
(a) General requirements. (1) Plastic lifeboats shall comply with the general requirements for the construction and arrangement of steel lifeboats, except that unless otherwise specified, materials, scantlings, methods of construction, fastenings, methods of attachment of component parts, and other specific construction details may be varied by the builder in order to produce a structurally sound boat meeting in every respect recognized standards of first class construction and one which will satisfactorily meet the performance requirements set forth in this subpart.

(2) Fibrous glass reinforced plastic lifeboats may be of the following categories of hull construction:
   A—Single piece, outer hull construction.
   B—Two piece, outer hull construction.
   C—Single piece, inner hull construction.
   D—Two piece, inner hull construction.
   E—Multi-piece, inner hull construction.

(b) Specific requirements—(1) Resin. The resin used shall be of the fire retardant, nonair inhibited-type conforming to Class A of Military Specification MIL-R-21607 and Grade A, Class O of Military Specification MIL-R-7575, including tests after 1 year’s weathering. In addition, the test panels shall be tested for continued compliance with Military Specification MIL-R-21607. All tests, including weathering of samples, shall be accomplished by an independent laboratory. Complete certification by the independent laboratory with test data shall be submitted to Coast Guard (CG-521) for acceptance. Class A resin shall be fire retardant without additives. Class B resins will be given consideration upon request. Class B resin shall be fire retardant with additives and shall meet the same test requirements as that for Class A resins. When Class B resin is used for the prototype lifeboat, additives for fire retardancy shall not be used in order to obtain a translucent laminate for inspection purposes. This prototype test lifeboat will not be stamped approved, nor will it be acceptable for merchant vessels. Whichever class of resin the manufacturer decides to use for his prototype lifeboat, additives for fire retardancy shall not be used in order to obtain a translucent laminate for inspection purposes. This prototype test lifeboat will not be stamped approved, nor will it be acceptable for merchant vessels.

(2) Glass reinforcement. The glass reinforcement used shall have good laminated wet strength retention and shall meet the appropriate military specification stated in this paragraph. Glass
(3) **Laminate.** All exposed surfaces of the finished laminate shall present a smooth finish, and there shall be no protruding surface fibers, open voids, pits, cracks, bubbles or blisters. The laminate shall be essentially free from resin-starved or overimpregnated areas, and no foreign matter shall remain in the finished laminate. The entire laminate shall be fully cured and free of tackiness, and shall show no tendency to delaminate, peel, or craze in any overlay. The laminate shall not be released from the mold until a Barcol hardness reading of not less than 40–55 is obtained from at least 10 places on the nongel coated surface, including all interior inner and outer hull surfaces and built-in lockers. The mechanical properties of the laminate shall meet the requirements for a Grade 3 laminate as specified in Table I of Military Specification MIL-P-17549. Other grades will be given consideration on specific request. For the prototype boat of each design made by each manufacturer, the layup shall be made of unpigmented clear resins so that all details of construction will be visible for inspection and test panels representative of each prototype layup shall be tested in accordance with MIL-P-17549.

(b) **Weights of F.R.P. lifeboats.**

(i) The variations in weight between the fibrous glass reinforced plastic in the prototype F.R.P. lifeboat and the fibrous glass reinforced plastic in the production F.R.P. lifeboat shall be within 5 percent. This weight shall be for the F.R.P. sections only and shall not include the weight of any hardware or equipment.

(ii) When assembling two similar sections as indicated by categories B and D of paragraph (a)(2) of this section, the weights of the matching F.R.P. pieces shall be within 5 percent of each other.

(iii) The recorded weights of the items indicated in paragraphs (b)(4) (i) and (ii) of this section shall be kept by the manufacturer, with each boat listed by size, type, and serial number.

(c) **Motor-propelled lifeboat.** The cubic capacity of a motor-propelled lifeboat shall be determined in the same manner as an oar-propelled lifeboat and then deducting from the gross volume, a volume equal to the engine box and accessories, and when carried, the