

Coast Guard, DHS

§ 160.171-9

12 Laboratory Drive, Research Triangle Park, NC 27709-3995.

UL 1191, First Edition (Standard for Components for Personal Flotation Devices), as revised March 29, 1977.

[CGD 84-069a, 52 FR 1188, Jan. 12, 1987, as amended by CGD 95-072, 60 FR 50467, Sept. 29, 1995; CGD 96-041, 61 FR 50733, Sept. 27, 1996; CGD 97-057, 62 FR 51048, Sept. 30, 1997; USCG-1999-5151, 64 FR 67184, Dec. 1, 1999; USCG-2009-0702, 74 FR 49237, Sept. 25, 2009]

§ 160.171-5 Independent laboratory.

The approval and production tests in this subpart must be conducted by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter.

§ 160.171-7 Approval procedures.

(a) *General.* An immersion suit is approved by the Coast Guard under the procedures in subpart 159.005 of this chapter.

(b) *Approval testing.* Each approval test must be conducted in accordance with § 160.171-17 or § 160.171-19.

(c) *Approval of child size and oversize adult suits.* No child size or oversize adult sized suit will be approved unless the adult size of the suit has been approved.

§ 160.171-9 Construction.

(a) *General.* Each immersion suit must be constructed primarily of a closed-cell flexible foam that meets the buoyancy and thermal insulation requirements in § 160.171-11 (a) and (c). Each suit must be designed to cover the wearer's entire body, except for the area of the nose and eyes. It must be capable of being worn inside-out or be clearly capable of being worn in only one way and, as far as possible, incapable of being donned incorrectly.

(b) *Impact resistance and body strength.* The body of each suit must be designed to allow the wearer to jump from a height of at least 4.5 m into the water without injury and without dislodging or damaging the suit.

(c) *Seams.* Stitching in each sewn structural seam of an immersion suit must be lock type stitching that meets the requirements in Federal Standard No. 751 for one of the following:

(1) Class 300 Lockstitch.

(2) Class 700 Single Thread Lockstitch.

Other stitches which are not true lock stitches may be used to reinforce a glued seam provided the adhesive alone has the required seam strength after the non-standard stitch has been removed.

(d) *Seam strength.* Each seam must have a strength of at least 225 Newtons (50 lb.).

(e) *Closures and seals.* Each closure and seal must be designed so that, following a jump from a height of not less than 4.5 m into the water, there is no undue ingress of water into the suit.

(f) *Hardware.* All hardware of an immersion suit must be of a size and design that allows ease of operation by the wearer. The hardware must be attached to the suit in a manner that allows the wearer to operate it easily and that prevents it from attaining a position in which it can be operated improperly.

(g) *Metal parts.* Each metal part of an immersion suit 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.

(h) *Suit exterior.* The primary color of the exterior of each suit must be vivid reddish orange (color number 34 of National Bureau of Standards Publication 440). The exterior surface of the suit must resist tearing and abrasion when tested as prescribed in § 160.171-17 (n) and (o).

(i) Buoyant materials and compartments. Buoyant materials used in a suit must not be loose or granular. The suit must not have an inflated or inflatable chamber, except as prescribed in § 160.171-11(a)(2).

(j) *Hand and arm construction.* The hand of each suit must be a glove that allows sufficient dexterity for the wearer to pick up a 9.5 mm (3/8 in.) diameter wooden pencil from a table and write with it, after being immersed in water at 5 °C for a period of one hour. The glove may not be removable unless it is attached to the arm and unless it can be secured to the arm or stowed in a pocket on the arm when not in use. A removable glove must be designed so that there is no undue ingress of water