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API 510 Q&A alim alim
Jan./2020

• tutorial → 15 min

• Close Book. → 2:45 min → 110 Question

App. 10 Question
are solving
Mathematical

100 Question
are multi

1- the interval of inspection of buried vessel depend on

Ans. the cathodic protection syst.

2- the Cause of burn through in the welding is

A. Close in the electrical circuit and blow the weld by the air force.

B. uncontrol arc lead to deposit magnetic field Force.

C.

D.

3- The type of defect that caused by GMAW's process are

A. Porosity

B. Lack of Fusion ✓

C. Root suck back

D. --

4- Find the Corrosion Rate for vessel $t_a = 0.6''$ and the $t_{required} = 0.45''$ and the next inspection interval 7 Year (internal inspection)

Ans.

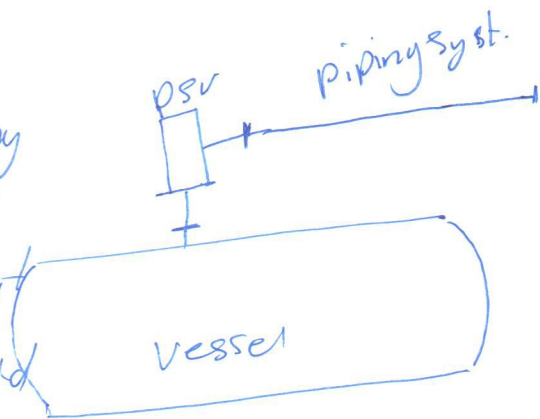
$$RL = \frac{t_a - t_r}{CR}$$

$$CR = \checkmark$$

$$RL = 2 \times 7 = 14$$

10 year to inspection interval
Remaining life 10 years
inspection interval

5- A PSV fixed on a pressure vessel and connected with piping system at the down stream of vessel. ~~its~~ it requires Hydrotest for the piping system so should install blind flange at:



A. at the area between down stream of PSV and piping syst.

B.

C.

D.

6- If we remove the rupture disk from its holder.

A. Check it and return it to the holder

B. Not return it to its holder ✓

C.

D.

open

②

7. A vessel with a MAWP 350 psi the pressure relief device tolerance is

A. (360.5 psi - 339.5 psi) ✓

API 576 ±3% or 4.1

B. —

API 576 page 47.1

C. —

D. —

open

8. The joint category of welded shell with ellipsoidal head is:

A. type A

B. type B ✓

C. type C

D.

open
9. The type of vessel that is not in scope of ASME SEC III is

A. water heat input of 200000 Btu/Hr.

ASME Page 1

B.

C.

D.

open
10. There is crack in the Tower tray need to stop this crack

by:-

A. drill hole stopper.

B.

C.

D.

11 - When inspect the new fabrication of tower tray which of the following not need to inspect or not consider important

- A. damage in the tray cap
- B. damage in the cathodic protection wire ✓
- C.
- D.

12 - Brittle Fracture occurs for vessel thickness 2" at temp.

A. 10°F

B.

C.

D.

13 - Temporary repair may remain in place if approval by:

- A. The inspector and pressure vessel engineer ✓
- B.
- C.
- D.

14 - Non penetrating Nozzle (pipe cap) may use as

Ans. permanent repair

15 - Before using any alternative method of PWHT ~~the~~ shall

- A. the engineer shall perform metallurgical review
- B.
- C.
- D.

16- if there is no RT done ^② the joint efficiency for joint type 1 is

A. 0.7 ✓

B

C

D

ellipsoidal head ← open * سؤالين

(MAWP + head pressure) ← * سؤالين

* سؤال (Thickness of shell) و open ellipsoidal head

$P = \frac{MAWP}{2} + \text{head pressure}$ ← MAWP is in shell

17* impact test not require if the design temp. of pressure vessel limit to

A. not more than (650°F) not less than (-20°F)

B

C

D

18- which kind of rupture disk (PSV) is angular and not fragment.

A

B

C

D

19- during R.T $\rightarrow$ the film appear light B in the dark area of the film this mean

A. the film get a big amount of radiation

B. " " " " " "

C.

D.

* سوال کا جواب دے

20- the inspection of new vessel or new service should be at

A. 3-6 month from its operation.

B

C

D

open 21- The PT test temp limit (5-52°C) ASME Sec. II

open 22- The calibration of densitometer (every 3 month) sec. II

open 23- The calibration of MT equipment (every 12 month)
or
(major repair)

APR 10 24- Field Metallurgic replica $\rightarrow$ metallurgical change

APR 10 25- Alternating current Flux leakage $\rightarrow$ surface breaking.

open - Sec VIII

(4)

26. RT done for vessel thickness 1.5" and there is slag inclusion (longitudinal indication) what is the acceptance length.

A - 8 m

B - 12.5 m

C - 16 m

D - 19 m

open 27. material with $S = 45000$ psi and thick 1.5" made three specimen which set A acceptable. (Sec VIII UG84)

A

B

C

D

سؤالين في API 577 ← table (4) ← وضع في المبرج
drop and drag

open 28. The equipment use for measure the bevel angle during fabrication is → Cam Gauge. — (API 577)

open 29. If you have lack of fusion which is the best method to check it

Ans UT → API 577 Page 31
table

30. The best method to detect the lamination in the metal is UT

31. P Number is to

Ans reduce the number of welding procedure qualification