

§ 160.035-10

radio cabin, searchlight, and their accessories. The volume of such equipment extending above the sheer line need not be deducted.

[CGFR 65-9, 30 FR 11467, Sept. 8, 1965, as amended by CGD 95-028, 62 FR 51213, Sept. 30, 1997]

§ 160.035-10 Number of persons allowed in lifeboats.

(a) The maximum number of persons for which the lifeboat may be rated is determined as noted in paragraphs (a) (1), (2), and (3) of this section. The smallest number obtained is the number to be used.

(1) The number of persons which a lifeboat shall be permitted to accommodate shall be equal to the greatest whole number obtained by dividing the capacity in cubic feet by the factor shown in Table 160.035-10(a). The net cubic capacity shall be determined by § 160.035-9(b).

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TABLE 160.035-10(A)

| Length in feet— | | Factor |
|-----------------|----------------|--------|
| Of— | But less than— | |
| 18 | 18 | 14 |
| 20 | 20 | 13 |
| 22 | 22 | 12 |
| 24 | 24 | 11 |
| 24 | Or over | 10 |

(2) The number of persons permitted in the lifeboat shall not exceed the number for which seating space is provided as determined by drawing figures to scale of a size as noted in Figure 160.035-10(a)(2) on an arrangement plan of the lifeboat.

(3) The number of persons permitted in the lifeboat shall not exceed the number of persons wearing life preservers which can be seated in the lifeboat without interfering with the use of the oars or the operation of other propulsion equipment.

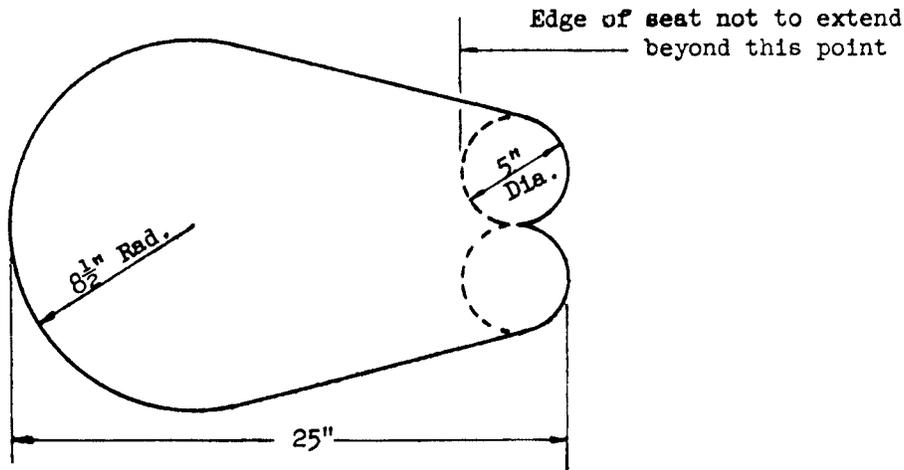


FIGURE 160.035-10(A)(2)

(b) [Reserved]

§ 160.035-11 Inspection and testing of lifeboats.

(a) *General.* Coast Guard marine inspectors shall be admitted to any place in the builder's factory where work is done on these lifeboats or component

materials or parts. Lifeboats shall be inspected during the course of construction to determine that the arrangements and materials entering into the construction are in accordance with approved plans, and to insure that the workmanship is of good quality. Samples of materials entering into

construction may be taken by the marine inspectors for such tests as may be deemed necessary at any time there is any question as to suitability or adequacy of any material or arrangement.

(b) *Preapproval tests.* Before approval is granted to any design of lifeboat, the following tests shall be made by a marine inspector:

(1) *Strength test.* The light lifeboat shall be suspended by shackles at the bow and stern, or by means of the releasing gear, and the length, beam, and depth shall be measured. Weights shall then be added to equal the weight of the equipment, food, water, etc., and persons for which the boat is to be approved, and the length, beam, and depth measured. Additional weight shall then be added so that the suspended load is 25 percent greater than the weight of the fully equipped and loaded lifeboat and the measurements repeated. All weights shall then be removed and the measurements rechecked. There shall be no appreciable set as a result of this test.

(2) *Flooding test.* Lifeboats shall be flooded while open to the sea to determine the amount of buoyancy necessary to float the complete boat including releasing gear but with no equipment, provision lockers, water tanks, or fuel tanks aboard. If provision lockers, water tanks, and fuel tanks cannot be removed, they should be flooded or filled to the final waterline. Lifeboats fitted with watertight stowage compartments to accommodate individual drinking water containers shall have these individual containers aboard and placed in the stowage compartments which shall be sealed watertight during the flooding test. Ballast of equivalent weight and density should be substituted for the motor, shaft, propeller, radio battery, searchlight, etc., if they are to be installed.

(i) *Boats with independent buoyancy tanks or buoyancy units.* The estimated amount of buoyancy to just float the boat in this condition should be fitted symmetrically aboard the lifeboat, and then the boat flooded. If the tops of the gunwales at their lowest point do not clear the surface of the water, the buoyancy shall be increased as necessary. An additional volume of buoy-

ancy, or buoyancy units, equal to at least one-tenth the cubic capacity of the lifeboat shall be provided.

(ii) *Boats with built-in buoyancy compartments.* When flood testing lifeboats with built-in buoyancy compartments weights shall be placed in the bottom of the lifeboat to counteract the buoyancy provided for the persons to be carried. The amount of weight required per person carried shall be as follows:

| Materials | Weight per person (pounds) |
|---------------------|----------------------------|
| Iron or steel | 72 |
| Lead | 69 |
| Concrete | 110 |

Other impervious material may be used if more convenient. The weight per person required is determined from the formula

$$W = 63d \div d - 63$$

where *d* is the density of material in pounds per cubic foot (Sandbags should not be used for this purpose inasmuch as their weight under water is not readily predictable.) If the lifeboat weighted as above does not float with the gunwale at the lowest point just clear of the surface of the water, unit air tanks should be slipped beneath the thwarts until the gunwales do clear the surface of the water. The additional air tankage required shall be incorporated in the design of the lifeboat.

(3) *Seating capacity test.* The lifeboat shall be fully loaded with equipment, and in this condition the number of persons for which the lifeboat is to be approved shall be seated, in accordance with the seating plan required in §160.035-14(a). All persons shall wear an approved life preserver and it shall be demonstrated by actual test that there is sufficient room to row the boat without interference.

(4) *Freeboard test.* Freeboards shall be measured to the low point of the sheer with the lifeboat in light condition with neither equipment nor persons aboard, and in the loaded condition with full equipment and persons aboard.

(5) *Stability test.* Upon the conclusion of the seating test, all persons on one side of the centerline shall disembark. The remaining people should sit upright and not move from their original positions. (Not less than one-half in

total number of persons should remain in the lifeboat.) Freeboard to the low point of sheer shall then be measured. This freeboard should, in general, be not less than 10 percent of the depth of the lifeboat.

(c) Motor-propelled lifeboats must pass the tests as required for an oar-propelled lifeboat in § 160.035-3. In addition, speed tests over a measured course and fuel consumption tests on a time basis shall be made to determine that the fully loaded motor-propelled lifeboats can maintain a speed of 6 knots for all classes of motor-propelled lifeboats, and that for each class of motor-propelled lifeboat its fuel tanks carry sufficient fuel for at least 24 hours at 6 knots. A 4-hour endurance trial shall be conducted with the fully loaded lifeboat at the RPM attained in the speed test in order to insure that there is no overheating, undue vibration, or other condition which would warrant the belief that the lifeboat could not maintain its proper speed for 24 hours. The time consumed in conducting the speed and fuel consumption tests may be counted toward the 4-hour endurance test. It shall be demonstrated that all engines installed in motor lifeboats can be started by the acceptable cranking system installed with no previous warming up period.

(d) Hand-propelled lifeboats shall be subjected to the same tests as required for an oar-propelled lifeboat. In addition, a test shall be made to assure that the lifeboat can be satisfactorily maneuvered with the hand-propelling gear. A speed of at least three knots shall be achieved in both light and load condition over a measured course of not less than 1,000 feet.

[CGFR 65-9, 30 FR 11467, Sept. 8, 1965, as amended by CGD 72-133R, 37 FR 17040, Aug. 24, 1972]

§ 160.035-12 Additional preapproval tests required for F.R.P. lifeboats.

(a) *General.* These tests are required in addition to the preapproval tests required for steel lifeboats in § 160.035-11. The prototype boat of each size or design submitted will be required to perform satisfactorily in the following tests which will be made in the presence of a marine inspector.

(b) *Strength test.* The following tests described in this paragraph are in lieu of the strength test in § 160.035-11(b)(1):

(1) *Suspension tests.* The light lifeboat shall be suspended freely from the releasing gear and the length, beam, and depth measured. Weights shall then be added to equal the weight of the equipment, food, water, and persons to be carried (see § 160.035-11(b)(2)(ii)), and the length, beam, and depth measured. Additional weights shall then be added so that the suspended load is 25, 50, 75, and 100 percent greater than the weight of the fully equipped and loaded lifeboat and the measurements taken at each 25 percent increments. (Water may be used for all or any portion of the weight if desired.) All weights shall then be removed and final measurements taken. There shall be no fractures or other signs of excessive stress and no appreciable set as a result of this test.

(2) *Chock test.* The light lifeboat shall be placed on blocks located under the keel at the quarter points and measurements of length, beam, and depth taken. The boat shall be flooded with water equal to the weight of all equipment, food, water, and persons to be carried and measurements of length, beam, and depth taken again. Additional measurements of 25, 50, 75, and 100 percent of the weight of the fully equipped and loaded lifeboat shall be added and the measurements taken at 25 percent increments. If the boat becomes full of water before 100 percent overload is reached, no additional weight need be added, and the last deflection measurements with the boat under load shall be taken at this point. The boat shall be drained and final measurements taken. There shall be no fractures or other signs of excessive stress and no appreciable set as a result of this test.

(3) *Swing test.* The boat shall be loaded with weights equal to the weight of all equipment, food, water and persons to be carried. It shall then be suspended by the releasing gear with falls 20 feet in length so arranged that when hanging freely the gunwale on one side of the boat is approximately 2 inches from a stationary concrete or steel wall or other structure of similar construction and rigidity. The boat shall