

occur in the length of wire at or between the points where the loops are secured (see Figure 160.073-10).

(b) If each of the three links passes the test, each link constructed in the same manner from the same spool of wire may be certified by the manufacturer as meeting the requirements of this subpart.

(c) If one or more of the three links fails the test, no link manufactured in the same manner and from the same spool of wire as the test links may be certified as meeting the requirements of this subpart.

§ 160.073-20 Marking.

(a) Each link certified by the manufacturer to meet the requirements of this subpart must have a corrosion resistant, waterproof tag attached to it that has the following information on it (the manufacturer must make the appropriate entries in the indicated space):

FLOAT-FREE LINK FOR LIFE FLOATS AND BUOYANT APPARATUS
 Of (10 or less) (11 to 20) (21 or more) persons capacity.
 Normal breaking strength

 Meets U.S. coast guard Requirements—46 CFR 160.073.
 Made by: (name and address)

 (Date) _____

(b) [Reserved]

Subpart 160.076—Inflatable Recreational Personal Flotation Devices

SOURCE: CGD 94-110, 60 FR 32848, June 23, 1995, unless otherwise noted.

§ 160.076-1 Scope.

(a) This subpart contains structural and performance standards for approval of inflatable recreational personal flotation devices (PFDs), as well as requirements for production follow-up inspections, associated manuals, information pamphlets, and markings.

(b) Inflatable PFDs approved under this subpart—

- (1) Rely entirely upon inflation for buoyancy; and
- (2) Are approved for use by adults only.

§ 160.076-3 Applicability.

Inflatable PFDs approved under this subpart may be used to meet the carriage requirements of 33 CFR 175.15 and 175.17 on the following types of vessels only:

- (a) Recreational vessels.
- (b) Uninspected recreational submersible vessels.

§ 160.076-5 Definitions.

As used in this part:

Commandant means the Chief of the Lifesaving and Fire Safety Standards Division, Marine Safety and Environmental Protection. Address: Commandant (CG-5214), U.S. Coast Guard Headquarters, 2100 2nd St., SW., Stop 7126, Washington, DC 20593-7126; phone: 202-372-1392; facsimile: 202-372-1924.

Conditional approval means a category of PFD which has condition(s) on its approval with which the user must comply in order for the PFD to be counted toward meeting the carriage requirements of the vessel being used. All conditionally approved PFDs are designated Approval Type V.

First quality workmanship means construction which is free from any defect materially affecting appearance or serviceability.

Inflation medium means any solid, liquid, or gas that, when activated, provides inflation for buoyancy.

Inspector means a recognized laboratory representative assigned to perform, supervise or oversee the duties described in §§160.076-29 and 160.076-31 of this subpart or any Coast Guard representative performing duties related to the approval.

MOU means memorandum of understanding which describes the approval functions a recognized independent laboratory performs for the Coast Guard, and the recognized independent laboratory's working arrangements with the Coast Guard.

Performance type means the in-water performance classification of the PFD (I, II, or III).

PFD means personal flotation device as defined in 33 CFR 175.13.

PFD Approval Type means the Type designation assigned by the Commandant, as documented in the approval certificate for the PFD, based

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primarily on the in-water performance and serviceability of the PFD.

Plans and specifications means the drawings, product description, construction specifications, and bill of materials submitted in accordance with § 160.076-13 for approval of a PFD design.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 95-072, 60 FR 50466, Sept. 29, 1995; CGD 94-110, 61 FR 13945, Mar. 28, 1996; CGD 96-041, 61 FR 50733, Sept. 27, 1996; USCG-2006-25697; 71 FR 55747, Sept. 25, 2006; USCG-2009-0702, 74 FR 49237, Sept. 25, 2009]

§ 160.076-7 PFD Approval Type.

(a) An inflatable PFD may be approved without conditions as a Type I, II, or III PFD for persons over 36 kg (80 lb) if it meets the requirements of this subpart.

(b) Each inflatable PFD that can be demonstrated to meet the in-water performance requirements of a type I, II or III PFD in UL 1180 during approval testing and the applicable requirements of this subpart provided that certain conditions are placed on its use, may be approved as a Type V PFD. Each such PFD has conditional approval.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13945, Mar. 28, 1996]

§ 160.076-9 Conditional approval.

(a) A conditionally approved inflatable PFD is categorized as a Type V PFD and may be used to meet the Coast Guard PFD carriage requirements of 33 CFR part 175 only if the PFD is used in accordance with any requirements on the approval label. PFDs marked "Approved only when worn" must be worn whenever the vessel is underway and the intended wearer is not within an enclosed space if the PFD is intended to be used to satisfy the requirements of 33 CFR part 175. Note: Additional approved PFDs may be needed to satisfy the requirements of 33 CFR part 175 if "Approved only when worn" PFDs are not worn.

(b) PFDs not meeting the performance specifications for type I, II, or III PFDs in UL 1180 may be classified as Type V, conditionally approved PFDs, when the Commandant determines that the performance or design characteris-

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tics of the PFD make such classification appropriate.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13945, Mar. 28, 1996]

§ 160.076-11 Incorporation by reference.

(a) Certain materials are incorporated by reference into this subpart with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than the one listed in paragraph (b) of this section, the Coast Guard must publish notice of the change in the FEDERAL REGISTER, and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA) and at the U.S. Coast Guard, Lifesaving and Fire Safety Division (CG-5214), 2100 2nd St., SW., Stop 7126, Washington, DC 20593-7126, and is available from the sources indicated in paragraph (b) of this section. For information on the availability of this material at NARA, call 202-741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) The materials approved for incorporation by reference in this subpart, and the sections affected are as follows:

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 751-95, Standard Test Methods for Coated Fabrics—160.076-25

ASTM D 1434-82 (1988), Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting—160.076-25

FEDERAL STANDARDS

Naval Publishing and Printing Center, Customer Service, 700 Robbins Avenue, Philadelphia, PA 19120.

In Federal Test Method Standard No. 191A (dated July 20, 1978) the following methods:

- (1) Method 5100, Strength and Elongation, Breaking of Woven Cloth; Grab Method, 160.076-25;
- (2) Method 5132, Strength of Cloth, Tearing; Falling-Pendulum Method, 160.076-25;
- (3) Method 5134, Strength of Cloth, Tearing; Tongue Method, 160.076-25.

UNDERWRITERS LABORATORIES (UL)

Underwriters Laboratories, Inc., 12 Laboratory Drive, Research Triangle Park, NC 27709-3995 (Phone (919) 549-1400; Facsimile: (919) 549-1842)

UL 1123, "Marine Buoyant Devices", February 17, 1995, 160.076-35;

UL 1180, "Fully Inflatable Recreational Personal Flotation Devices", May 15, 1995, 160.076-7; 160.076-21; 160.076-23; 160.076-25; 160.076-29; 160.076-31; 160.076-37; 160.076-39.

UL 1191, "Components for Personal Flotation Devices", May 16, 1995, 160.076-21; 160.076-25; 160.076-39.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 95-072, 60 FR 50467, Sept. 29, 1995, CGD 94-110, 61 FR 13945, Mar. 28, 1996; 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]

§ 160.076-13 Approval procedures for inflatable PFDs.

(a) Manufacturers seeking approval of an inflatable PFD design shall follow the procedures of this section and subpart 159.005 of this chapter.

(b) Each application for approval of an inflatable PFD must contain the information specified in § 159.005-5 of this chapter. The application must be submitted to a recognized laboratory. One copy of the application and, except as provided in paragraph (c)(2) of this section, a prototype PFD must be submitted to the Commandant for preapproval review. If a similar design has already been approved, the Commandant may authorize the recognized laboratory to waive the preapproval review under §§ 159.005-5 and 159.005-7 of this chapter.

(c) The application must include the following:

(1) Plans and specifications containing the information required by § 159.005-12 of this chapter, including drawings, product description, construction specifications, and bill of materials.

(2) The information specified in § 159.005-5(a)(2) (i) through (iii) of this chapter must be included in the application, except that, if preapproval review has been waived, the manufacturer is not required to send a prototype PFD sample to the Commandant.

(3) The type of performance (Type I, II, or III) that the PFD is designed to

provide along with the Approval Type sought (Type I, II, III, or V).

(4) Any special purpose(s) for which the PFD is designed and the vessel(s) or vessel type(s) on which its use is intended.

(5) Buoyancy, torque, and other relevant tolerances to be met during production.

(6) The text of any optional marking to be included on the PFD in addition to the markings required by § 160.076-39.

(7) A draft of the information pamphlet required by § 160.076-35.

(8) A draft of the owner's manual required by § 160.076-37.

(9) For any conditionally approved PFD, the intended approval condition(s).

(d) The description required by § 159.005-9 of this chapter of quality control procedures may be omitted if the manufacturer's planned quality control procedures meet the requirements of §§ 160.076-29 and 160.076-31.

(e) *Manual and pamphlet.* Before granting approval of a PFD design, the Commandant may require changes to the manual and information pamphlet submitted for review to ensure compliance with the requirements of §§ 160.076-35 and 160.076-37.

(f) *Waiver of tests.* A manufacturer may request that the Commandant waive any test prescribed for approval under this subpart. To request a waiver, the manufacturer must submit to the Commandant and the recognized laboratory, one of the following:

(1) Satisfactory test results on a PFD of sufficiently similar design as determined by the Commandant.

(2) Engineering analysis demonstrating that the test for which a waiver is requested is not appropriate for the particular design submitted for approval or that, because of its design or construction, it is not possible for the PFD to fail that test.

(g) *Alternative requirements.* A PFD that does not meet the requirements of this subpart may be approved by the Commandant if the device—

(1) Meets other requirements prescribed by the Commandant in place of or in addition to the requirements of this subpart; and

(2) As determined by the Commandant, provides at least the same

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degree of safety provided by other PFDs that meet the requirements of this subpart.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-15 Suspension or termination of approval.

As provided in §159.005-15 of this chapter, the Commandant may suspend or terminate the approval of an inflatable PFD design if the manufacturer fails to comply with this subpart or the recognized laboratory's accepted procedures or requirements.

§ 160.076-17 Approval of design or material changes.

(a) The manufacturer must submit any proposed changes in design, material, or construction to the recognized laboratory and the Commandant for approval before changing PFD production methods.

(b) Determinations of equivalence of design, construction, and materials may be made only by the Commandant or a designated representative.

§ 160.076-19 Recognized laboratories.

(a) *PFDs.* The following laboratories are recognized under §159.010-9 of this chapter to perform the approval and production oversight functions required by this subpart:

Underwriters Laboratories, Inc., 12 Laboratory Drive, P.O. Box 13995, Research Triangle Park, NC 27709-3995, (919) 549-1400.

(b) *Components.* The following laboratories are recognized under subpart 159.010 of this chapter and may perform the component material acceptance, production oversight, and certification functions required by §160.076-21(a)(1):

Underwriters Laboratories, Inc., 12 Laboratory Drive, P.O. Box 13995, Research Triangle Park, NC 27709-3995, (919) 549-1400.

§ 160.076-21 Component materials.

(a) Each component material used in the manufacturer of an inflatable PFD must—

(1) Meet the applicable requirements of subpart 164.019 of this chapter, UL 1191, UL 1180, and this section; and

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(2) Be of good quality and suitable for the purpose intended.

(b) The average permeability of inflation chamber material, determined in accordance with the procedures specified in §160.076-25(d)(2)(iii) must not be more than 110% of the permeability of the materials determined in approval testing required by §160.076-25(d)(2)(iii).

(c) The average grab breaking strength and tear strength of the inflation chamber material, determined in accordance with the procedures specified in §§160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii), must be at least 90% of the grab breaking strength and tear strength determined from testing required by §§160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii). No individual sample result for breaking strength or tear strength may be more than 20% below the results obtained in approval testing.

(d) Each manual, automatic, or manual-auto inflation mechanism must be marked in accordance with §160.076-39(e).

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-23 Construction and performance requirements.

(a) Each inflatable PFD design must—

(1) Meet the requirements in UL 1180 applicable to the PFD performance type for which approval is sought; and

(2) Meet any additional requirements that the Commandant may prescribe to approve unique or novel designs.

(b) [Reserved]

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-25 Approval testing.

(a) To obtain approval of an inflatable PFD design, approval tests specified in UL 1180 and this section must be conducted or supervised by a recognized laboratory using PFDs that have been constructed in accordance with the plans and specifications submitted with the application for approval.

(b) Each PFD design must pass the tests required by UL 1180 and this section that are applicable to the PFD

performance type for which approval is sought.

(c) Each test subject participating in the tests in UL 1180, section 6 shall in addition, demonstrate that the test subject can repack the PFD such that it can be used in the donning tests and manual activation tests required by—

(1) Section 6.2.3 of UL 1180; and

(2) Sections 6.4.1, and 6.4.2 of UL 1180, if the test engineer cannot verify that the manual and oral inflators are properly stowed.

(d) Each PFD design must pass the following tests and evaluations:

(1) *Visual examination.* The complete PFD must be visually examined for compliance with the construction and performance requirements of §§ 160.076–21 and 160.076–23 and UL 1180 and 1191.

(2) *Inflation chamber properties.* The following tests must be conducted after successful completion of all other approval tests. The test samples used in the following tests must come from one or more PFDs that were each used in all the Use Characteristics Tests required by UL 1180 section 6.

(i) *Grab breaking strength.* The grab breaking strength of chamber materials must be determined in accordance with Method No. 5100 of Federal Test Method Standard 191 or ASTM D 751 (incorporated by reference, see § 160.076–11).

(ii) *Tear strength.* The tear strength of chamber materials must be determined in accordance with Method No. 5132 or 5134 of Federal Test Method Standard 191 or ASTM D 751 (incorporated by reference, see § 160.076–11).

(iii) *Permeability.* The permeability of chamber materials must be determined in accordance with ASTM D 1434 (incorporated by reference, see § 160.076–11) using CO₂ as the test gas.

(iv) *Seam strength.* The seam strength of the seams in each inflation chamber of at least one PFD must be determined in accordance with ASTM D 751 (incorporated by reference, see § 160.076–11) except that 25 by 200 mm (1 by 8 in.) samples may be used where insufficient length of straight seam is available.

(e) *Additional tests.* The Commandant may prescribe additional tests for approval of novel or unique designs.

[CGD 94–110, 60 FR 32848, June 23, 1995, as amended by CGD 94–110, 61 FR 13946, Mar. 28, 1996; USCG–2000–7790, 65 FR 58463, Sept. 29, 2000]

§ 160.076–27 [Reserved]

§ 160.076–29 Production oversight.

(a) Production tests and inspections must be conducted in accordance with this section and subpart 159.007 of this chapter unless the Commandant authorizes alternative tests and inspections. The Commandant may prescribe additional production tests and inspections necessary to maintain quality control and to monitor compliance with the requirements of this subpart.

(b) Production oversight must be performed by the same laboratory that performs the approval tests unless the Commandant determines that the employees of an alternative laboratory have received training and have access to the same information as the inspectors of the laboratory that conducted the approval testing.

(c) In addition to responsibilities set out in part 159 of this chapter and the accepted Laboratory Follow-up Procedures, each manufacturer of an inflatable PFD and each recognized laboratory inspector shall comply with the following, as applicable:

(1) *Manufacturer.* Each manufacturer must—

(i) Except as provided in paragraph (e)(2) of this section, perform all required tests and examinations on each PFD lot before any required inspector's tests and inspection of the lot;

(ii) Follow established procedures for maintaining quality control of the materials used, manufacturing operations, and the finished product;

(iii) Implement a continuing program of employee training and a program for maintaining production and test equipment;

(iv) Admit the inspector to any place in the factory where work is done on PFDs or component materials, and where parts or completed PFDs are stored;

(v) Have an inspector observe the production methods used in producing

the first PFD lot and observe any revisions in production methods made thereafter; and

(vi) Allow the inspector to take samples of completed PFDs or of component materials for tests required by this subpart and for tests relating to the safety of the design.

(2) *Recognized laboratory oversight.* An inspector from a recognized laboratory shall oversee production in accordance with the MOU. During production oversight, the inspector shall not perform or supervise any production test or inspection unless—

(i) The manufacturer has a valid approval certificate; and

(ii) The inspector has first observed the manufacturer's production methods and any revisions to those methods.

(3) The inspector must perform or supervise testing and inspection of at least one in each five lots of PFDs produced.

(4) During each inspection, the inspector must check for compliance with the manufacturer's quality control procedures.

(5) Except as provided in paragraph (c)(6) of this section, at least once each calendar quarter, the inspector must examine the manufacturer's records required by §160.076–33 and observe the manufacturer perform each of the tests required by §160.076–31(c).

(6) If less than six lots are produced during a calendar year, only one lot inspection and one records' examination are required during that year. Each lot tested and inspected under paragraph (c)(3) of this section must be within seven lots of the previous lot inspected.

(d) *PFD lots.* A lot number must be assigned in accordance with UL 1180 to each group of PFDs produced. Lots must be numbered serially. A new lot must be started whenever any change in materials or a revision to a production method is made, and whenever any substantial discontinuity in the production process occurs. Changes in lots of component materials must be treated as changes in materials. The lot number assigned, along with the approval number, must enable the PFD manufacturer, by referring to the records required by this subpart, to de-

termine the supplier of the components used in the PFD and the component supplier's identifying information for the component lot.

(e) *Samples.* For the tests, examinations, and inspections required by §160.076–31, inspectors and manufacturers shall select samples as provided in this paragraph.

(1) Samples shall be selected at random from a lot in which all PFDs or materials in the lot are available for selection. Except as provided in §160.076–31(c), samples must be selected from completed PFDs.

(2) Different samples must be selected for the manufacturer's and inspector's tests, except, if the total production for any five consecutive lots does not exceed 250 PFDs, the manufacturer's and inspector's tests may be run on the same sample(s) at the same time.

(3) The number of samples selected per lot must be at least equal to the applicable number required by Table 160.076–29A for manufacturers or Table 160.076–29B for inspectors.

(4) The following additional requirements apply as indicated in Table 160.076–29A to individual sample selections by manufacturers:

(i) Samples must be selected from each lot of incoming material. The tests required under paragraphs 160.076–25(d)(2)(i) through 160.076–25(d)(2)(iv) prescribe the number of samples to select.

(ii) Samples selected for the indicated tests may not be used for more than one test.

(iii) If a sample fails the over-pressure test, the number of samples to be tested in the next lot produced must be at least two percent of the total number of PFDs in the lot or 10 PFDs, whichever is greater.

(iv) The indicated test must be conducted at least once each calendar quarter or whenever a new lot of material is used or a production process is revised.

(5) The following additional requirements apply as indicated in Table 160.076–29B to individual sample selections by inspectors:

(i) Samples selected for the indicated tests may not be used for more than one test.

(ii) The indicated test may be omitted if it was conducted by the manufacturer on the materials used and by the inspector on a previous lot within the past 12 months.

(iii) One sample of each means of marking on each type of fabric or finish used in PFD construction must be tested at least every six months or whenever a new lot of materials is used.

TABLE 160.076-29A—MANUFACTURER’S SAMPLING PLAN

Lot size:	Number of Samples Per Lot					
	1-100	101-200	201-300	301-500	501-750	751-1000
Tests:						
Inflation Chamber Materials			See Note (a)			
Seam Strength	1	1	2	2	3	4
Over-pressure (b)(c)	1	2	3	4	6	8
Air Retention	EVERY DEVICE IN THE LOT					
Buoyancy and Inflation Medium Retention	1	2	3	4	6	8
Tensile Strength	See Note (a)					
Detailed Product Examination	2	2	3	4	6	8
Retest Sample Size (b)			13	13	20	20
Final Lot Inspection	EVERY DEVICE IN THE LOT					

Notes to Table: (a) See § 160.076-29(e)(4)(i). (b) See § 160.076-29(e)(4)(ii). (c) See § 160.076-29(e)(4)(iii). (d) See § 160.076-29(e)(4)(iv).

TABLE 160.076-29B—INSPECTOR’S SAMPLING PLAN

Lot size:	Number of Samples Per Lot					
	1-100	101-200	201-300	301-500	501-750	751-1000
Tests:						
Over-pressure (a)	1	1	2	2	3	4
Air Retention	1	1	2	2	3	4
Buoyancy & Inflation Medium Retention	1	1	2	2	3	4
Tensile Strength	See Note (b)					
Waterproof marking	See Note (c)					
Detailed Project Examination	1	1	1	2	2	3
Retest Sample Size (a)	10	10	13	13	20	20
Final Lot Inspection	10	15	20	25	27	30

Notes to Table: (a) See § 160.076-29(e)(5)(i). (b) See § 160.076-29(e)(5)(ii). (c) See § 160.076-29(e)(5)(iii).

(f) *Accept/reject criteria: manufacturer testing.* (1) A PFD lot passes production testing if each sample passes each test.

(2) In lots of 200 or less PFDs, the lot must be rejected if any sample fails one or more tests.

(3) In lots of more than 200 PFDs, the lot must be rejected if—

(i) One sample fails more than one test;

(ii) More than one sample fails any test or combination of tests; or

(iii) One sample fails one test and in redoing that test with the number of samples specified for retesting in Table 160.076-29A, one or more samples fail the retest.

(4) A rejected PFD lot may be retested only if allowed under § 160.076-31(e).

(g) *Accept/reject criteria: independent laboratory testing.* (1) A lot passes pro-

duction testing if each sample passes each test.

(2) A lot must be rejected if—

(i) A sample fails more than one test;

(ii) More than one sample fails any test or combination of tests; or

(iii) One sample fails one test and in redoing that test with the number of samples specified for retesting in Table 160.076-29B, one or more samples fail the test.

(3) A rejected lot may be retested only if allowed under § 160.076-31(e).

(h) *Facilities and equipment—(1) General.* The manufacturer must provide the test equipment and facilities necessary for performing production tests, examinations, and inspections, unless Commandant has accepted testing at a location other than the manufacturer’s facility.

(2) *Calibration.* The manufacturer must have the calibration of all test equipment checked at least every six months by a weights and measures agency or the equipment manufacturer, distributor, or dealer.

(3) *Facilities.* The manufacturer must provide a suitable place and the necessary equipment for the inspector to use in conducting or supervising tests. For the final lot inspection, the manufacturer must provide a suitable working environment and a smooth-top table for the inspector's use.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996; 61 FR 15868, 61 FR Apr. 9, 1996]

§ 160.076-31 Production tests and examinations.

(a) Samples used in testing must be selected in accordance with § 160.076-29(e).

(b) On each sample selected—

(1) The manufacturer must conduct the tests in paragraphs (c)(2) through (c)(8) of this section;

(2) The recognized laboratory inspector must conduct or supervise the tests in paragraphs (c)(4) through (c)(8) of this section; and

(3) In addition to meeting the requirements of this section, each test result must meet the requirements, if any, contained in the approved plans and specifications.

(c) When conducting the tests specified by this paragraph, the following conditions must be met:

(1) *Inflation chamber materials.* The average and individual results of testing the minimum number of samples prescribed by § 160.076-25(d)(2) must comply with the requirements in § 160.076-21 (b) and (c) for permeability, grab strength, and tear strength. Lots not meeting this requirement must be rejected and, unless authorized by the Commandant, may not be subdivided and retested.

(2) *Seam strength.* The seams in each inflation chamber of each sample must be tested in accordance with § 160.076-25(d)(2)(iv). The results for each inflation chamber must be at least 90% of the results obtained in approval testing.

(3) *Over-pressure.* Each sample must be tested in accordance with and meet

UL 1180 section 7.15. Prior to initiating the test at the specified values, samples may be prestressed by inflating them to a greater pressure than the required test pressure.

(4) *Air retention.* Each sample must be tested in accordance with and meet UL 1180 section 7.16. Prior to initiating the test at the specified values, test samples may be prestressed by inflating to a pressure greater than the design pressure, but not exceeding 50 percent of the required pressure for the tests in paragraph (c)(3) of this section. No alternate test method may be used that decreases the length of the test unless authorized by the Commandant. Such alternative test must require a proportionately lower allowable pressure loss and the same percentage sensitivity and accuracy as the standard allowable loss measured with the standard instrumentation.

(5) *Buoyancy and inflation medium retention.* Each sample must be tested in accordance with and meet UL 1180 section 7.2.2-7.2.10, except 7.2.5. Each buoyancy value must fall within the tolerances specified in the approved plans and specifications.

(6) *Tensile strength.* Each sample primary closure system must be tested in accordance with and meet UL 1180 section 7.4.1 and .2.

(7) *Detailed product examination.* Each sample PFD must be disassembled to the extent necessary to determine compliance with the following:

(i) All dimensions and seam allowances must be within tolerances prescribed in the approved plans and specifications.

(ii) The torque of each screw type mechanical fastener must be within its tolerance as prescribed in the approved plans and specifications.

(iii) The arrangement, markings, and workmanship must be as specified in the approved plans and specifications and this subpart.

(iv) The PFD must not contain any apparent defects.

(8) *Waterproof Marking Test.* Each sample must be completely submerged in fresh water for at least 30 minutes. The sample must then be removed, immediately placed on a hard surface, and the markings vigorously rubbed with

the fingers for 15 seconds. If the printing becomes illegible, the sample must be rejected.

(d) *Final lot examination and inspection*—(1) *General*. On each PFD lot that passes production testing, the manufacturer shall perform a final lot examination and, on every fifth lot, a laboratory inspector shall perform a final lot inspection. Samples must be selected in accordance with paragraph §160.076-29(e). Each final lot must demonstrate—

- (i) First quality workmanship;
- (ii) That the general arrangement and attachment of all components, such as body straps, closures, inflation mechanisms, tie tapes, and drawstrings, are as specified in the approved plans and specifications;
- (iii) Compliance with the marking requirements in §160.076-39; and
- (iv) That the information pamphlet and owner's manual required by §160.076-35 and 160.076-37, respectively, are securely attached to the device, with the pamphlet selection information visible and accessible prior to purchase.

(2) *Accept/reject criteria*. Each nonconforming PFD must be rejected. If three or more nonconforming PFDs are rejected for the same kind of defect, lot examination or inspection must be discontinued and the lot rejected.

(3) *Manufacturer examination*. This examination must be conducted by a manufacturer's representative who is familiar with the approved plans and specifications, the functioning of the PFD and its components, and the production testing procedures. This person must not be responsible for meeting production schedules or be supervised by someone who is. This person must prepare and sign the record required by 159.007-13(a) of this chapter and 160.076-33(b).

(4) *Independent laboratory inspection*. (i) The inspector must discontinue lot inspection and reject the lot if examination of individual PFDs or the records for the lot shows noncompliance with either this section or the laboratory's or the manufacturer's quality control procedures.

(ii) If the inspector rejects a lot, the inspector must advise the Commandant

or the recognized laboratory within 15 days.

(iii) The inspector must prepare and sign the inspection record required by 159.007-13(a) of this chapter and 160.076-33(b). If the lot passes, the record must include the inspector's certification that the lot passed inspection and that no evidence of noncompliance with this section was observed.

(e) *Disposition of rejected PFD lot or PFD*. (1) A rejected PFD lot may be resubmitted for testing, examination or inspection if the manufacturer first removes and destroys each defective PFD or, if authorized by the Commandant, reworks the lot to correct the defect.

(2) Any PFD rejected in a final lot examination or inspection may be resubmitted for examination or inspection if all defects have been corrected and re-examination or reinspection is authorized by the Commandant.

(3) A rejected lot or rejected PFD may not be sold or offered for sale under the representation that it meets this subpart or that it is Coast Guard-approved.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-33 Manufacturer records.

(a) Each manufacturer of inflatable PFDs shall keep the records of production inspections and tests as required by §159.007-13 of this chapter, except that they must be retained for at least 120 months after the month in which the inspection or test was conducted.

(b) In addition to the information required by §159.007-13 of this chapter, the manufacturer's records must also include the following information:

(1) For each test, the serial number of the test instrument used if more than one test instrument was available.

(2) For each test and inspection, the identification of the samples used, the lot number, the approval number, and the number of PFDs in the lot.

(3) For each lot rejected, the cause for rejection, any corrective action taken, and the final disposition of the lot.

(4) For all materials used in production the—

- (i) Name and address of the supplier;

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- (ii) Date of purchase and receipt;
- (iii) Lot number; and
- (iv) Where required by §164.019-5 of this chapter, the certification received with standard components.
- (5) A copy of this subpart.
- (6) Each document incorporated by reference in §160.076-11.
- (7) A copy of the approved plans and specifications.
- (8) The approval certificate obtained in accordance with §2.75-1 and 2.75-5 of this chapter.
- (9) Certificates evidencing calibration of test equipment, including the identity of the agency performing the calibration, date of calibration, and results.
- (c) A description or photographs of procedures and equipment used in testing required by §159.007-13(a)(4) of this chapter, is not required if the manufacturer's procedures and equipment meet the requirements of this subpart.
- (d) The records required by paragraph (b)(4) of this section must be kept for at least 120 months after preparation. All other records required by paragraph (b) of this section must be kept for at least 60 months after the PFD approval expires or is terminated.

§ 160.076-35 Information pamphlet.

A pamphlet that is consistent in format to that specified in UL 1123 must be attached to each inflatable PFD sold or offered for sale in such a way that a prospective purchaser can read the pamphlet prior to purchase. The pamphlet text and layout must be submitted to the Commandant for approval. The text must be printed in each pamphlet exactly as approved by the Commandant. Additional information, instructions, or illustrations must not be included within the approved text and layout. Sample pamphlet text and layout may be obtained by contacting the Commandant. This pamphlet may be combined with the manual required by §160.076-37 if PFD selection and warning information is provided on the PFD packaging in such a way that it remains visible until purchase.

§ 160.076-37 Owner's manual.

- (a) *General.* The manufacturer must provide an owner's manual with each

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inflatable PFD sold or offered for sale. A draft of the manual for each model must be submitted for approval in accordance with §160.076-13.

- (b) *Manual contents.* Each owner's manual must contain the information specified in section 11 of UL 1180, and, if the PFD is conditionally approved, an explanation of the meaning of, and reasons for, the approval conditions.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13947, Mar. 28, 1996]

§ 160.076-39 Marking.

- (a) *General.* Each inflatable PFD must be marked as specified in UL 1180 section 10 and this section.

- (b) PFD Type. Based on its approval certificate, each PFD must be marked as follows—

- (1) "Type I PFD";
- (2) "Type II PFD";
- (3) "Type III PFD"; or

- (4) "Type V [*insert exact text of description noted on the approval certificate, if any*] PFD—[*insert text required by paragraph (c) of this section*]. This PFD provides in-water performance equivalent to a Type [*insert performance type criteria noted on the approval certificate*] PFD."

- (c) A Type V, conditionally approved, inflatable PFD must be marked with the approval conditions specified on the approval certificate.

- (d) *Additional markings.* (1) Unless otherwise noted on the approval certificate, each inflatable PFD must be marked with the following:

- (i) "NOT APPROVED TO MEET CARRIAGE REQUIREMENTS ON COMMERCIAL VESSELS."

- (ii) The unique model, style, or part number of the inflation mechanism approved for use on the PFD.

- (2) [Reserved]

- (e) *Inflation mechanisms.* Each manual, automatic, or manual-auto inflation mechanism must be permanently marked with its unique model number.

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13947, Mar. 28, 1996]