

## Question: 1

An insert plate is required for a new 4" nozzle in the shell. What is the minimum diameter for this insert?

- A.4"
- B.8"
- C.12"
- D.16"

**Answer: D**

<https://www.sciencedirect.com/topics/chemistry/nozzle>

## Question: 2

A welder is qualified on a plate in the 3G position. The welder is qualified for what fillet weld position?

- A.None
- B.F, H
- C.F, H, V
- D.All fillets

**Answer: B**

## Question: 3

When must a shim be placed under a penetrometers?

- A. When the area of interest is darker
- B. When the area of interest is darker by more than 15%
- C. When the area of interest is lighter
- D. When the area of interest is lighter by more than 15%

**Answer: D**

<https://www.roadtovr.com/htc-vive-weight-15-percent-lighter-than-original-headset-vs-oculus-rift-comparison/>

## Question: 4

A welder passes a qualification test using a 3 NPS pipe with a groove weld. What is the maximum pipe diameter that the welder is now qualified to weld?

- A.2-7/8"
- B.4"

- C. 8"  
D.40" to unlimited

**Answer: D**

<https://www.sciencedirect.com/topics/chemistry/nozzle>

### Question: 5

A portion of a 1/2" thick shell plate is replaced. What is the closest distance allowed between this plate and the adjacent vertical weld?

- A.3"  
B.6"  
C. 10"  
D.12"

**Answer: B**

### Question: 6

What is the critical length "L" in the corroded area?

- A. 12"  
B.24"  
C. 25"  
D.40"

**Answer: D**

### Question: 7

What is the required thickness "Lin" in this corroded area?

- A.0.407"  
B.0.418"  
C.0.452"  
D.0.464"

**Answer: B**

### Question: 8

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API 653 sets a limit on the thickness of "t2". In order to provide a 10 year run, what is the minimum thickness that "t2" can be during this inspection.

- A. 0.211"
- B. 0.251"
- C. 0.281"
- D. 0.301"

**Answer: B**

### Question: 9

A reinforcement plate is added to an existing 6 NPS nozzle. The shell plate is 1.125" thick and the reinforcement plate is 0.625" thick. What is the required size of the fillet weld joining the reinforcement pad to the nozzle?

- A. 0.3125"
- B. 0.4375"
- C. 0.625"
- D. 1.125"

**Answer: A**

### Question: 10

During a tank repair, an A-662-C plate is used for the new shell material. The shell plate is 1/4" thick. For this material, determine the lowest temperature that the tank can operate. (impact testing of the material has not been performed)

- A. -25 °F
- B. -10 °F
- C. +15 °F
- D. 41 °F

**Answer: C**

### Question: 11

A flush patch (patch with butt welds) is installed in a shell plate that is 1" thick. What is the closest distance allowed between this piece and the existing horizontal weld?

- A. 3"
- B. 6"
- C. 8"
- D. 10"

**Answer: B**

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### Question: 12

Joe Welder qualified using a 4G coupon that is 0.625" thick. The qualification weld was made with 4 layers. What is the maximum weld metal thickness that Joe is now qualified to weld?

- A. 0.625"
- B. 1.250"
- C. 2.000"
- D. Unlimited

**Answer: C**

### Question: 13

A reconstructed tank has a tank height of 50 feet. During reconstruction, what is the maximum acceptable out-of-plumbness?

- A. 0.25 inches
- B. 3.0 inches
- C. 5.0 inches
- D. 6.0 inches

**Answer: D**

### Question: 14

When evaluating a radiograph of a 1" thick weld, the Geometric Unsharpness should not exceed:

- A. 0.020"
- B. 0.070"
- C. 2.0
- D. 4.0

**Answer: A**

### Question: 15

A tank shell weld is being radiographed using Iridium 192. The weld thickness is 0.750". What size hole-type penetrameter should be used?

- A. 8
- B. 17
- C. 20
- D. 25

**Answer: C**

### Question: 16

A tension test is performed on a weld specimen for the weld qualification test. The base material is SA-516 gr 70 (A P-1 material). The specimen breaks in the base metal. What is the minimum acceptable stress level for this test?

- A. 55,000 psi
- B. 60,000 psi
- C. 66,500 psi
- D. 70,000 psi

**Answer: C**

### Question: 17

Calculate the minimum remaining thickness (MRT) of a tank floor at the next inspection based on the following information. (Oh Boy!)

The original floor thickness was 0.250". The minimum thickness before repairs was 0.120" and the minimum floor thickness after repairs is 0.180".

The bottom-side has a maximum corrosion rate is 0.002 ipy. The top-side had a maximum corrosion rate was 0.003 ipy. A new reinforced (blisg\_LOS60" thick) was just installed on the tank floor. The next inspection interval is 20 years.

- A. 0.080"
- B. 0.120"
- C. 0.140"
- D. 0.150"

**Answer: C**

### Question: 18

The radiographer is RT'ing a small tank's horizontal weld. The examiner places the source in the center of the tank and wraps 15 RT film completely around this tank weld. What is the minimum number of penetrameters that can be used?

- A. 1
- B. 3
- C. 15
- D. 45

**Answer: C**

### Question: 19

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A riveted tank has shell plates that butt up to each other with butt straps on both sides of the shell.

There are a total of 6 rows of rivets in the butt strap. What joint efficiency is used when determining the minimum thickness for the shell?

- A.0.70
- B.0.85
- C.0.92
- D.1.00

**Answer: C**

### Question: 20

A tank shell plate has a deep pit. The shell plate away from the pit is 0.500" and has a corrosion allowance of 0.100" ( $t_{\text{corrosion}} = 0.400"$ ). What is the maximum pit depth allowed?

- A.0.100"
- B.0.200"
- C.0.250"
- D.0.300"

**Answer: A**