

**§ 183.584 Shock test.**

A fuel tank is tested by performing the following procedures in the following order:

(a) Perform the static pressure test under § 183.580.

(b) If the tank is non-metallic, fill it to capacity with a gasoline that has at least a 50 percent aromatic content. Keep the fuel in the tank at 21 °C or higher for 30 days prior to testing.

(c) Mount the tank to the platform of an impact test machine.

(d) Fill the tank to capacity with water.

(e) Apply one of the following accelerations within three inches of the center of the horizontal mounting surface of the tank. The duration of each vertical acceleration pulse is measured at the base of the shock envelope.

(1) If the tank is not labeled under § 183.514(b)(8) for installation aft of the half length of the boat, apply 1000 cycles of 25g vertical accelerations at a rate of 80 cycles or less per minute. The duration of the acceleration pulse must be between 6 and 14 milliseconds.

(2) If the tank is manufactured for installation with its center of gravity aft of the half length of the boat, apply 1000 cycles of 15g vertical accelerations at a rate of 80 cycles or less per minute. The duration of the shock pulse must be between 6 and 14 milliseconds.

(f) Perform the static pressure test under § 183.580.

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

**§ 183.586 Pressure impulse test.**

A fuel tank is tested by performing the following procedures in the following order:

(a) Perform the static pressure test under § 183.580.

(b) If the tank is non-metallic, fill it to capacity with a gasoline that has at least a 50 percent aromatic content. Keep the fuel in the tank at 21 °C or higher for 30 days prior to testing.

(c) Mount the tank on a test platform.

(d) Fill the tank to capacity with water.

(e) Cap and seal each opening in the tank.

(f) Apply 25,000 cycles of pressure impulse at the rate of no more than 15 impulses per minute varying from zero to three PSIG to zero inside the tank top from a regulated source of air, inert gas, or water.

(g) Perform the static pressure test under § 183.580.

**§ 183.588 Slosh test.**

A fuel tank is tested by performing the following procedures in the following order:

(a) Perform the static pressure test under § 183.580.

(b) Perform the pressure impulse test under § 183.586.

(c) Secure the tank to the platform of a tank rocker assembly.

(d) Fill the tank to one-half capacity with water.

(e) Cap and seal each opening in the tank.

(f) Apply 500,000 cycles or rocking motion 15 degrees to each side of the tank centerline at the rate of 15 to 20 cycles a minute. The axis of rotation of the rocker and fuel tank must be perpendicular to the centerline of the tank length at a level six inches or less above or below the tank's bottom.

(g) Perform the static pressure test under § 183.580.

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

**§ 183.590 Fire test.**

(a) A piece of equipment is tested under the following conditions and procedures:

(1) Fuel stop valves, "USCG Type A1" or USCG Type A2" hoses and hose clamps are tested in a fire chamber.

(2) Fuel filters, strainers, and pumps are tested in a fire chamber or as installed on the engine in the boat.

(3) Fuel tanks must be tested filled with fuel to one-fourth the capacity marked on the tank in a fire chamber or in an actual or simulated hull section.

(b) Each fire test is conducted with free burning heptane and the component must be subjected to a flame for 2½ minutes.

(c) If the component is tested in a fire chamber:

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(1) The temperature within one inch of the component must be at least 648 °C sometime during the 2½ minute test;

(2) The surface of the heptane must be 8 to 10 inches below the component being tested; and

(3) The heptane must be in a container that is large enough to permit the perimeter of the top surface of the heptane to extend beyond the vertical projection of the perimeter of the component being tested.

(d) If the component is being tested as installed on an engine, heptane sufficient to burn 2½ minutes must be poured over the component and allowed to run into a flat bottomed pan under the engine. The pan must be large enough to permit the perimeter of the top surface of the heptane to extend beyond the vertical projection of the perimeter of the engine.

(e) If a fuel tank is being tested in an actual or simulated hull section, the actual or simulated hull section must be of sufficient size to contain enough heptane to burn for 2½ minutes in a place adjacent to the tank.

[CGD 74-209, 42 FR 5950, Jan. 31, 1977, as amended by CGD 77-98, 42 FR 36253, July 14, 1977; CGD 85-098, 52 FR 19729, May 27, 1987]

**Subpart K—Ventilation**

SOURCE: CGD 76-082, 44 FR 73027, Dec. 17, 1979, unless otherwise noted.

**§ 183.601 Applicability.**

This subpart applies to all boats that have gasoline engines for electrical generation, mechanical power, or propulsion.

[USCG-1999-5832, 64 FR 34716, June 29, 1999]

**§ 183.605 Definitions.**

As used in this subpart:

“Fuel” means gasoline.

“Open to the atmosphere” means a compartment that has at least 15 square inches of open area directly exposed to the atmosphere for each cubic foot of net compartment volume.

[CGD 76-082, 44 FR 73027, Dec. 17, 1979, as amended by CGD 85-098, 52 FR 19729, May 27, 1987]

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**§ 183.607 Incorporation by reference.**

(a) The following standards are incorporated by reference. Copies may be obtained from the sources indicated. They are also available for inspection at Coast Guard Headquarters, 2100 Second Street, SW., Washington, DC 20593-0001 and at the Office of the Federal Register Library, 800 North Capitol Street, NW., suite 700, Washington, DC 20408.

(1) AMCA Standard 210-74, Figure 12. Air Moving and Conditioning Association, 30 West University Drive, Arlington Heights, Illinois 60004.

(2) ASTM Standard D 471. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

(3) UL Standard 1128, Underwriters Laboratories, Incorporated, 12 Laboratory Drive, Research Triangle Park, NC 27709-3995.

(b) The Director of the Federal Register approved the incorporation by reference in paragraph (a)(2) on September 26, 1976 and the incorporations in paragraphs (a) (1) and (3) on March 24, 1978.

[CGD 76-082, 44 FR 73027, Dec. 17, 1979, as amended by CGD 82-010, 48 FR 8273, Feb. 28, 1983; USCG-2000-7223, 65 FR 40059, June 29, 2000]

**§ 183.610 Powered ventilation system.**

(a) Each compartment in a boat that has a permanently installed gasoline engine with a cranking motor must:

- (1) Be open to the atmosphere, or
- (2) Be ventilated by an exhaust blower system.

(b) Each exhaust blower or combination of blowers must be rated at an air flow capacity not less than that computed by the formulas given in Table 183.610, Column 2. Blower rating must be determined according to AMCA Standard 210-74, Figure 12, or UL Standard 1128.

TABLE 183.610

Col. 1 <sup>1</sup>	Col. 2 <sup>2</sup>	Col. 3 <sup>3</sup>
Below 34 .....	Fr=50 .....	Fo=20
34 to 100 .....	Fr=1.5V .....	Fo=0.6V
Over 100 .....	Fr=V/2+100 .....	Fo=0.2V+40

<sup>1</sup>Net compartment volume of engine compartment and compartments open thereto (V) cubic feet.

<sup>2</sup>Rated blower capacity (Fr) cubic feet per minute.

<sup>3</sup>Blower system output (Fo) cubic feet per minute.