

TABLE 160.047-4(c)(3)—DISTRIBUTION OF FIBROUS GLASS IN BUOYANT PAD INSERTS

| | Model AF-1 (minimum) | Model CFM-1 (minimum) | Model CFS-1 (minimum) |
|----------------------------|-------------------------|--------------------------|--------------------------|
| Front pad (2) (each) | Ounces 10.25 | Ounces 6.75 | Ounces 4.50 |
| Back | 7.25 | 4.50 | 3.50 |
| Total | 27.75 | 18.00 | 12.50 |

(4) *Displacement of buoyant pad inserts.* The volume of the finished individual heat-sealed buoyant pad inserts shall be such as to provide buoyancy as set forth in Table 160.047-4(c)(4) when tested in accordance with the method set

forth in § 160.047-5(e)(1), except that the pad covers shall not be slit open and the period of submergence shall be only long enough to determine the displacement of the pads.

TABLE 160.047-4(c)(4)—VOLUME DISPLACEMENT OF SEALED PADS

| | Models AK-1 and AF-1 | Models CKM-1 and CFM-1 | Models CKS-1 and CFS-1 |
|------------------|--------------------------|--------------------------|------------------------|
| | Each | Each | Each |
| Front pads | 6¼ pounds ±¼ pound | 4¼ pounds ±¼ pound | 2¾ pounds ±¼ pound |
| Back pads | 4¼ pounds ±¼ pound | 3¼ pounds ±¼ pound | 2½ pounds ±¼ pound |

(d) *Tie tapes.* The tie tapes at the neck shall finish not less than 12 inches in length for both adult and child size buoyant vests. They shall be arranged and attached to the envelope as shown by the drawings, and the free ends shall be doubled over and stitched in accordance with section H-H.

(e) *Body strap, hardware, and reinforcing tape.* The body strap, hardware, and reinforcing tape shall be arranged as shown on the drawings and attached to the envelope with the seams and stitching indicated.

(f) *Stitching.* All stitching shall be a short lock stitch conforming to Stitch Type 301 of Federal Standard No. 751, and there shall be not less than 7 nor more than 9 stitches to the inch. Both ends of the stitching forming the shoulder hinge seams and the top and bottom closing seams of the envelope shall be backstitched approximately ½ inch.

(g) *Workmanship.* Buoyant vests shall be of first-class workmanship and shall be free from any defects materially affecting their appearance or serviceability.

[CGFR 65-37, 30 FR 11581, Sept. 10, 1965]

§ 160.047-5 Inspections and tests.¹

(a) *General.* Manufacturers of listed and labeled buoyant vests shall—

(1) Maintain quality control of the materials used, the manufacturing methods and the finished product to meet the requirements of this subpart by conducting sufficient inspections and tests of representative samples and components produced;

(2) Make available to the recognized laboratory inspector and to the Coast Guard inspector, upon request, records of tests conducted by the manufacturer and records of materials used during production of the device including affidavits from suppliers; and

(3) Permit any examination, inspection, and test required by the recognized laboratory or the Coast Guard for a listed and labeled device, either at the place of manufacture, or some other location.

(b) *Lot size and sampling.* (1) A lot consists of 500 buoyant vests or fewer.

(2) A new lot begins after any change or modification in materials used or manufacturing methods employed;

¹The manufacturer of a personal flotation device must meet 33 CFR 181.701 through 33 CFR 181.705 which require an instruction pamphlet for each device that is sold or offered for sale for use on recreational boats.

(3) The manufacturer of the buoyant vests shall notify the recognized laboratory when a lot is ready for inspection;

(4) The manufacturer shall select samples in accordance with the requirements in Table 160.047-5(b)(4) from each lot of buoyant vests to be tested by the inspector in accordance with paragraph (e) of this section;

TABLE 160.047-5(b)(4)—SAMPLE FOR BUOYANCY TESTS

| Lot size | Number of vests in sample |
|---------------------|---------------------------|
| 100 and under | 1 |
| 101 to 200 | 2 |
| 201 to 300 | 3 |
| 301 to 500 | 4 |

(5) The recognized laboratory must assign an inspector to a plant when notified that a lot is ready for inspection, to conduct tests and inspections on samples selected in accordance with paragraph (b)(4) of this section.

(6) If a vest fails the buoyancy test, the sample from the next succeeding lot must consist of 10 specimen vests or more to be tested for buoyancy in accordance with paragraph (e) of this section.

(c) *Additional tests.* An inspector from the recognized laboratory or the Coast Guard may conduct an examination, test, and inspection of a listed and labeled buoyant device that is obtained from the manufacturer or through commercial channels to determine its conformance to the applicable requirements.

(d) *Test facilities.* The manufacturer shall admit the laboratory inspector and the Coast Guard inspector to any part of the premises at the place of manufacture of a listed and labeled device to—

(1) Examine, inspect, or test a sample of a part or a material that is included in the construction of the device; and

(2) Conduct any necessary examination, inspection, or test in a suitable place and with appropriate apparatus provided by the manufacturer.

(e) *Buoyancy—(1) Buoyancy test method.* Remove the buoyant pad inserts from the vest and cut three slits each not less than 2 inches in length and not less than 2 inches apart on both sides

of each pad. Securely attach the spring scale in a position directly over the test tank. Suspend the weighted wire basket from the scale in such a manner that the basket is weighed while it is completely under water. In order to measure the actual buoyancy provided by the pads, proceed as follows:

(i) Weigh the empty wire basket under water.

(ii) Place the pads inside the basket and submerge it so that the top of the basket is at least 2 inches below the surface of the water for 24 hours. The tank shall be locked or sealed during this 24-hour submergence period. It is important that after the pads have once been submerged they shall remain submerged for the duration of the test, and at no time during the course of the test shall they be removed from the tank or otherwise exposed to air.

(iii) After the 24-hour submergence period unlock or unseal the tank and weigh the weighted wire basket with the pads inside while both are still under water.

(iv) The buoyancy is computed as (i) minus (iii).

(2) *Buoyancy required.* The pad inserts from adult buoyant vests shall provide not less than 16 pounds buoyancy; the pad inserts from child medium vests shall provide not less than 11 pounds buoyancy; and the pad inserts from child small vests shall provide not less than 7½ pounds buoyancy.

(f) *Body strap test.* The complete body strap assembly, including hardware, shall be tested for strength by attaching the dee ring to a suitable support such that the assembly hangs vertically its full length. A weight as specified in §160.047-3(f) shall be attached to the other end on the snap hook for 10 minutes. The specified weight shall not break or excessively distort the body strap assembly.

[CGFR 65-37; 30 FR 11581, Sept. 10, 1965, as amended by CGD 72-90R, 37 FR 10836, May 31, 1972; CGD 75-008, 43 FR 9772, Mar. 9, 1978]

§ 160.047-6 Marking.

(a) Each buoyant vest must have the following information clearly marked in waterproof lettering that can be read at a distance of 2 feet:

Type II Personal Flotation Device.