

National Marine Manufacturers Association

Product Compliance Specialist Examination

Cockpit Drainage Systems (2013 MY)

ABYC H-4 (08)

1. When conducting a Watertight test, the test should:
 - a. be conducted for 5-minutes, and allow no more than .5-Liters of water
 - b. be conducted for 5-minutes, and allow no more than .05-Liters of water
 - c. be conducted for 3-minutes, and allow no more than .05-Liters of water
 - d. be conducted for 3-minutes, and allow no more than .5-Liters of water

2. Boat weight includes:
 - a. full permanent fuel and water tanks
 - b. the standard outboard or inboard for which the boat is rated
 - c. all portable gear and safety equipment
 - d. none of the above

3. Cockpit drain openings shall be arranged so:
 - a. The cockpit will drain 90% of the water when heeled 10°
 - b. The cockpit will drain 90% of the water when heeled 7°
 - c. The cockpit will drain 100% of the water when heeled 10°
 - d. The cockpit will drain 90% of the water when heeled 7° for power boats, or to the vessel amidships for sailboats

4. The minimum sill height for power boats and monohull sailboats with open transoms using quick draining cockpits, shall be:
 - a. 2.5 inches
 - b. 4 inches
 - c. 8 inches
 - d. No requirement if the vessel has an open transom

5. The sole height for a 20 ft boat with a quick draining cockpit, must not be less than:
 - a. 3 inches
 - b. 4.4 inches
 - c. 7 inches
 - d. 12 inches

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6. A vessel over 20 ft and not meeting the requirements of H-8, should **not** have the following type of drainage system:
 - a. quick draining cockpit with weathertight soles
 - b. quick draining cockpit with watertight soles
 - c. non-draining cockpit
 - d. assisted bailing

7. A round scupper or freeing port should have a minimum diameter of:
 - a. $\frac{3}{4}$ inches
 - b. 1 inch
 - c. $1\frac{1}{4}$ inches
 - d. $1\frac{1}{2}$ inches

8. The lowest part of a self-bailing cockpit must be at least _____ above the full load waterline.
 - a. 1 inch
 - b. 3 inches
 - c. 4.4 inches
 - d. none of the above

9. Cockpits drained by operator intervention only:
 - a. must be weathertight
 - b. must be watertight
 - c. should provide sufficient flotation to support the boat in the flooded condition
 - d. should have means to determine water level in cavity

10. A boat that uses an assisted bailing method should:
 - a. have means to determine water level within the cavity
 - b. maintain stability and positive buoyancy during the evacuation
 - c. must be able to evacuate 90% of the water when heeled 10°
 - d. all of the above

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11. Under the physical test procedures for a cockpit quick drain assessments, the drainage time should be:
- 45 seconds
 - 60 seconds
 - 90 seconds
 - 3 minutes
12. The flow reduction for a 1 ½ inch cockpit drain with a screen and 90° elbow is:
- 15%
 - 25%
 - 35%
 - 40%
13. When physically assessing a quick draining floating boat:
- the boat must not be restrained
 - the pitch of the boat must be restrained
 - the heel must be restrained to no more that 2-degrees
 - none of the above
14. The maximum heeled waterline is:
- 7° for power and sailboat
 - 7° for powerboats
 - where the waterline reaches the level of sheer amidships for power and sailboats
 - where the waterline reaches the level of sheer amidships for powerboats
15. Using Figure Ap4.4.1, if a vessel has a cockpit volume of 300 cubic feet, and a hull volume of 900 cubic feet, the time to drain is:
- 50 seconds
 - 80 seconds
 - 130 seconds
 - 190 seconds

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Questions 16-18 use the Calculation Method under Ap.4.4

16. What is the Flow rate required as described under Step 3? Using the following information:

cockpit length = 10 ft, cockpit depth = 2 ft, cockpit width = 6 ft
hull volume above waterline = 800 ft³

- a. 23 ft³/min
- b. 33 ft³/min
- c. 97 ft³/min
- d. 221 ft³/min

17. If the vessel is fitted with two 1 ½ inch scupper drains. The drains contain 90-degree elbows, what is constriction factor under AP.4.4.1?

- a. 1.05
- b. 1.15
- c. 1.30
- d. 1.45

18. If you calculate a vessel is required to have a Flow Rate of 23 ft³/min, what is the required drain area?

- a. 7.9 in²
- b. 9.7 in²
- c. 12.1 in²
- d. 13.4 in²

19. Under H-4, a Bow Cockpit is:

- a. a forward cockpit that is in direct communication of the main cockpit
- b. a cockpit forward of the main cockpit, that is not an extension of the main cockpit
- c. a forward cockpit that is an extension of the main cockpit
- d. is always determined to be part of the main cockpit

20. The sole of a self-bailing cockpit must meet the weathertight requirements:

- a. True
- b. False