauging) is the standard NDE method used to determine remaining wall thickness of in-service piping from the outside surface without requiring the line to be taken out of service. Magnetic particle and dye penetrant examinations are surface-crack-detection methods, and radiographic examination is generally not practical for routine in-service wall-thickness surveys of operating piping.

QUESTION 3

MULTIPLE CHOICE

Which of the following ASME publications are referenced by API 570 for piping inspection activities? (Choose two.)

- ☒ **A** ASME B31.3 — Process Piping
- ☒ **B** ASME Section IX — Welding and Brazing Qualifications
- ☐ **C** ASME Section XI — Inservice Inspection of Nuclear Power Plant Components
- ☐ **D** ASME B16.5 — Pipe Flanges and Flanged Fittings

ANSWER A • B

WHY API 570 references ASME B31.3 (Process Piping) as the primary code for piping design, fabrication, examination, and testing, and ASME Section IX for welding procedure and welder performance qualifications. ASME Section XI applies to nuclear power plant components and is not the code used for petrochemical piping inspection. ASME B16.5 covers flanges and flanged fittings but is a component standard, not the inspection standard referenced by API 570.

QUESTION 4

SINGLE CHOICE

An inspector notes bulging and blistering on the outside of an operating carbon steel pipe carrying a hot hydrocarbon stream. These observations are most indicative of which damage mechanism?

- ☒ **A** Hydrogen blistering
- ☐ **B** Polythionic acid stress-corrosion cracking
- ☐ **C** Thermal fatigue
- ☐ **D** Creep rupture

ANSWER A

WHY Blistering and bulging on the outside surface of a carbon steel pipe in a wet hydrocarbon service are classic indicators of hydrogen blistering, which occurs when hydrogen atoms generated by corrosion reactions diffuse into the steel and recombine to form molecular hydrogen at internal defects, creating internal pressure and visible blisters. Polythionic acid SCC produces cracking, not blistering. Thermal fatigue produces cracking patterns and creep rupture produces bulging of entire sections under sustained high temperature — neither is consistent with localized blisters from a wet corrosion environment.

QUESTION 5 SINGLE CHOICE

Under API 580 and the API 570 risk-based inspection (RBI) approach, piping is typically prioritized for inspection based primarily on which combination of factors?

- ☐ A Pipe color and insulation type
- ☒ B Consequence of failure and probability of failure
- ☐ C Year of installation and original fabrication cost
- ☐ D Operator certification level and plant shift schedule

ANSWER B

WHY API 580-based RBI programs prioritize piping for inspection based on the combination of consequence of failure (safety, environmental, and economic) and probability of failure (driven by damage factors, operating conditions, and inspection history). Pipe color, installation year, fabrication cost, and operator/shift considerations are not RBI prioritization inputs. The Consequence × Probability framework is the basis for the API RBI methodology referenced by API 570.

QUESTION 6 MULTIPLE CHOICE

Which of the following are required inputs for calculating the remaining service life of a corroded piping circuit using the API 570 half-life methodology? (Choose two.)

- ☒ A Nominal pipe wall thickness
- ☒ B Corrosion rate determined from successive thickness measurements
- ☐ C Color of the pipe identification marking
- ☐ D Required minimum thickness (t-min) for the pipe

ANSWER A - B

WHY The API 570 remaining-service-life calculation requires the nominal or starting wall thickness, the corrosion rate (typically determined from successive UT thickness readings), and the required minimum thickness for the piping. From these inputs, the inspector calculates the predicted wall thickness at a future date and the time at which the pipe will reach t-min. Pipe color and identification markings are not engineering inputs to the calculation.

QUESTION 7

SINGLE CHOICE

Which piping damage mechanism is characterized by a network of fine cracks on the inside surface of austenitic stainless steel piping operating at elevated temperature, typically found in branch connections?

- ☒ **A Polythionic acid stress-corrosion cracking**
- ☐ B Polysulfide stress-corrosion cracking
- ☐ C Thermal fatigue cracking
- ☐ D Hydrogen-assisted cracking

ANSWER A

WHY Polythionic acid stress-corrosion cracking (PASCC) produces intergranular cracking on the inside (wetted) surface of sensitized austenitic stainless steels and is commonly found at branch connections, flanges, and other areas of residual stress. Polysulfide SCC is associated with wet sour service in carbon and low-alloy steels, not austenitic stainless steel. Thermal fatigue produces distinct crack patterns from cyclic thermal stress, and hydrogen-assisted cracking applies primarily to low-alloy and carbon steels. The location (branch connection) and material (austenitic stainless steel) point to PASCC.

QUESTION 8

SINGLE CHOICE

Per API 570, which of the following records is required to be maintained for the life of the piping system?

- ☐ A Daily shift logs of the operations crew
- ☒ **B Original piping construction records and subsequent inspection records**
- ☐ C Vendor invoices for replacement gaskets
- ☐ D Plant security access logs

ANSWER B

WHY API 570 requires that piping records — including construction records (material certifications, fabrication, examination, and pressure test records) and subsequent inspection, examination, and repair records — be retained for the life of the piping system. Shift logs, gasket invoices, and security access logs are not piping inspection records required by API 570. Maintaining complete records is essential for demonstrating fitness-for-service and for supporting RBI and remaining-life analyses.

QUESTION 9

SINGLE CHOICE

According to API 570, external visual inspection of piping classified as Class 1 piping is typically performed on what maximum interval?

- ☐ A Every 12 months
- ☒ B Every 5 years
- ☐ C Every 10 years
- ☐ D Only when triggered by process upset

ANSWER B

WHY API 570 establishes external inspection intervals based on piping service class and consequence. Class 1 (higher consequence) piping is generally inspected on a maximum 5-year interval, while Class 2 and Class 3 piping have progressively longer allowable intervals (up to 10 years). The intervals may be adjusted based on RBI assessment. The 12-month figure does not correspond to a standard API 570 external interval, and triggered-only inspection is not the default API 570 approach.