

§ 58.50-10

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of the engine housing or compartment and as close to the engine as practicable. All tanks must be so installed as to provide a free circulation of air around the tanks.

(2) Cylindrical tanks with longitudinal seams must be arranged horizontally where practicable so that such seams are located as near the top as possible.

(3) Fuel tanks must be so installed as to permit examination, testing, or removal for cleaning.

(4) Fuel tanks must be adequately supported and braced to prevent movement. Portable fuel tanks are not permitted.

(5) All fuel tanks must be electrically bonded to the common ground.

(c) *Testing.* (1) Prior to installation, tanks vented to atmosphere must be tested to, and must withstand, a pressure of 5 psig or 1.5 times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11.5 feet in height attached to the tank may be filled with water to

accomplish the 5-psig test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel the complete installation must be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as a testing medium.

(3) All tanks not vented to atmosphere must be constructed and tested in accordance with part 54 of this subchapter.

§ 58.50-10 Diesel fuel tanks.

(a) *Construction.* (1) Tanks may be of either cylindrical or rectangular form.

(2) The materials used, and the minimum thickness allowed in the construction of independent fuel tanks must be as indicated in table 1 to § 58.50-10(a)(2), except that consideration will be given to other materials which provide equivalent safety as indicated in § 58.50-15.

TABLE 1 TO § 58.50-10(a)(2)

| Material | ASTM specification (all incorporated by reference; see § 58.03-1) | Thickness in inches and gage numbers ¹ vs. tank capacities for— | | |
|----------------------------------|---|--|--|------------------------------------|
| | | 1- through 80-gallon tanks | More than 80- and not more than 150-gallon tanks | Over 150-gallon tanks ² |
| Aluminum ⁵ | B209, Alloy 5086 ⁶ | 0.250 (USSG 3) | 0.250 (USSG 3) | 0.250 (USSG 3). |
| Nickel-copper | B127, Hot rolled sheet or plate. | 0.037 (USSG 20) ³ | 0.050 (USSG 18) | 0.107 (USSG 12). |
| Steel or iron ⁴ | | 0.0747 (MfgStd 14) ... | 0.1046 (MfgStd 12) ... | 0.179 (MfgStd 7). |

¹ Gauges used are U.S. standard "USSG" for aluminum and nickel-copper and "MfgStd" for steel or iron.
² Tanks over 400 gallons must be designed with a factor of safety of four on the ultimate strength of the material used with a design head of not less than 4 feet of liquid above the top of the tank.
³ Nickel-copper not less than 0.031 inch (USSG 22) may be used for tanks up to a 30-gallon capacity.
⁴ For diesel tanks the steel or iron must not be galvanized on the interior.
⁵ Anodic to most common metals. Avoid dissimilar metal contact with tank body.
⁶ And other alloys acceptable to the Commandant.

(3) Tanks with flanged-up top edges, that may trap and hold moisture, must not be used.

(4) Openings for fill and vent pipes must be on the topmost surface of a tank. There must be no openings in the bottom, sides, or ends of a tank except as follows:

(i) The opening for the fuel supply piping is not restricted to the top of the tank.

(ii) An opening fitted with threaded plug or cap may be used on the bottom of the tank for tank cleaning purposes.

(iii) Liquid level gages must penetrate at a point that is more than 2 inches from the bottom of the tank.

(5) All tank joints must be welded.

(6) Nozzles, flanges, or other fittings for pipe connections must be welded or brazed to the tank. The tank opening in way of pipe connections must be properly reinforced where necessary. Where liquid level indicating devices are attached to the tank, they must be of heat resistant materials adequately protected from mechanical damage and provided at the tank connections with devices which will automatically close

in the event of rupture of the gage or gage lines.

(7) All tanks exceeding 30 inches in any horizontal dimension must be fitted with vertical baffle plates where necessary for strength or for control of excessive surge. In general, baffle plates installed at intervals not exceeding 30 inches will be considered as meeting this requirement.

(8) Baffle plates, where required, must be of the same material and not less than the minimum thickness required in the tank walls and must be connected to the tank walls by welding or brazing. Limber holes at the bottom and air holes at the top of all baffle plates must be provided.

(9) Iron or steel tanks must not be galvanized on the interior. Galvanizing paint or other suitable coating must be used to protect the outside of iron and steel tanks.

(b) *Installation.* (1) Tanks containing fuel for emergency lighting units must be located on an open deck or in an adequately ventilated metal compartment. No tank must be located in a compartment where the temperature may exceed 150°F.

(2) When cylindrical tanks are installed, longitudinal seams must be located as near the top of the tank as possible. Fuel tanks must be located in, or as close as practicable, to the machinery space which is served.

(3) Fuel tanks must be so installed as to permit examination, testing, or removal for cleaning.

(4) Fuel tanks must be adequately supported and braced to prevent movement. Portable tanks are not permitted.

(5) All fuel tanks must be electrically bonded to the common ground.

(c) *Tests.* (1) Prior to installation, tanks vented to the atmosphere must be tested to and must withstand a pressure of 5 pounds per square inch or 1.5 times the maximum head to which they may be subjected in service, whichever is greater. A standpipe of 11.5 feet in height attached to the tank may be filled with water to accomplish the 5-psig test. Permanent deformation of the tank will not be cause for rejection unless accompanied by leakage.

(2) After installation of the fuel tank on a vessel the complete installation

must be tested in the presence of a marine inspector to a head not less than that to which the tank may be subjected in service. Fuel may be used as a testing medium.

(3) All tanks not vented to atmosphere must be constructed and tested in accordance with part 54 of this subchapter.

§ 58.50-15 Alternate material for construction of independent fuel tanks.

Materials other than those specifically listed in table 1 to § 58.50-5(a)(2) and in table 1 to § 58.50-10(a)(2) may be used for fuel tank construction only if the tank design meets material and testing requirements approved by the Commandant (CG-ENG). Approved testing may be accomplished by any acceptable laboratory, or may be done by the fabricator if witnessed by a marine inspector.

Subpart 58.60—Industrial Systems and Components on Mobile Offshore Drilling Units (MODU)

SOURCE: CGD 73-251, 43 FR 56801, Dec. 4, 1978, unless otherwise noted.

§ 58.60-1 Applicability.

This subpart applies to the following industrial systems on board a mobile offshore drilling unit (MODU):

- (a) Cementing systems.
- (b) Circulation systems, including—
 - (1) Pipes and pumps for mud;
 - (2) Shale shakers;
 - (3) Desanders; and
 - (4) Degassers.
- (c) Blow out preventor control systems.
- (d) Riser and guideline tensioning systems.
- (e) Motion compensation systems.
- (f) Bulk material storage and handling systems.
- (g) Other pressurized systems designed for the MODU's industrial operations.

§ 58.60-2 Alternatives and substitutions.

(a) The Coast Guard may accept substitutes for fittings, material, apparatus, equipment, arrangements, calculations, and tests required in this