

(l) Buoyant apparatus must not have any evident defects in workmanship.

(m) Each metal part of a buoyant apparatus must be—

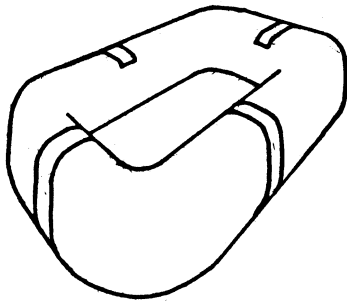
(1) 410 stainless steel or have salt water and salt air corrosion characteristics equal or superior to 410 stainless steel; and

(2) Galvanically compatible with each other metal part in contact with it.

(n) The color of the buoyant apparatus must be primarily vivid reddish orange as defined by sections 13 and 14 of the “Color Names Dictionary.”

(o) When fibrous-glass-reinforced plastic is used in the construction of a buoyant apparatus, each cut edge of laminate must be protected from entry of moisture by resin putty or an equivalent method.

(p) Each buoyant apparatus must have Type II retroreflective material meeting subpart 164.018 of this chapter on each side and end. The material must be in strips at least 50 mm (2 in.) wide extending from top to bottom over the side or end and continuing over the top and bottom surfaces of the apparatus. For peripheral body apparatus, each strip must extend completely over the top and bottom surface of the body. For box type apparatus, the strip must extend at least 300 mm (12 in.) inboard from the edge over the top and bottom surface. Each strip must be positioned near the center of the side or end, but so that it is not obscured by any strap. A typical arrangement is shown in Figure 160.010-3(p).



[CGD 79-167, 47 FR 41372, Sept. 20, 1982. Redesignated by CGD 85-205, 62 FR 25545, May 9, 1997]

#### § 160.010-5 Buoyant apparatus with plastic foam buoyancy.

(a) Buoyant apparatus with plastic foam buoyancy must have a plastic foam body with an external protective covering. The body may be reinforced as necessary to meet the tests in § 160.010-7.

(b) Plastic foam used in the construction of buoyant apparatus must be a unicellular type accepted by the Commandant (CG-521) as meeting one of the following:

(1) Subpart 164.015 of this chapter.

(2) MIL-P-19644.

(3) MIL-P-21929.

(4) MIL-P-40619.

(c) The external protective covering must be—

(1) Fibrous-glass-reinforced plastic, constructed of a polyester resin listed on the current Qualified Products List for MIL-P-21607, or accepted by the Commandant (G-MSE) as meeting MIL-P-21607;

(2) Elastomeric vinyl accepted by the Commandant (CG-521) as meeting § 160.055-3(j) of this chapter; or

(3) Any other material accepted by the Commandant (CG-521) as providing equivalent protection for the body of the apparatus.

[CGD 79-167, 47 FR 41372, Sept. 20, 1982, as amended by CGD 95-072, 60 FR 50466, Sept. 29, 1995; CGD 96-041, 61 FR 50733, Sept. 27, 1996. Redesignated by CGD 85-205, 62 FR 25545, May 9, 1997. Amended by USCG-2009-0702, 74 FR 49237, Sept. 25, 2009]

#### § 160.010-6 Capacity of buoyant apparatus.

(a) The number of persons for which a buoyant apparatus is approved must be the lowest number determined by the following methods:

(1) Final buoyancy of the buoyant apparatus in Newtons after the watertight integrity test as described in § 160.010-7 (e) and (f), divided by 145 (divided by 32 if buoyancy is measured in pounds). The divisor must be changed to 180 (40 if buoyancy is measured in pounds) if the apparatus is designed so that persons supported are only partially immersed or where facilities are provided for climbing on top of the apparatus.

(2) Number of 300 mm (1 ft.) increments in the outside perimeter of the

§ 160.010-7

buoyant apparatus. The inside edge of peripheral-body type buoyant apparatus is not considered in determining the capacity.

(b) [Reserved]

§ 160.010-7 Methods of sampling, inspections and tests.

(a) *General.* Production tests must be conducted under the procedures in subpart 159.007 of this chapter. An inspector from the independent laboratory must inspect the place of manufacture, observe the various operations involved in the construction process and determine that buoyant apparatus are made in accordance with this subpart and of materials and parts conforming strictly with the plans and specifications submitted by the manufacturer and approved by the Commandant (CG-521).

(b) *Sampling of production lots.* A production lot must consist of not more than 300 buoyant apparatus of the same design and capacity manufactured by one factory. Samples for production tests must be selected at random from each lot. The required sample size for various lot sizes is given in Table 160.010-7(b).

TABLE 160.010-7(b)—SAMPLE SIZE FOR VARIOUS LOT SIZES

Lot size	Sample size
1 to 30 .....	1
31 to 60 .....	2
61 to 90 .....	3
91 to 300 .....	4

(c) *Testing of sample buoyant apparatus from production lots.* Each sample buoyant apparatus selected for test from a production lot must be subjected to the tests described in paragraphs (d) through (g) of this section. The stability test in paragraph (h) must be performed whenever a question of stability arises.

(d) *Strength tests.* The buoyant apparatus tested for approval must be subjected to the drop test. Buoyant apparatus tested for production lot inspections must also be subjected to the drop test except that in the case of peripheral body type apparatus, the beam loading test may be substituted.

(1) *Drop test.* Drop the complete sample buoyant apparatus into still water

from a height of 18 m (60 ft.) twice, once flat and once endwise. There must be no damage that would render the apparatus unserviceable.

(2) *Beam loading test.* The buoyant apparatus must be stood on edge on one of its longer sides. A wood block 600 mm (24 in.) long and wide enough to cover the body of the apparatus must be centered on the top edge of the apparatus. A loading beam must be set at right angles to the float at a height so that the beam is in a horizontal position with its center on the center of the wood block. The loading beam must be hinged at one end and a load applied at the other end at a uniform rate of 225 kg (500 lb.) per minute until the load at the end of the beam as shown on Table 160.010-7(d)(2) is reached. The beam is then held stationary for 10 minutes. The device used to apply the load must be a chain fall, hydraulic cylinder or other device that allows the device to unload as the strain on the buoyant apparatus relieves. At the end of the 10 minute period, the drop in the load on the device must not exceed the maximum permissible drop shown in Table 160.010-7(d)(2). If the buoyant apparatus is not one of the sizes listed in the table, the loads must be determined by linear interpolation.

NOTE: Because of the lever ratio of the beam loading apparatus described here, the actual loads applied to the apparatus are twice the loads shown in the Table.

TABLE 160.010-7(d)(2)—BEAM LOADING TEST

Size of buoyant apparatus (persons)	Test load (kg (lb.))	Maximum permissible drop (kg (lb.))
60 .....	2,400 (5,280)	120 (264)
40 .....	1,800 (3,960)	90 (198)
25 .....	1,500 (3,300)	75 (165)
15 .....	1,200 (2,640)	60 (132)
10 .....	900 (1,980)	45 (100)

(e) *Buoyancy test.* Known weights are loaded on the sample buoyant apparatus until it is awash. The buoyancy is the downward force exerted by the weights loaded on the apparatus. A raised platform of known weight having two runners on edge spaced so as to bear on the apparatus may be used to support the weights out of water to