(c) The operating instructions required by paragraphs (a) and (b) of this section must also be made available in the form of an instruction placard. The placard must be not greater than 36 cm (14 in.) by 51 cm (20 in.), made of durable material and suitable for display near installations of liferafts on vessels, providing simple procedures and illustrations for launching, inflating, and boarding the liferaft.

§ 160.151–61 Maintenance instructions.

(a) The liferaft manufacturer shall make maintenance instructions available in English to purchasers of inflatable liferafts approved by the Coast Guard, to enable vessel operators to meet regulations III/19.3 and III/52 of SOLAS.

(b) The maintenance instructions required by paragraph (a) of this section must include—

(1) A checklist for use in monthly, external, visual inspections of the packed liferaft;

(2) An explanation of the requirements for periodic servicing of the liferaft by an approved servicing facility; and

(3) A log for maintaining records of inspections and maintenance.

Subpart 160.171—Immersion Suits

SOURCE: CGD 84–069a, 52 FR 1188, Jan. 12, 1987, unless otherwise noted.

§ 160.171–1 Scope.

This subpart contains construction and performance requirements, and approval tests for adult and child insulated, buoyant immersion suits that are designed to prevent shock upon entering cold water and lessen the effect of hypothermia (extreme body heat loss due to immersion in cold water). Immersion suits approved under this subpart will meet the requirements of Regulation 33 of Chapter III of the International Convention for Safety of Life at Sea (SOLAS), 1974, under the Second Set of Amendments adopted 17 June 1983.

§ 160.171–3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this subchapter with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The Office of the Federal Register publishes a table, ''Material Approved for Incorporation by Reference,'' which appears in the Finding Aids section of this volume. In that table is found citations to the particular sections of this part where the material is incorporated. To enforce any edition other than the one listed in paragraph (b) of this section, notice of change must be published in the FEDERAL REGISTER and the material made available. All approved material is on file at the Office of the Federal Register, Washington, DC 20408, and at the U.S. Coast Guard, Lifesaving and Fire Safety Division (CG-5214), 2100 2nd St., SW., Stop 7126, Washington, DC 20593–7126.

(b) The materials approved for incorporation by reference in this subpart are:

AMERICAN SOCIETY FOR TESTING AND MATERIALS

100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

- ASTM B 117–97, Standard Practice for Operating Salt Spray (Fog) Apparatus—160.171–17
- ASTM C 177–85 (1993), Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus—160.171–17
- ASTM C 518–91, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus—160.171–17
- ASTM D 975–98, Standard Specification for Diesel Fuel Oils—160.171–17
- ASTM D 1004–94a, Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting—160.171–17

FEDERAL STANDARDS SPECIFICATION UNIT (WFSIA)

Regional Office Building, Room 6039, 7th and D Streets SW, Washington, DC 20407.

- National Bureau of Standards Special Publication 440—Color, Universal Language and Dictionary of Names; December 1976.
- Federal Test Method Standard No. 191a dated July 20, 1978, Method 5304.1, Abrasion Resistance of Cloth, Oscillatory Cylinder (Wyzenbeek) Method, dated July 9, 1971.
- Federal Standard No. 751a, Stitches, Seams, and Stitchings, dated January 25, 1965.

UNDERWRITERS LABORATORIES, INC.

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 compatable 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