

**§ 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: