

§ 183.507

33 CFR Ch. I (7-1-03 Edition)

§ 183.507 General.

Each fuel system component on a boat to which this subpart applies must meet the requirements of this subpart unless the component is part of an outboard engine or is part of portable equipment.

EQUIPMENT STANDARDS

§ 183.510 Fuel tanks.

(a) Each fuel tank in a boat must have been tested by its manufacturer under § 183.580 and not leak when subjected to the pressure marked on the tank label under § 183.514(b)(5).

(b) Each fuel tank must not leak if subjected to the fire test under § 183.590. Leakage is determined by the static pressure test under § 183.580, except that the test pressure must be at least one-fourth PSIG.

(c) Each fuel tank of less than 25 gallons capacity must not leak if tested under § 183.584.

(d) Each fuel tank with a capacity of 25 to 199 gallons must not leak if tested under § 183.586.

(e) Each fuel tank of 200 gallons capacity or more must not leak if tested under §§ 183.586 and 183.588.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 81-092, 48 FR 55736, Dec. 15, 1983]

§ 183.512 Fuel tanks: Prohibited materials.

(a) A fuel tank must not be constructed from terneplate.

(b) Unless it has an inorganic sacrificial galvanic coating on the inside and outside of the tank, a fuel tank must not be constructed from black iron or carbon steel.

(c) A fuel tank encased in cellular plastic or in fiber reinforced plastic must not be constructed from a ferrous alloy.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977; 42 FR 24739, May 16, 1977]

§ 183.514 Fuel tanks: Labels.

(a) Each fuel tank must have a label that meets the requirements of paragraphs (b) through (d) of this section.

(b) Each label required by paragraph (a) of this section must contain the following information:

(1) Fuel tank manufacturer's name (or logo) and address.

(2) Month (or lot number) and year of manufacture.

(3) Capacity in U.S. gallons.

(4) Material of construction.

(5) The pressure the tank is designed to withstand without leaking.

(6) Model number, if applicable.

(7) The statement, "This tank has been tested under 33 CFR 183.510(a)."

(8) If the tank is tested under § 183.584 at less than 25g vertical accelerations the statement, "Must be installed aft of the boat's half length."

(c) Each letter and each number on a label must:

(1) Be at least $\frac{1}{16}$ inch high and

(2) Contrast with the basic color of the label or be embossed on the label.

(d) Each label must:

(1) Withstand the combined effects of exposure to water, oil, salt spray, direct sunlight, heat, cold, and wear expected in normal operation of the boat, without loss of legibility; and

(2) Resist efforts to remove or alter the information on the label without leaving some obvious sign of such efforts.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 81-092, 48 FR 55737, Dec. 15, 1983; USCG-1999-5832, 64 FR 34716, June 29, 1999]

§ 183.516 Cellular plastic used to encase fuel tanks.

(a) Cellular plastic used to encase metallic fuel tanks must:

(1) Not change volume by more than five percent or dissolve after being immersed in any of the following liquids for 24 hours at 29 °C:

(i) Reference fuel B ASTM D 471 (incorporated by reference, see § 183.5).

(ii) No. 2 reference oil of ASTM D 471 (incorporated by reference, see § 183.5).

(iii) Five percent solution of trisodium phosphate in water; and

(2) Not absorb more than 0.12 pound of water per square foot of cut surface, measure under Military Specification MIL P-21929B.

(b) Non-polyurethane cellular plastic used to encase metallic fuel tanks must have a compressive strength of at least 60 pounds per square inch at ten percent deflection measured under

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ASTM D 1621 (incorporated by reference, see §183.5), "Compressive Strength of Rigid Cellular Plastics".

(c) Polyurethane cellular plastic used to encase metallic fuel tanks must have a density of at least 2.0 pounds per cubic foot, measured under ASTM D 1622 (incorporated by reference, see §183.5), "Apparent Density of Rigid Cellular Plastics."

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 77-98, 42 FR 36253, July 14, 1977; CGD 81-092, 48 FR 55737, Dec. 15, 1983; USCG-2000-7223, 65 FR 40059, June 29, 2000]

§ 183.518 Fuel tank openings.

Each opening into the fuel tank must be at or above the topmost surface of the tank.

§ 183.520 Fuel tank vent systems.

(a) Each fuel tank must have a vent system that prevents pressure in the tank from exceeding 80 percent of the pressure marked on the tank label under §183.514(b)(5).

(b) Each vent must:

(1) Have a flame arrester that can be cleaned unless the vent is itself a flame arrester; and

(2) Not allow a fuel overflow at the rate of up to two gallons per minute to enter the boat.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 77-98, 42 FR 36253, July 14, 1977]

§ 183.524 Fuel pumps.

(a) Each diaphragm pump must not leak fuel from the pump if the primary diaphragm fails.

(b) Each electrically operated fuel pump must not operate except when the engine is operating or when the engine is started.

(c) If tested under §183.590, each fuel pump, as installed in the boat, must not leak more than five ounces of fuel in 2½ minutes, inclusive of leaks from fuel line, fuel filter and strainer.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 77-98, 42 FR 36253, July 14, 1977]

§ 183.526 Carburetors.

(a) [Reserved]

(b) Each carburetor must not leak more than five cubic centimeters of fuel in 30 seconds when:

(1) The float valve is open;

(2) The carburetor is at half throttle; and

(3) The engine is cranked without starting; or

(4) The fuel pump is delivering the maximum pressure specified by its manufacturer.

(c) Each updraft and horizontal draft carburetor must have a device that:

(1) Collects and holds fuel that flows out of the carburetor venturi section toward the air intake;

(2) Prevents collected fuel from being carried out of the carburetor assembly by the shock wave of a backfire or by reverse air flow; and

(3) Returns collected fuel to the engine induction system after the engine starts,

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 77-98, 42 FR 36253, July 14, 1977]

§ 183.528 Fuel stop valves.

(a) Each electrically operated fuel stop valve in a fuel line between the fuel tank and the engine must:

(1) Open electrically only when the ignition switch is on; and

(2) Operate manually.

(b) If tested in accordance with the fire test under §183.590, a fuel stop valve installed in a fuel line system requiring metallic fuel lines or "USCG Type A1" hose must not leak fuel.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 85-098, 52 FR 19728, May 27, 1987]

§ 183.530 Spud, pipe, and hose fitting configuration.

Except when used for a tank fill line, each spud, pipe, or hose fitting used with hose clamps must have:

(a) A bead;

(b) A flare; or

(c) A series of annular grooves or serrations no less than 0.015 inches deep, except a continuous helical thread, knurl, or groove.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by USCG-1999-5832, 64 FR 34716, June 29, 1999]