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NEW QUESTION: 1

Term "E" used in shell thickness formula in AWE Sec. VIII Div.1, represents weld joint efficiency, whose value is equal to "1", if:

- A. Both welds are spot radio graphed
- B. Longitudinal welds are radio graphed for their entire length and circumferential welds are spot radio graphed.
- C. Longitudinal and circumferential welds are radio graphed for their entire length
- D. Both a and b

Answer: B (LEAVE A REPLY)

circumferential just need a spot radiography to attain joint efficiency of "1" but longitudinal welds undergo a hoop stress as well and roughly twice of the stress applied on a circumferential joint and hence require full radiography to attain a joint efficiency of "1".

NEW QUESTION: 2

The definition of a construction code is?

- A. Any standard used to build a vessel
- B. Any technique of construction
- C. The Code or standard to which a vessel was originally built
- D. Any standard used to repair vessel

Answer: (SHOW ANSWER)

NEW QUESTION: 3

API-510 mandates the consideration of which factors for rerating a pressure vessel?

- A. Design temperature and pressure only
- B. Only the original design criteria
- C. Design temperature, pressure, and material properties
- D. Corrosion rates and materials of construction

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 4

Describe the steps involved in transitioning from older inspection standards to API-510 for an existing facility with multiple pressure vessels.

Answer:

Transitioning from older inspection standards to API-510 involves a systematic approach to ensure compliance and enhance safety. The first step is a gap analysis to identify differences between the current practices and API-510 requirements. Based on this analysis, a detailed plan is developed to address these gaps, which may involve updating inspection procedures, training personnel on API-510 standards, and upgrading equipment or software used in inspections. Implementing these changes typically requires phased integration, with priority given to areas with the highest risk. Regular audits and reviews ensure that the transition progresses smoothly and achieves the desired compliance level.

NEW QUESTION: 5

For proper internal or external visual inspections, surfaces must be:

- A.** Wire brushed
- B.** Grit blasted to SA 2
- C.** The type of surface preparation depends on individual circumstances and could be any of the above
- D.** Hydro blasted

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 6

Which API document should be consulted for the repair of pressure relieving devices as per API-510?

- A.** API 576
- B.** API 579
- C.** API 570
- D.** API 572

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 7

Explain how API-510 addresses the retrofitting and upgrading of aging pressure vessels to meet modern operational demands.

Answer:

API-510 provides comprehensive guidelines for retrofitting and upgrading aging pressure vessels to meet modern operational demands. This includes assessing the current condition of the vessel, determining the feasibility of upgrades or retrofits, and implementing modifications in compliance with current safety standards. The standard

outlines procedures for replacing outdated components with modern materials and technology that enhance performance and safety. Thorough testing and re- certification are required after any retrofitting work to ensure that the vessel continues to operate safely under the new conditions.

NEW QUESTION: 8

Discuss the importance and methodology of maintaining the traceability of all pressure equipment as per API-510.

Answer:

Traceability in pressure vessel management ensures that every piece of equipment can be tracked to its source materials, production processes, and inspection records. API-510 mandates maintaining detailed records that include the manufacturer's data reports, material test results, and all modifications or repair histories. This traceability aids in assessing the vessel's integrity over its service life and facilitates targeted inspections and maintenance. Establishing a robust system using bar codes or RFID tags linked to a central database can efficiently manage this traceability.

NEW QUESTION: 9

For alterations or repairs on vessels that were previously post-weld heat treated as a code requirement and fabricated of P-1 and P-3 materials, preheating is not to be less than _____ may be considered as an alternative to PWHT.

- A. 500°F
- B. 700°F
- C. 300°F
- D. 900°F

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 10

When calculating the MAWP based on a weld joint factor less than 1.0, the surface of the weld is identified by which of the following?

- A. The surface of the weld includes 1 inches or twice minimum thickness on either side of the weld, whichever is less
- B. The surface of the weld includes 2 inches or twice minimum thickness on either side of the weld, whichever is less
- C. The surface of the weld includes 1 inch or twice minimum thickness on either side of the weld, whichever is less
- D. The surface of the weld includes 2 inches or twice minimum thickness on either side of the weld, whichever is less

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 11

During vessel repairs or alterations, who is required to maintain the welding records?

- A. pressure vessel engineer
- B. authorized inspector
- C. welding inspector
- D. repair organization owner/user

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 12

An inspector should be stricter while carrying out inspection on:

- A. Circumferential Joints
- B. Longitudinal Joint
- C. Both are equally critical as per ASME Sec. VIII, Div.1
- D. Depends on QA plan

Answer: B ([LEAVE A REPLY](#))

Because of hoop stress, the longitudinal joint has to tolerate roughly twice of stress applied on circumferential weld.

NEW QUESTION: 13

Risk-based Inspection combines the assessment of?

- A. likelihood of poor inspection and the consequence of failure
- B. chances of failure and the cost of failure
- C. likelihood of failure and the consequence of failure
- D. likelihood of failure and the effects on plant operation of failure

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 14

When discussing repairs to a pressure vessel what is the definition of 'construction codes'?

- A. The current ASME Code edition
- B. The NBIC
- C. The Code the vessel was constructed to including non-standard and jurisdictional special vessels
- D. The API 510 Code

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 15

Discuss the implications of failing to comply with API-510 standards during the construction and operation of pressure vessels.

Answer:

Non-compliance with API-510 can lead to serious safety risks, including the potential for catastrophic failures such as explosions or leaks. Legal consequences might include fines, shutdowns, and liability in the event of accidents. To avoid these risks, it's crucial for

companies to adhere strictly to the standards, ensuring that all pressure vessels are designed, constructed, and maintained according to API-510 guidelines.

NEW QUESTION: 16

In API-510, which is not considered a standard practice for extending the life of a pressure vessel?

- A. Periodic recoating of internal surfaces
- B. Regular cleaning and maintenance
- C. Application of a corrosion inhibitor
- D. Increasing the operating temperature to reduce viscosity

Answer: D ([LEAVE A REPLY](#))

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NEW QUESTION: 17

The best description of Temper embrittlement is:

- A. Cracking due to low temperature service
- B. Loss of ductility and notch toughness due to exposure above 650°F - 1100°F
- C. Cracking due to operating at high temperatures above 650°F - 1100°F
- D. Flaking of the metal surfaces, causing dip pits due to exposure above 650°F -1100°F

Answer: B ([LEAVE A REPLY](#))

NEW QUESTION: 18

After a new vessel has been installed, what must be done in order accept the vessel for operation?

- A. A first internal inspection.
- B. Base line thickness readings must be taken per API 572
- C. A first internal inspection, however if a manufactures' data report (U1) assuring that the vessel is satisfactory for its intended service is available the first internal may be waived
- D. Base line thickness reading must be taken per NBIC regulation 6

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 19

As per API 510, what is the maximum allowed time between the testing of pressure relieving devices?

- A. Pressure relief devices must be tested at every shutdown
- B. 5 years
- C. 10 years
- D. Pressure relief valves shall be tested at intervals that are frequent enough to verify that the valves perform reliably

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 20

How does API-510 guide the decommissioning process for pressure vessels that are no longer fit for service?

Answer:

API-510 guides the decommissioning process for pressure vessels by outlining a series of steps designed to ensure safety and compliance with environmental regulations. The process begins with a thorough cleaning to remove any hazardous substances, followed by a comprehensive inspection to document the vessel's condition. The vessel is then isolated and, if necessary, cut into manageable sections for removal, using methods that prevent any contamination or environmental impact. Finally, all associated documentation is updated to reflect the decommissioning, and materials are recycled or disposed of in accordance with local environmental standards.

NEW QUESTION: 21

Increasing hardness of the metal substrate is not always a good indicator of improved resistance to _____, particularly where corrosion plays a significant role.

- A. erosion
- B. stress corrosion cracking
- C. ductile failure
- D. stress corrosion

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 22

ASME Code requires averaging of impact test values of how many specimens for the relevant acceptance criteria.

- A. 4
- B. None of these
- C. 2
- D. 3

Answer: ([SHOW ANSWER](#))

This is normally a closed book question or practical question. As an inspector, you should know from top of your head, that, you need minimum 3 test coupons for CHARPY impact. This requirement is in both ASME B31.3 and ASME VIII.

NEW QUESTION: 23

What is the API-510 recommendation for frequency of internal inspections for vessels containing corrosive substances?

- A. At least once every 10 years
- B. At least once every 3 years
- C. At least once every 5 years
- D. Depends on the results of the last inspection

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 24

When does the API-510 Inspection Code apply?

- A. Vessels after they have been placed in service
- B. Only pressure vessels being fabricated for refinery/petro-chemical service
- C. Vessels constructed to API-572
- D. Pressure vessel being fabricated to ASME Section VIII, Division 1 or 2

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 25

API 510 covers vessels constructed to which fabrication codes?

- A. any fabrication code
- B. only ASME B&PV Section VIII and the API/ASME Code for Unfired Pressure Vessels
- C. ASME B&PV Section VIII and other current codes (except French vessel code)
- D. only ASME B&PV Section VIII

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 26

The remaining life of a vessel is 24 years. What is the maximum interval for the internal inspection?

- A. 10 years
- B. 6 years
- C. 5 years
- D. 12 years

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 27

Discuss how ongoing global regulatory changes impact the implementation of API-510 standards.

Answer:

Ongoing global regulatory changes can significantly impact the implementation of API-510 standards as these changes may introduce new safety, environmental, or operational requirements that affect pressure vessel management. Companies must stay informed about these regulatory updates and assess how they align with API-510 guidelines. Adapting to these changes often requires updating internal policies, retraining staff, and sometimes modifying equipment. Proactive engagement with regulatory bodies and industry associations helps ensure that the implementation of API-510 remains compliant and up to date with global standards.

NEW QUESTION: 28

When determining the corrosion rate for a new vessel involved in changes in service conditions and the probable corrosion rate cannot be determined by either available data or experience of the owner/user, on-stream determination shall be made. What is the length of service recommended by API-510?

- A. 1000 hours
- B. 1000 days
- C. 1000 weeks
- D. 100 months

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 29

A stainless steel weld has a crack open to the surface. Which NDT method will reveal it most effectively?

- A. Liquid Penetrant
- B. Magnetic particle
- C. UT
- D. Radiography

Answer: ([SHOW ANSWER](#))

SS cannot be tested by MT because SS is not ferromagnetic. RT and UT discontinuities out they are basically suited for internal or volumetric discontinuities,

NEW QUESTION: 30

Describe the challenges and strategies for maintaining API-510 compliance in industries with high turnover rates of inspection personnel.

Answer:

Maintaining API-510 compliance in industries with high turnover rates of inspection personnel poses significant challenges, primarily in retaining expertise and ensuring continuity of safety practices.

Strategies to address these challenges include robust training programs that quickly bring new inspectors up to speed, maintaining detailed and accessible documentation that

captures institutional knowledge, and implementing mentorship programs where experienced inspectors guide newcomers. Additionally, investing in automated systems and tools that standardize inspection processes can help maintain consistency and quality of inspections, regardless of personnel changes.

NEW QUESTION: 31

Flush (insert) patches shall be installed with full penetration butt joints and the corners shall be what type?

- A.** The corners shall be rounded 1 inch minimum radius
- B.** The corners shall be provided with a 3 inch radius
- C.** The corners shall be squared
- D.** The corners shall be provided with a 6 inch radius

Answer: A ([**LEAVE A REPLY**](#)**)**

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NEW QUESTION: 32

How does API-510 contribute to ensuring the safety and reliability of pressure vessels in offshore platforms?

Answer:

API-510 plays a crucial role in ensuring the safety and reliability of pressure vessels on offshore platforms by setting stringent inspection and maintenance standards tailored to the harsh marine environment. These standards require regular and thorough inspections to manage corrosion, fatigue, and other stressors typical in offshore settings. API-510 also mandates that repairs and modifications meet high safety standards to withstand the dynamic loads and potentially explosive atmospheres common in offshore operations. Compliance with API-510 helps prevent environmental incidents and operational failures, thereby maintaining the safety and reliability of offshore platforms.

NEW QUESTION: 33

Under API-510, which type of inspection is mandatory after the alteration of a pressure vessel?

- A.** Ultrasonic testing

- B. External inspection
- C. Radiography
- D. Internal inspection

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 34

What is the recommended shell temperature, per API 510 during a hydrostatic test of a vessel, 1"thick?

- A. 10 ° F above MDMT
- B. 30 ° F above testing liquids temperature
- C. 65 ° F above ambient
- D. 30 ° F above ambient

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 35

Discuss the role of API-510 in ensuring environmental compliance for pressure vessels.

Answer:

API-510 plays a significant role in ensuring environmental compliance for pressure vessels by setting standards that minimize the risk of leaks and emissions, which can have detrimental effects on the environment. The standard requires regular inspections and maintenance to ensure the integrity of the vessels, thereby preventing accidental releases of hazardous substances. API-510 also promotes the use of environmentally friendly materials and technologies in the construction and repair of pressure vessels.

NEW QUESTION: 36

Discuss how API-510 standards can be effectively communicated and implemented across an organization with multiple international locations.

Answer:

Effectively communicating and implementing API-510 standards across multiple international locations requires a centralized approach to standardization. This can be achieved by developing a comprehensive training program that is consistent across all locations, supported by digital tools such as webinars and e-learning modules that cover API-510 standards. Regular audits and reviews should be conducted to ensure compliance, and findings should be shared across the network to promote best practices. Additionally, appointing dedicated compliance officers or teams within each region can help address specific local compliance challenges and ensure the standards are applied uniformly.

NEW QUESTION: 37

What is the required action under API-510 if a pressure vessel shows signs of significant deterioration before the next scheduled inspection?

- A. Perform an immediate unscheduled inspection
- B. Continue operation until the next scheduled inspection
- C. Increase the operating pressure
- D. Decommission the vessel

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 38

According to API-510, the acceptance criteria for a welded repair must be in accordance with which of the following?

- A. Any internationally recognized welding standard
- B. The discretion of the inspecting engineer
- C. The latest edition of the ASME code
- D. The original code of construction

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 39

Discuss the integration of environmental sustainability practices in the maintenance and inspection of pressure vessels as per API-510.

Answer:

API-510 encourages the integration of environmental sustainability practices in the maintenance and inspection of pressure vessels by promoting techniques and materials that minimize environmental impact. This includes the use of non-toxic coatings, the implementation of energy-efficient inspection technologies, and the adoption of practices that reduce waste, such as recycling used materials and optimizing inspection intervals to decrease unnecessary exposure. Additionally, API-510 supports initiatives that enhance environmental protection, such as leak detection systems that prevent spills and emissions, contributing to a more sustainable operation.

NEW QUESTION: 40

The internal inspection interval must be reviewed whenever changes occur that could affect the degradation of the vessel.

In which of the following situations does a review of the internal interval need not be conducted?

- A. operating temperature increases
- B. operating pressure increases
- C. fluid composition changes
- D. operating pressure decreases

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 41

Widely scattered pits may be ignored as long as all but which of the following is true?

- A. Total area of pits does not exceed 7 square inches in any 8" diameter circle
- B. No pit depth greater than 1/2 the vessel wall exclusive of the corrosion allowance
- C. No pit depth greater than 2/3 the vessel wall exclusive of the corrosion allowance
- D. Sum of dimensions along a straight line does not exceed 2 inches

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 42

Discuss the ethical responsibilities of pressure vessel inspectors under API-510.

Answer:

The ethical responsibilities of pressure vessel inspectors under API-510 include maintaining integrity, objectivity, and impartiality in their inspection practices. Inspectors are expected to perform their duties based on sound technical knowledge and adhere to the highest standards of safety and compliance. They must avoid any conflicts of interest and ensure that their decisions and recommendations are based solely on their professional assessment of the vessel's condition.

Additionally, inspectors are obligated to report any safety concerns or compliance issues they discover during their inspections, regardless of potential implications for operations or management.

NEW QUESTION: 43

Increasing hardness of the metal substrate is not always a good indicator of improved resistance to

_____, particularly where corrosion plays a significant role.

- A. stress corrosion
- B. stress corrosion cracking
- C. ductile failure
- D. erosion

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 44

Hot tapping is best described by statement:

- A. It is technique of providing a tapping connection while the system is in operation
- B. It is technique of fixing an on/off tap on drain nozzle of pressure vessel
- C. It is a technique of preheating the vessel wall to specified temperature and tapping with one pound rounded hammer to detect wall thinning
- D. It is act of pre heating the component before using the tap and die for threading so that less effort is required for threading operation.

Answer: B ([LEAVE A REPLY](#))

Practical type of question. You should know "not tapping" means drilling a hole and adding a connection while the vessel is in service and under pressure.

NEW QUESTION: 45

Explain the critical safety considerations that API-510 mandates for pressure vessels operating in hazardous environments.

Answer:

API-510 mandates several safety considerations for pressure vessels in hazardous environments, such as using materials and construction methods that are suitable for the specific conditions (e.g., corrosion-resistant materials), installing adequate safety relief systems, and ensuring that the vessel design accommodates possible fluctuations in pressure and temperature. Regular and thorough inspections are required to detect any potential degradation early.

NEW QUESTION: 46

For proper internal or external visual inspections, surfaces must be:

- A. Wire brushed
- B. Hydro blasted
- C. Grit blasted to SA 2
- D. The type of surface preparation depends on individual circumstances and could be any of the above

Answer: A ([LEAVE A REPLY](#))

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NEW QUESTION: 47

Unless there is indicative information on the brittle characteristics of the vessel material, the test temperature of the metal during a pressure test need not exceed what temperature?

- A. 120°F
- B. 130°F
- C. 200°F
- D. 60°F

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 48

Describe the procedures outlined in API-510 for handling and documenting modifications to pressure vessels.

Answer:

According to API-510, any modifications to pressure vessels must be thoroughly documented and approved before implementation. The procedure includes a detailed review of the design changes, which must be evaluated by a qualified engineer to ensure they comply with the original design standards and any applicable updates. This includes recalculations of the vessel's pressure integrity and stability. Documentation should include a description of the work performed, the materials used, the inspection and testing results, and the name of the person who authorized the modifications. This thorough documentation ensures traceability and accountability, maintaining safety and compliance throughout the vessel's operational life.

NEW QUESTION: 49

Explain the process and benefits of integrating API-510 inspection standards with ISO 9001 quality management systems.

Answer:

Integrating API-510 inspection standards with ISO 9001 quality management systems enhances overall quality and safety in pressure vessel operations. This integration involves aligning API-510's specific inspection and maintenance protocols with the broader quality objectives of ISO 9001, such as consistent performance and customer satisfaction. The process includes mapping API-510 requirements to ISO 9001 processes to ensure that inspection practices contribute to the quality goals, implementing continuous improvement mechanisms to address findings from inspections, and training staff to understand how their roles in maintaining pressure vessels affect quality outcomes. The benefits include improved operational reliability, enhanced compliance with safety standards, and increased customer confidence in the organization's commitment to quality and safety.

NEW QUESTION: 50

The surface remote from a welded joint is defined as:

- A. For vessels with inside diameters less than 60 inches 20 inches or $\frac{1}{2}$ the vessel diameter
- B. 1 inch on either side of the weld or twice the minimum thickness whichever is less
- C. 1 inch on either side of the weld or twice the minimum thickness whichever is greater
- D. 2 inches on either side of the weld

Answer: C (LEAVE A REPLY)

NEW QUESTION: 51

Explain how API-510 addresses the management of aging pressure vessels to ensure ongoing operational safety.

Answer:

API-510 provides guidelines for managing aging pressure vessels, including more frequent and detailed inspections, assessments of corrosion rates, and the calculation of remaining life based on current condition data. Adjustments in operation pressures or temperatures may be recommended based on the findings to prolong the life of the vessel while maintaining safety.

NEW QUESTION: 52

After a vessel has been placed in service, what Code is used to evaluate?

- A. ASME Section VIII
- B. API 510
- C. ASME Section V
- D. API 572

Answer: B ([LEAVE A REPLY](#))

NEW QUESTION: 53

Whose authorization is required as a minimum prior to the start of any repairs or alterations?

- A. The insurance company
- B. The production manager
- C. The maintenance manager
- D. The authorized pressure vessel inspector

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 54

Describe the process and importance of obtaining third-party verification of pressure vessel inspections under API-510.

Answer:

Obtaining third-party verification of pressure vessel inspections under API-510 is crucial for ensuring the impartiality and accuracy of the inspection process. This involves engaging independent auditors or certification bodies to review and verify the results of inspections conducted by in-house or contracted inspectors. The third-party reviewers assess the thoroughness of the inspection, the adherence to API-510 standards, and the accuracy of the documentation. This process helps to maintain high standards of safety and compliance and provides an additional layer of assurance that pressure vessels are fit for continued service.

NEW QUESTION: 55

Describe the considerations for API-510 compliance when converting existing vessels for new operational uses.

Answer:

API-510 compliance when converting existing vessels for new uses involves rigorous evaluations to ensure that the vessels can safely handle the new operational conditions. This includes a complete reassessment of the vessel's design against the new process requirements, such as changes in pressure, temperature, or chemical compatibility. Additional inspections and possibly modifications might be necessary to meet the new operational standards. Detailed documentation of all changes, tests, and inspections must be maintained as part of the compliance process under API-510.

NEW QUESTION: 56

Explain the role and responsibilities of an Authorized Pressure Vessel Inspector under API-510 during routine inspections.

Answer:

An Authorized Pressure Vessel Inspector (API) plays a critical role during routine inspections under API-510. Their responsibilities include assessing the physical condition of the vessel, ensuring compliance with safety regulations, and verifying that the vessel operates within the specified parameters. Inspectors are required to conduct thorough examinations, including both external and internal checks, using appropriate non-destructive testing methods. They must also review maintenance and repair records and ensure that any anomalies found during inspections are addressed promptly. The API's role is crucial in certifying that vessels continue to operate safely and efficiently, adhering to the regulatory requirements outlined in API-510.

NEW QUESTION: 57

During a vessel alteration, if there is a conflict between the requirements of API 510 and the construction code, which should be followed?

- A. either the API 510 or the construction code based on inspector's recommendation
- B. API 510
- C. the construction code
- D. the code with the most stringent requirements

Answer: B ([LEAVE A REPLY](#))

NEW QUESTION: 58

To exempt a vessel from internal inspections, what is the value of the corrosion rate that cannot be exceeded?

- A. 0.001" between inspections not to exceed 5 years between inspections
- B. 0.005" between inspections not to exceed 3 years between inspections
- C. 0.005" per year
- D. 0.001" per year

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 59

PT examination is used to detect the surface cracks in welds as well as in base metal plates. For proper detection,

- A. We should allow higher penetrant time on weld
- B. Depends on type of penetrant used.
- C. We should allow higher penetrant time on base metal or plates than welds
- D. Penetrant time on weld as well as plates is same

Answer: (SHOW ANSWER)

Welds have rough surface compared to parent material and hence the penetrant can seep inside the weld discontinuities easier and faster. see ASME V; Table T-672 Minimum Dwell Times; pp. 219

NEW QUESTION: 60

When a crack is discovered in a vessel that is in a highly stressed area, what action should you recommend to be considered as a first step in any effort to correct the flaw?

- A. Design an overlay patch to completely cover the affected area that has rounded corners
- B. Call in a pressure vessel engineer
- C. Removing the crack using by grinding and inspect using an NDE procedure before repair by welding
- D. Using an insert patch, to completely remove the affected area

Answer: D (LEAVE A REPLY)

NEW QUESTION: 61

Under API-510, when is it required to perform a pneumatic test instead of a hydrostatic test?

- A. Always prefer pneumatic testing
- B. When the vessel contains toxic substances
- C. When the vessel operates under vacuum
- D. When water is not available

Answer: B (LEAVE A REPLY)

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NEW QUESTION: 62

Which API standard is specifically mentioned within API-510 for corrosion and materials expertise?

- A. API 580
- B. API 579
- C. API 570
- D. API 571

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 63

A corroded area in a carbon steel vessel is being repaired by using weld overlay (weld build-up).

The vessel surface should be examined by:

- A. MT or PT before and after welding
- B. MT or PT after welding, and UT flaw detection after 24 hours
- C. MT or PT before welding
- D. MT or PT after welding

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 64

Which of the following will vessel rerating involve:

- A. Review Inspection records verify the pressure vessel has been in the proposed service previously
- B. Use of Non-Code requirements as established in accordance with the alternative rules of API 572
- C. Calculations from either the manufacturer or an owner-user engineer experienced in pressure vessels
- D. Calculations from only a manufacturer experienced in pressure vessels

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 65

The symbol which indicates ASME code stamping for vessels manufactured to ASME Section VIII Div.1 is

- A. UI
- B. U3
- C. U
- D. U2

Answer: C ([LEAVE A REPLY](#))

UI is the form filled in by the manufacturer and U2 is filled in by partial Manufacturer of parts. There is no U3 form or stamp, only "U" stamp.

NEW QUESTION: 66

If a vessel is subjected to temperatures above design, what may happen

- A. The rupture disk may implode
- B. Creep of the vessel's material may occur
- C. Precipitation at the grain boundaries may occur.
- D. The relief device may fail

Answer: B ([LEAVE A REPLY](#))

NEW QUESTION: 67

A restoration work by weld-overlay was carried out on corroded wall of vessel and it can now be used as per the design conditions of the vessel. This activity will be termed as:

- A. Renewal of vessel
- B. Repair of vessel
- C. Re-rating of vessel
- D. Alteration to vessel

Answer: B ([LEAVE A REPLY](#))

Weld overlay does not contribute towards vessel thickness when calculating design pressure and temperature, hence, no change in Integrity Operating window or design input or output

NEW QUESTION: 68

Which of the following is not a responsibility of a pressure vessel inspector according to API-510?

- A. Documenting inspection findings
- B. Ensuring compliance with safety standards
- C. Performing inspections
- D. Designing pressure vessels

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 69

When must both an internal and external inspection always be performed?

- A. whenever the vessel's ownership and location changes
- B. whenever the vessel's ownership changes
- C. whenever there is a change in fluid service
- D. at installation of vessel

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 70

According to API-510, which type of record must be permanently maintained for a pressure vessel?

- A. Repair records only
- B. Inspection records only

- C. All records related to the vessel's design, fabrication, inspection, and repairs
- D. Only the most recent inspection record

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 71

Describe the requirements and procedures outlined in API-510 for upgrading or modifying pressure relief systems on existing vessels.

Answer:

Upgrading or modifying pressure relief systems under API-510 requires a thorough analysis to ensure that the new system meets the current operating conditions and safety standards. This includes recalculating the required capacity of relief devices, verifying the materials of construction for compatibility with the contents and conditions, and performing pressure tests after installation to confirm the system's effectiveness.

NEW QUESTION: 72

How does API-510 address the challenges of corrosion under insulation (CUI) for pressure vessels?

Answer:

API-510 addresses the challenges of corrosion under insulation (CUI) by recommending specific inspection and maintenance strategies. This includes guidelines for the periodic removal of insulation for visual inspection and testing, use of appropriate materials that resist moisture accumulation, and the application of coatings that inhibit corrosion. Additionally, API-510 advises on the use of advanced non-destructive testing techniques, such as real-time radiography or ultrasonic testing, to detect signs of corrosion without removing insulation, thus reducing inspection costs and downtime.

NEW QUESTION: 73

Who is responsible to ensure that the Authorized Inspection Agency functions in accordance with the requirements of API 510?

- A. Jurisdiction
- B. Owner/user
- C. Pressure vessel engineer
- D. AI

Answer: B ([LEAVE A REPLY](#))

NEW QUESTION: 74

Temporary repairs to pressure vessels:

- A. may remain in place for long periods if approved by the pressure vessel engineer.
- B. may remain in place permanently if approved by the pressure vessel engineer and the API authorized pressure vessel inspector.
- C. must be replaced with permanent repairs during the next scheduled shutdown.

D. may remain in place for long periods if approved by the API-authorized pressure vessel inspector.

Answer: C (LEAVE A REPLY)

NEW QUESTION: 75

What can be done to extend the life of a vessel with a corroded area in the shell plate 6 inches from the weld, a joint efficiency of less than 1, and a corrosion thickness currently near the minimum required thickness?

- A. Recalculate t minimum for current operating conditions using $E = 1$.
- B. Recalculate t minimum for design conditions using $E = 1$.
- C. Recalculate t minimum for current operating conditions using $E < 1$.
- D. Monitor the thickness during the run

Answer: D (LEAVE A REPLY)

NEW QUESTION: 76

Which document is referenced by API-510 for the guidelines on pressure relieving systems?

- A. API 650
- B. API 653
- C. API 579
- D. API 520

Answer: D (LEAVE A REPLY)

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NEW QUESTION: 77

What is the role of the API-510 code in pressure vessel inspection following a natural disaster?

- A. It has no specific guidelines for post-disaster inspection
- B. It mandates a complete overhaul of the vessel
- C. It provides guidelines for immediate decommissioning
- D. It specifies more frequent inspections and assessments

Answer: D (LEAVE A REPLY)

NEW QUESTION: 78

Explain how API-510 standards guide the emergency response protocols for pressure vessel failures.

Answer:

API-510 provides comprehensive guidelines for emergency response protocols in the event of pressure vessel failures, ensuring quick and effective actions to mitigate risks. These protocols include immediate shutdown procedures, the isolation of the affected area, and rapid depressurization of the vessel if safe to do so. Emergency response also involves notifying all relevant personnel and initiating an evacuation if necessary. Following initial emergency procedures, API-510 requires a thorough investigation to determine the cause of the failure, documentation of the incident, and implementation of preventive measures to avoid future occurrences.

NEW QUESTION: 79

Determine in what two ways may the probable corrosion rate for a new vessel be determined before the first internal inspection?

- A. Assuming a standard corrosion rate
- B. Employing highly experienced inspectors or engineers
- C. Corrosion tabs and UT readings
- D. From data collected on vessels providing the same or similar service or from published data on vessels providing comparable service

Answer: D ([LEAVE A REPLY](#))

NEW QUESTION: 80

After an alteration to a pressure vessel, in lieu of a hydrostatic test, special inspection procedures will be carried out. What must be done prior to carrying out the special inspection procedures?

- A. Make certain it is permitted by any jurisdictional rules that may exist and consult with an engineer experienced in pressure vessel design and the Authorized Pressure Vessel Inspector
- B. Review all NDE procedures prior to commencement of the NDE used to waive the hydrostatic test requirement
- C. Check with the NBIC Authorized inspector
- D. Consult with the chief inspector of the jurisdiction

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 81

Outline the process and requirements for the decommissioning and safe disposal of pressure vessels according to API-510.

Answer:

Decommissioning a pressure vessel under API-510 involves a thorough cleaning to remove hazardous substances, a final inspection to document the vessel's condition, and ensuring all environmental regulations are met during disposal. The vessel may need to be dismantled in a controlled manner, especially if it contained toxic or radioactive substances. Documentation of the decommissioning process is crucial for compliance and environmental protection.

NEW QUESTION: 82

Explain the training and continuous education requirements for pressure vessel inspectors as per API-510 to ensure high standards of safety and compliance.

Answer:

API-510 requires that pressure vessel inspectors undergo rigorous initial training, which includes both theoretical and practical components. Inspectors must understand the principles of pressure vessel design, the properties of materials used, and the dynamics of pressure systems.

Continuous education is also mandated, requiring inspectors to attend workshops, seminars, and refresher courses regularly to stay updated with the latest changes in regulations, inspection technologies, and best practices. This ongoing training ensures that inspectors maintain a high standard of expertise and are well-equipped to enforce safety and compliance effectively.

NEW QUESTION: 83

In API-510, what is the minimum required interval for external inspections if no RBI (Risk-Based Inspection) is implemented?

- A. 1 year
- B. 10 years
- C. 5 years
- D. 15 years

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 84

Aboveground vessels shall be inspected, preferably while in operation, at least every _____ years or at the same interval as the required internal/on-stream inspection

- A. 15 years
- B. 10 years
- C. 20 years
- D. 5 years

Answer: A ([LEAVE A REPLY](#))

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