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AUTHORITY: 46 U.S.C. 3306, 3703, 4302; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; DHS Delegation 00170.1, Revision No. 01.4.

EDITORIAL NOTE: Nomenclature changes to part 164 appear by USCG–2012–0832, 77 FR 59787, Oct. 1, 2012.

Subpart 164.003—Kapok, Processed

SOURCE: 11 FR 188, Jan. 3, 1946, unless otherwise noted.

§ 164.003–1 Applicable specifications.

(a) There are no other specifications applicable to this subpart.

(b) [Reserved]

§ 164.003–2 Grades.

(a) Processed kapok shall be of but one grade as in this subpart.

(b) [Reserved]

§ 164.003–3 Material and workmanship.

(a) The raw kapok fiber shall be long, clean, creamy white in color, lustrous, free from discoloration and adulteration with other fiber, and of a quality equal to that grown in Java.

(b) Kapok shall be processed by teasing in a machine using the air-blow method. Mechanical separation of fiber masses is permitted, but machines using violent beating which breaks down the fibers or causes undue powdering or pulverizing are not permitted. Provision shall be made for trapping seeds and heavy objects in gravity traps and the dust or powder in an efficient dust collector.

(c) Processed kapok shall have a buoyancy in fresh water of at least 48 pounds per cubic foot when tested in accordance with § 164.003–4(d). Rejected kapok shall not be used in lifesaving products inspected by the Coast Guard.

(d) The processed kapok shall contain not more than 5 percent by weight of sticks, seeds, dirt or other foreign material and shall be free from objectionable odor and adulteration with other fibers.

[11 FR 188, Jan. 3, 1946, as amended by USCG–2014–0688, 79 FR 58286, Sept. 29, 2014]

§ 164.003–4 Inspections and tests.

(a) Kapok fibers to be used in a finished product subject to inspection by the Coast Guard shall be subject to inspection and tests at the plant of the manufacturer of such product, who shall furnish the necessary testing tank, test cages, and scales.

(b) Acceptance of kapok prior to being incorporated into finished products, or during the course of manufacture, shall in no case be construed as a guarantee of the acceptance of the finished product.

(c) Not less than a one-pound sample from each 1,000 pounds of kapok shall be tested for buoyancy by the inspector. At his discretion, the inspector may select additional samples for tests if deemed advisable.

(d) The buoyancy test shall be made with 16 ounces of processed kapok uniformly packed in a rigid wire box or cage with metal reinforced edges, and submerged by weights in a tank of fresh water to a depth of 12 inches

below the surface of the water, measurement made to the top of box, for 48 hours. The test box shall be cylindrical in shape, and as nearly as practicable ⅓ cubic foot in volume, 4 inches deep, 13.54 inches diameter, all inside measurements; constructed of about 0.065 inch galvanized iron wire with about ¼ inch mesh, and lined with about 0.007 inch copper wire screen about 18 meshes to the inch, to prevent the kapok from pushing out through the larger wire meshes. At the end of forty-eight hours submergence, the buoyancy shall be determined by subtracting the submerged weight of the box, accessory weights and kapok from the submerged weight of the box and weights without the kapok, and dividing the remainder by the volume of the kapok expressed in cubic feet.

(e) Kapok fiber shall, at the option of the inspector, be subjected to a microscopic examination to detect adulteration with other fiber.

(f) Processed kapok shall, at the option of the inspector, be subjected to separation of kapok fibers from foreign matter by hand, the portions of each weighed, and percentage of foreign matter computed for compliance with § 164.003–3(d).

§ 164.003–5 Procedure for approval.

(a) Processed kapok is not subject to formal approval, but will be accepted by the inspector on the basis of this subpart for use in the manufacture of lifesaving equipment utilizing it.

(b) [Reserved]

Subpart 164.006—Deck Coverings for Merchant Vessels

SOURCE: CGFR 53–25, 18 FR 7874, Dec. 5, 1953, unless otherwise noted.

§ 164.006–1 Applicable specifications.

(a) There are no other specifications applicable to this subpart.

(b) [Reserved]

§ 164.006–2 Grades.

(a) Deck coverings shall be of but one grade as specified in this subpart, and shall be known as ''an approved deck covering.''

(b) [Reserved]

§ 164.006–3 Construction, materials, and workmanship.

(a) It is the intent of this specification to obtain a deck covering made largely of incombustible materials with low heat transmission qualities which will produce a minimum of smoke when exposed to high temperatures.

(b) Deck coverings shall be of such a quality as to successfully pass all of the tests set forth in § 164.006–4.

§ 164.006–4 Inspection and testing.

(a) All tests shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard.

(b) *Smoke tests.* (1) A sample of each thickness submitted shall be tested for smoke emission. Each sample shall be laid on a ¼″ × 12″ × 27″ steel plate. Normal protective coatings and deck attachments shall be incorporated in the samples. Each sample shall be heated in a furnace whose temperature is limited to the standard decking curve reaching 1,325 degrees F. at the end of one hour. Smoke observations shall be made at intervals not greater than five minutes during the one-hour period of test.

(2) Instantaneous values of the percent of light transmission shall be calculated from the observations noted in paragraph (b)(1) of this section. A plot of light transmission values shall be made using straight lines between instantaneous values.

(3) Any instantaneous value of 10 percent light transmission or less shall be considered sufficient cause for rejection of a deck covering.

(4) Average values of light transmission shall be calculated for 15, 30, and 60 minutes. Averages shall be an arithmetic mean with values taken at one minute intervals from the plotted curve noted in paragraph (b)(2) of this section. If any of the three average values of light transmission is less than the values set forth below, it will be considered sufficient cause for rejection of a deck covering:

15 minutes—90 percent light transmission.
30 minutes—60 percent light transmission.
60 minutes—50 percent light transmission.

(c) *Fire resistance and integrity tests.* (1) A sample of each thickness submitted shall be tested for fire resistance and integrity. Each sample shall be laid on a ¼″ × 12″ × 27″ steel plate. Normal protective coatings and deck attachments shall be incorporated in the samples. Each sample shall be heated in a furnace whose temperature is controlled according to the standard fire exposure curve reaching 1,700 degrees F. at the end of one hour. Temperature of the unexposed side as indicated by a thermocouple under a 0.40 inch asbestos pad shall be observed at intervals not greater than 5 minutes during the one-hour period of test.

(2) Data from these tests shall be analyzed to determine the thicknesses necessary to limit the average temperature rise on the unexposed surface to 250 degrees F. above the original temperature at the end of 15, 30, and 60 minutes.

(3) Excessive cracking, buckling, or disintegration may be considered cause for rejection.

(d) *Organic carbon content test.* (1) The organic carbon content shall be determined and shall not exceed 0.12 gram per cubic centimeter of the molded deck covering.

(e) *Spot check tests.* (1) Deck coverings are not inspected at regularly scheduled factory inspections; however, the cognizant Officer in Charge, Marine Inspection, may detail a marine inspector at any time to visit any place where deck coverings are manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection or tests. The marine inspector shall be admitted to any place where work is done on deck coverings or component materials.

(2) Manufacturers of approved deck coverings shall maintain quality control of materials used, manufacturing methods, and the finished product so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval, but the Coast Guard also reserves the right to make spot-check tests of approved deck coverings at any time on samples selected by a marine inspector at the place of manufacture or samples obtained from other sources in the field. The manufacturer will incur no expense for such tests, but the results shall be binding upon the approval of his product. The manufacturer will be advised in advance of the time of testing of the samples selected and may witness the tests if he so desires.

[CGFR 53–25, 18 FR 7874, Dec. 5, 1953, as amended by CGFR 61–15, 26 FR 9302, Sept. 30, 1961]

§ 164.006–5 Procedure for approval.

(a) If a manufacturer desires to have a deck covering approved, a request shall be presented to the Commandant of the Coast Guard, together with the following information:

(1) The trade name and designation of the deck covering.

(2) The range of thicknesses in which it is proposed to lay the deck covering together with any information the manufacturer may have as to maximum or minimum thicknesses.

(3) Description of method of attachment to or protection of the steel deck together with the trade name and designation of adhesive or protective coating if used.

(4) A sample of the molded deck covering at least 6 inches square and ¼ inch thick. This may or may not be attached to a backing material at the manufacturer's option.

(b) The material submitted will be examined and the manufacturer advised as to the number and thicknesses of samples to be submitted together with the estimated cost of the tests.

(c) If the deck covering is indicated as being suitable, the manufacturer shall then submit the following:

(1) Two samples of each thickness to be tested laid in the manner designated on a ¼″ × 12″ × 27″ steel plate for the purpose of the smoke test and fire resistance and integrity test noted in § 164.006–4 (b) and (c).

(2) Sufficient bulk material (unmixed) to lay a sample one inch thick on an area of 12″ × 27″. If an adhesive or protective coating is used, a liberal sample shall be supplied.

(3) If the manufacturer desires to witness the tests, he should so indicate at this time.

(4) A commitment that he will reimburse the National Bureau of Standards for the cost of the tests when billed by them.

(d) The above material will be submitted to the National Bureau of Standards by the Coast Guard for testing. The tests noted in § 164.006–4 will be conducted and a report submitted to the Coast Guard.

(e) A copy of the test report will be forwarded to the manufacturer and he will be advised if his material is approved under this specification, and if approved, in what thicknesses it may be laid, and in what thicknesses it must be laid to meet the requirements for Class A–60 decks without the use of any other insulating material. If approved, this information will be published in the FEDERAL REGISTER.

[CGFR 53–25, 18 FR 7874, Dec. 5, 1953, as amended by CGFR 61–62, 27 FR 180, Jan. 6, 1962]

§ 164.006–6 Alternative materials.

Products approved under approval series 164.106 may be used where products approved under this subpart are required.

[USCG–2012–0196, 81 FR 48280, July 22, 2016]

Subpart 164.007—Structural Insulations

SOURCE: CGFR 69–72, 34 FR 17498, Oct. 29, 1969, unless otherwise noted.

§ 164.007–1 Applicable specification and referenced material.

(a) *Specification*. The following specification of the issue in effect on the date of manufacture of the structural insulation shall form a part of the regulations of this subpart (see §§ 2.75–17 through 2.75–19 of subchapter A (Procedures Applicable to the Public) of this chapter:

(1) Coast Guard specification:

Subpart 164.009 of this part, Incombustible Materials for Merchant Vessels.

(b) *Guidance*. For guidance you may use the following technical reference: ASTM E 119–98, Standard Test Methods for Fire Tests of Building Construction and Materials. You may obtain it from The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(c) *Copies on file*. A copy of the specification listed in paragraph (a) of this section shall be kept on file by the manufacturer, together with the certificate of approval and this specification. It is the manufacturer's responsibility to have the latest issue of the specification on hand together with the certificate of approval and approved plans when manufacturing under this specification subpart.

(1) The Coast Guard specification may be obtained from the Coast Guard Headquarters. Contact Commandant (CG–ENG), Attn: Office of Design and Engineering Systems, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509.

[CGFR 69–72, 34 FR 17498, Oct. 29, 1969, as amended by CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–1999–5151, 64 FR 67185, Dec. 1, 1999; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60161, Sept. 30, 2013]

§ 164.007–2 Purpose.

The purpose of this specification is to set forth tests necessary to measure the insulation value of structural insulation specimens under fire exposure conditions. The tests are not intended to measure the integrity of structural components of an assembly Insulation meeting this specification is adequate to limit the average temperature rise of a steel bulkhead to 139 °C. (250 °F.) at the end of a 60-minute standard fire test.

§ 164.007–3 Conditions of approval.

(a) Structural insulation shall be of such quality as to successfully meet the requirements for an incombustible material as set forth in subpart 164.009 of this part.

(b) Structural insulation shall be of such quality and thickness as to successfully pass all of the tests set forth in § 164.007–4, and the retests required by § 164.007–8.

(c) The product shall be so marked as to be readily identifiable to an inspector in the field. The marking shall include the Coast Guard approval number.

§ 164.007–4 Testing procedure.

(a) *Tests.* All tests, including the retests, shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard.

(b) *Test of physical properties.* (1) Density measurement: The smallest sample for density measurements of solid materials shall be 30 cm × 30 cm (12″ × 12″) by the submitted thickness. Length and width measurements shall be made to the nearest 1 mm. (1/32″), thickness to the nearest 0.25 mm. (0.01″), allowance being made of any nonflatness of the major surfaces of the specimen. Measurements of dimensions of fibrous insulations shall be made to the nearest 1.5 mm. (1/16″) on a nominal 30 cm. (12″) cube assembled from sheets of thickness as received. The average of at least four measurements of each dimension shall be reported. The weight shall be determined with a scale or balance sensitive and accurate to 0.5 percent or less of the total weight. The dimensional and weight measurements shall not be made until the sample has been conditioned 1 week, or longer if required to reach constant weight, in an atmosphere at 23° ±1 °C. (73 °F. ±2°) and 50 percent relative humidity.

(2) Transfer to a previously dried and weighed wide-mouth weighing bottle provided with a glass stopper. Remove the stopper and heat the bottle and sample at 105° ±5 °C. (221° ±9 °F.) for 4 hours, insert the stopper, cool and weigh. Calculate the content of moisture and other volatiles as percent of the final dry weight of the sample.

(c) *Preparation of fire test specimens.* (1) The fire test specimens shall be conditioned to approximately constant weight with air being maintained at a relative humidity of 40 to 70 percent and a temperature of 15° to 25 °C. (50° to 77 °F.). After conditioning, but before testing, the temperature of the specimens shall not exceed 40 °C. (104 °F.).

(2) Representative samples of the structural insulation, of a thickness or thicknesses and density as specified in § 164.007–9(a)(5), shall be tested as part of an assembly which forms a portion of a vertical wall of a furnace. The assembly shall be at least 100 cm. × 150 cm. (40″ × 60″) in size. More than one sample may be tested, see § 164.007–7.

(3) The specimens shall be attached to a 5 ±0.3 mm. (3/16″) thick steel plate and mounted in the furnace with the steel plate forming the exterior wall of the furnace. Any stiffening members on the steel plate shall be installed on the face not adjacent to the insulation. Spacer strips of asbestos cement board or similar material, up to 5 cm. (2″) in width, shall be installed around the periphery of the panel. For fibrous insulations, the attachment to the steel plate shall be made by means of 5 mm. (0.19″) diameter steel pins on 30 cm. (12″) centers covered by 18-gage, 4 cm. (1½″) mesh expanded metal. Alternate methods will be given consideration. For other materials, typical installation practice shall be used.

(d) *Furnace control.* (1) The furnace temperature shall be determined by at least four mineral insulated thermocouples having rapid response, and distributed so as to represent fairly the furnace temperature and to insure as uniform heating as possible. The thermocouples shall be arranged so that the hot junction is approximately 10 cm. from the nearest point of the specimen.

(2) The furnace temperature shall be continuously controlled so as to follow the standard time-temperature curve within the accuracy specified in paragraph (d)(4) of this section.

(3) The standard time-temperature curve is defined by a smooth curve drawn through the following points:

At the beginning of the test, 20 °C. (68 °F.)
At the end of the first 5 minutes, 538 °C. (1,000 °F.).
At the end of the first 10 minutes, 704 °C. (1,300 °F.).
At the end of the first 30 minutes, 843 °C. (1,550 °F.).
At the end of the first 60 minutes, 927 °C. (1,700 °F.).

For a further definition of the time-temperature curve, see Appendix I of the ASTM Standard E–119, ''Fire Tests of Building Construction and Materials''.

(4) The accuracy of the furnace control shall be such that the area under the mean time-temperature curve is within 15 percent of the area under the standard time-temperature curve during the first 10 minutes of the test, within 10 percent during the first one-

half hour, and within 5 percent for any period after the first one-half hour. At any time after the first 10 minutes of the test the mean furnace temperature shall not differ from the standard curve by more than 100 °C. (180 °F.). Consideration will be given to adjusting the results for variation of the furnace exposure from that prescribed. If corrections are made, they shall be in accordance with the procedures set forth in the ASTM E–119.

(e) *Temperature of unexposed surface.* For the unexposed surface temperature measurement a thermocouple of 0.5 mm. (0.020″) diameter wires shall be soldered centrally with high temperature solder to one surface of a disc of copper 12 mm. in diameter and 0.2 mm. thick. The discs shall be covered with an oven-dry asbestos pad 50 mm. × 50 mm, and 4 mm. thick. The disc and the pad may be fixed to the surface of the steel plate by pins, tape, or a suitable adhesive. The asbestos pad shall have a density of approximately 1,000 kg./m.^{3} and thermal conductivity of 0.11 kcal/m/hr. × °C. at 100 °C. (212 °F.).

(f) *Temperature observations.* (1) All observations shall be taken at intervals not exceeding 5 minutes. The surface temperature on the exterior side of the steel plate shall be measured by thermocouples located as follows:

(i) One thermocouple located approximately in the center of each quadrant of the steel plate (four thermocouples total).

(ii) One thermocouple close to the center of the steel plate.

(iii) One thermocouple in way of or as close as possible to one of the pins or other through metallic connections (if any) used for holding the insulation in place.

(iv) Further thermocouples at the discretion of the testing laboratory or Coast Guard for the purpose of determining the temperature at points deemed likely to give a greater temperature rise than any of the abovementioned thermocouples.

(2) The average temperature rise on the unexposed surface shall be obtained by averaging the readings of the thermocouples mentioned in paragraphs (f)(1) (i) and (ii) of this section.

(g) *Other observations.* Throughout the test observations shall be made of all changes and occurrences, which are not criteria of performance, but which may create hazard in case of a fire; for example the emission of appreciable volumes of smoke or noxious vapors from the unexposed side of the test specimen. The specimen shall be examined after the test for changes that have taken place and the information shall be noted in the test report.

(h) *Duration of testing.* The test shall be continued for at least one hour or until the maximum surface temperature rise values noted in § 164.007–5(a) have been reached, whichever occurs later.

§ 164.007–5 Test requirements.

The insulation value of the specimens for the full scale test shall be such that the average temperature of the thermocouples on the unexposed surface described in § 164.007–4(f)(2) will not rise more than 139 °C. (250 °F.) above the initial temperature, nor will the temperature at any one point on the surface, including any through metallic connection, rise more than 181 °C. (325 °F.) above the original temperature at the end of 60 minutes. The results obtained on the small scale test 2′ × 2′ (60 cm. × 60 cm.) shall be recorded.

§ 164.007–6 Test report.

(a) The test report required shall contain at least the following:

(1) Name of manufacturer.

(2) Purpose of test.

(3) Test conditions and date of test.

(4) Description of the panel tested giving the details of the assembly comprising a steel plate, insulation (thickness and density) spacer strips and fastening and the method of mounting the panel assembly in the test furnace.

(5) Complete time-temperature data, including initial temperature, for each thermocouple together with curves of average temperature for the unexposed surface of the insulation and the thermocouple recording the highest temperature. In addition, for § 164.007–9(g)(2), complete time-temperature data consisting of a numerical time-temperature table for each furnace and each surface of insulation thermocouple together with the initial temperature of each thermocouple.

(6) A log maintained by the owner relative to deflections, cracking or loosening of the insulation, smoke or gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.

(7) Photographs of both sides of the panel before and after testing.

(8) Summary of test results.

(b) [Reserved]

§ 164.007–7 Analysis of results.

(a) When only one sample is tested, the results of the test shall be binding and no analysis by the Coast Guard will be undertaken.

(b) When more than one sample of the same density material is tested simultaneously and the results are not exact, the Coast Guard may analyze the results. Data from the tests may be analyzed to determine the minimum thickness to meet the requirements of § 164.007–5(a).

(c) Consideration will be given to correction for inaccurate furnace control in accordance with § 164.007–4(d)(4).

[CGFR 69–72, 34 FR 17498, Oct. 29, 1969; 34 FR 19030, Nov. 29, 1969]

§ 164.007–8 Retests.

(a) Manufacturers of approved structural insulation shall maintain quality control of materials used, manufacturing methods, and the finished product utilizing appropriate quality control testing so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval. Structural insulation materials are not inspected at regularly scheduled factory inspections; however, approved materials are subject to retest for continued compliance with the requirements of this subpart on the following basis:

(1) The Coast Guard may detail a marine inspector or other Coast Guard designated inspector at any time to visit any place where structural insulation is manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection, or tests. The inspector shall be admitted to any place where work is done on structural insulation or component materials.

(2) At a frequency of not less than once every 5 years following issuance of approval, samples of an approved material selected from production stock shall be forwarded by the inspector to the Commandant for testing in accordance with the requirements of this subpart. Where the plant is outside the jurisdiction of a Coast Guard District Commander, the frequency of such testing shall be once every 2 years. The cost of such testing shall be borne by the manufacturer. The nature of the product or its production may dictate a differing retest frequency.

(3) The Coast Guard reserves the right to make spot-check tests of approved structural insulation at any time on samples selected by a marine inspector obtained during installation on a vessel. The manufacturer will incur no expense for such tests, but the results, shall be binding upon the approval of his product.

(b) A small scale furnace test (2′ × 2′ furnace test 60 cm. × 60 cm.) shall be conducted. The time of failure shall not vary from the original small scale test values by more than 10 percent. In addition tests shall be conducted to determine incombustibility (§ 164.009), density and thickness. Values of retesting for density and thickness shall not vary from the original test values by more than 10 percent.

§ 164.007–9 Procedure for approval.

The following items shall be accomplished in sequential order.

(a) *Test request information*. If a manufacturer desires to have a structural insulation approved, a written request shall be submitted to the Commandant of the Coast Guard together with the following:

(1) If the material has already been approved as an incombustible material under subpart 164.009 of this part, the approval number of the material shall be indicated. If not, the procedure set forth in subpart 164.009 of this part shall be followed; and such approval shall be obtained prior to submittal under this specification.

(2) A description and trade name of the structural insulation.

(3) A statement of the composition of the material and the percentage of each component.

(4) A sample of the material at least 1 foot square in the thickness and density proposed by the manufacturer to be tested. When more than one thickness of a material of the same density is to be tested, only a sample of a single thickness need be submitted.

(5) The range of thicknesses and densities in which it is proposed to manufacture or use the material together with any information or recommendations that the manufacturer may have as to maximum or minimum thickness or density.

(6) The location of the place or places where the material will be manufactured.

(7) Description of attachment to or protection of the bulkhead or deck. If an adhesive is used, a liberal sample shall be supplied.

(8) A sketch showing typical installation methods and indicating limitations if any.

(9) A general statement describing manufacturing procedures indicating the degree of quality control exercised and the degree of inspection performed by outside organizations.

(10) A statement indicating proposed methods for field identification of the products as being approved. Identification shall include the Coast Guard approval numbers.

(b) *Test suitability*. The above information will be examined by the Coast Guard, and if it is indicated that the material is in all respects suitable for testing, the manufacturer will be so advised. Coast Guard comments on the manufacturer's recommended thickness and density of the sample or samples for the fire resistance test will be given at this time, together with the estimated cost of the required test.

(c) *Samples to be submitted*. If the material is indicated as being suitable for testing, the manufacturer shall submit a 100 cm. × 150 cm. (40″ × 60″) sample, a 30 cm. × 30 cm. (12″ × 12″) sample and a 60 cm. × 60cm. (24″ × 24″) sample for each thickness and density proposed to the Fire Research section of the National Bureau of Standards, Washington, DC 20234, and shall advise the Coast Guard of the shipment. A separate test will be made for each density of the material for which approval is desired.

(d) *Pretest information*. At this time the manufacturer shall submit to the Coast Guard the following:

(1) A statement that the material is offered for testing as described pursuant to paragraph (a)(3) of this section is completely representative of the product which will be manufactured and sold under U.S. Coast Guard approval if such approval is granted and that the shipbuilder will be advised of the proper installation methods and the limitations of the approval.

(2) A commitment that he will reimburse the National Bureau of Standards for the cost or review of the tests when billed by them.

(3) If the manufacturer desires to witness the test, he should so indicate at this time.

(e) *Test authorization*. The National Bureau of Standards will then be authorized to conduct the tests noted in § 164.007–4 and, upon completion of all testing, the manufacturer will be billed directly by the National Bureau of Standards. Four copies of the test report containing the information required by § 164.007–6 will be submitted to the Coast Guard.

(f) *Notification of results*. A copy of the report will be forwarded to the manufacturer and he will be advised if his material is approved under this subpart. If approved, any stipulations of the approval will be specified. This information will be published in the FEDERAL REGISTER, and a certificate of approval will be issued to the manufacturer.

(g) *Other laboratories*. (1) If the manufacturer desires to have the test conducted at some laboratory other than the National Bureau of Standards, this information shall be supplied at the time of initial contact with the Coast Guard. If the proposed laboratory is acceptable to the Coast Guard, the manufacturer will be so advised, and any special testing requirements together with any estimated cost of expenses incurred by the National Bureau of Standards for their review will be specified at this time. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present.

(2) The laboratory shall submit four copies of a detailed test report to the

Coast Guard together with representative samples of the material taken before and after testing. The test report and samples will be examined by the National Bureau of Standards for compliance with this subpart. The test report shall include the information required by § 164.007–6 together with any other pertinent data.

§ 164.007–10 Alternative materials.

Products approved under approval series 164.107 may be used where products approved under this subpart are required.

[USCG–2012–0196, 81 FR 48280, July 22, 2016]

Subpart 164.008—Bulkhead Panels

SOURCE: CGFR 69–72, 34 FR 17500, Oct. 29, 1969, unless otherwise noted.

§ 164.008–1 Applicable specification and reference material.

(a) *Specification*. The following specification of the issue in effect on the date of manufacture of the bulkhead panel shall form a part of the regulations of this subpart (see §§ 2.75–17 through 2.75–19 of subchapter A, Procedures Applicable to the Public, of this chapter):

(1) Coast Guard specification:

Subpart 164.009 of this part, Incombustible Materials for Merchant Vessels.

(b) *Guidance*. For guidance you may use the following technical reference: ASTM E 119–98, Standard Test Methods for Fire Tests of Building Construction and Materials. You may obtain it from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

(c) *Copies on file*. A copy of the specification listed in paragraph (a) of this section shall be kept on file by the manufacturer, together with the certificate of approval and this specification. It is the manufacturer's responsibility to have the latest issue of the specification on hand together with the certificate of approval and approved plans when manufacturing under this specification subpart.

(1) The Coast Guard specification may be obtained from the Commandant (CG–ENG), Attn: Office of Design and Engineering Systems, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509.

[CGFR 69–72, 34 FR 17500, Oct. 29, 1969, as amended by CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–1999–5151, 64 FR 67185, Dec. 1, 1999; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.008–2 Conditions of approval.

(a) Bulkhead panel material shall be of such quality as to successfully meet the requirements for an incombustible material as set forth in subpart 164.009 of this part.

(b) Bulkhead panels used in Class B–15 construction and as a component in Class A–30 or Class A–15 construction shall meet the thermal insulation requirements of § 164.008–4(a) for at least 15 minutes, and the integrity requirements of § 164.008–4(b) for at least 30 minutes.

(c) Bulkhead panels for use as a component in Class A–60 construction shall meet the thermal insulation requirements of § 164.008–4(a) for at least 15 minutes and the integrity requirements of § 164.008–4(b) for at least 60 minutes.

(d) The product shall be so marked as to be readily identifiable to an inspector in the field. The marking shall include the Coast Guard approval number.

(e) The specimen to be tested shall be representative of the typical installation on board a vessel and any limitations shall be shown on the sketch required by § 164.008–7(a)(7).

(f) The bulkhead panel shall successfully pass the retests required by § 164.008–6.

§ 164.008–3 Testing procedure.

(a) *Tests*. All tests, including the retests, shall be conducted at the National Bureau of Standards or other laboratories designated by the Coast Guard.

(b) *Preparation of test specimen*. (1) The test specimens shall be conditioned to approximately constant weight with the air being maintained at a relative humidity of 40 to 70 percent and a temperature of 15° to 25 °C. (59° to 77 °F.). After conditioning, but

before testing, the temperature of the specimen should not exceed 40 °C. (104 °F.).

(2) The specimens shall be mounted in the furnace in a vertical position in such a way as to give an exposed surface of at least 4.65 square meters (50 square feet) and a height of at least 2.44 meters (8 feet).

(3) The specimen shall be supported at the top and secured on the vertical sides and at the bottom in a manner representative of conditions in service. If provision for movement at the edges of a bulkhead panel is made for a particular construction in service, the specimen should stimulate these conditions.

(4) The method of securing shall be such that there is no possibility of misinterpretation of test results due to the passage of flame at the edges of the specimen when the method of fixing is not the subject of the test.

(c) *Furnace control.* (1) The furnace temperature shall be determined by at least four mineral insulated thermocouples having rapid response and distributed so as to represent fairly the furnace temperature and to insure as uniform heating as possible. The thermocouples shall be arranged so that the hot junction is approximately 10 cm. (4″) from the nearest point of the specimen.

(2) The furnace temperature shall be continuously controlled so as to follow the standard time-temperature curve within the accuracy specified in paragraph (c)(4) of this section.

(3) The standard time-temperature curve is defined by a smooth curve drawn through the following points:

At the beginning of the test, 20 °C. (68 °F.).
At the end of the first 5 minutes, 538 °C. (1,000 °F.).
At the end of the first 10 minutes, 704 °C. (1,300 °F.).
At the end of the first 30 minutes, 843 °C. (1,550 °F.).
At the end of the first 60 minutes, 927 °C. (1,700 °F.).

For a further definition of the time-temperature curve, see Appendix I of the ASTM Standard E119, ''Fire Tests of Building Construction and Materials''.

(4) The accuracy of the furnace control shall be such that the area under the mean time-temperature curve is within 15 percent of the area under the standard curve during the first 10 minutes of the test, within 10 percent during the first one-half hour, and within 5 percent for any period after the first one-half hour. At any time after the first 10 minutes of the test the mean furnace temperature shall not differ from the standard curve by more than 100 °C. (180 °F.). Consideration will be given to adjusting the results for variation of the furnace exposure from that prescribed. If corrections are made, they shall be in accordance with the procedures set forth in ASTM E–119.

(5) The pressure in the furnace shall be equal to that in the laboratory at about one-third of the height of the specimen.

(d) *Temperature of unexposed surface.* For the unexposed surface temperature measurement, a thermocouple of 0.5 mm. (0.020″) diameter wires shall be soldered centrally with high temperature solder to one surface of a disc of copper 12 mm. diameter and 0.2 mm. thick. The discs shall be covered with an oven-dry asbestos pad 50 mm. × 50 mm. and 4 mm. thick. The disc and the pad may be fixed to the surface of the specimen by pins, tape or a suitable adhesive, depending on the nature of the specimen material. The asbestos pad shall have a density of approximately 1,000 kg./m.^{3} and thermal conductivity of 0.11 kcal./m./hr. × C. at 100 °C. (212 °F.).

(e) *Flame penetration.* (1) Where cracks or openings are formed during the test, an ignition test as prescribed in § 164.008–4(b) shall take place immediately after the appearance of cracks or damage, followed by similar tests at frequent intervals. The purpose of the test is to indicate whether cracks and openings formed during the test are such that they would lead to passage of flame.

(2) The cotton wool used for the tests prescribed in § 164.008–4(b) shall consist of new undyed soft fibers without any admixture of artificial fibers, and shall be free from thread, leaf, and shell fiber dust. A suitable material for this purpose is sold in the form of rolls for surgical use. A pad shall be cut measuring 10 cm. × 10 cm. approximately 2 cm. thick and weighing between 3 and

4 grams. It shall be oven-dried prior to the test. The pad shall be attached by means of wire clips to a 10 cm. × 10 cm. frame of 1 mm. diameter. A wire handle approximately 75 cm. long attached to the frame would facilitate its use on the specimen.

(3) When testing for cracks or openings during the test, the pad shall be held in a vertical position facing the crack or opening with the aperture located in a central part of the cotton wool. The pad may be reused if it has not absorbed any moisture or become charred during the previous application.

(f) *Temperature observations.* (1) All observations shall be taken at intervals not exceeding 5 minutes. The surface temperatures on the unexposed side of the test specimen shall be measured by thermocouples located as follows:

(i) One thermocouple located approximately in the center of each quadrant of the steel plate (four thermocouples total).

(ii) One thermocouple close to the center of the test specimen, but away from the joint, if any.

(iii) At least one thermocouple at the vertical joint of the test specimen.

(iv) Further thermocouples at the discretion of the testing laboratory or Coast Guard for the purpose of determining the temperature at points deemed likely to give a greater temperature rise than any of the above mentioned thermocouples.

(2) The average temperature rise on the unexposed surface shall be obtained by averaging the readings of the thermocouples mentioned in paragraphs (f)(1) (i) and (ii) of this section.

(g) *Other observations.* Throughout the test, observations shall be made of all changes and occurrences, which are not criteria of performance but which may create hazard in case of a fire; for example the emission of appreciable volumes of smoke or noxious vapors from the unexposed side of the test specimen. The specimen shall be examined after the test for changes that have taken place and the information shall be noted in the test report.

(h) *Duration of testing.* The test shall be continued for at least 30 minutes to meet the requirements of § 164.008–2(b) or at least 60 minutes to meet the requirements of § 164.008–2(c). In either case, the test shall be continued until the maximum surface temperature rise values noted in § 164.008–4(a) have been reached, or until cracks which lead to flaming as specified in § 164.008–4(b) are formed.

§ 164.008–4 Test requirements.

(a) Thermal insulation: The insulation value of the specimens for the full scale test shall be such that the average temperature of thermocouples on the unexposed surface described in § 164.008–3(f)(2) will not rise more than 139 °C. (250 °F.) above the initial temperature, nor will the temperature at any point on the surface, including any joint, rise more than 225 °C. (405 °F.) above the initial temperature at the end of 15 minutes. When failure is due to excessive temperature rise on the joint, consideration will be given to alternate joint construction. The results obtained on the small scale test (2′ × 2′) (60 cm. × 60 cm.) shall be recorded.

(b) The test shall determine the length of time, up to one hour, that the bulkhead panel, including the joint can withstand the passage of flame. Cracks and openings shall not be such as to lead to flaming of a cotton wool test pad as prescribed in § 164.008–3(e)(3) held facing the aperture at about 25 mm. for a period of 30 seconds. If no flaming occurs, the pad shall be removed and reapplied after a suitable interval.

§ 164.008–5 Test report.

(a) The test report required by § 164.008–7 (e) and (g) shall include at least the following:

(1) Name of manufacturer.

(2) Purpose of test.

(3) Test conditions and date of test.

(4) Description of the panel tested giving size, thickness, density, detail of joint and method of assembling in test furnace.

(5) Complete time-temperature data, including initial temperature, for each thermocouple together with curves of average temperature for the unexposed surface of the insulation and the thermocouple recording the highest temperature. In addition, for § 164.008–7(g)(2) complete time-temperature data

consisting of a numerical time-temperature table for each furnace and each surface of insulation thermocouple together with the initial temperature of each thermocouple.

(6) A log setting forth the observer's notes relative to deflections, smoke or gas emission, glow, flame emission, and any other important data. The time of each observation should be noted.

(7) Complete observations on the appearance of cracks and data on the testing of the cracks as specified in § 164.008–4(b).

(8) Photographs of both sides of the panel before and after testing.

(9) Summary of test results.

(b) [Reserved]

[CGFR 69–72, 34 FR 17500, Oct. 29, 1969; 34 FR 19030, Nov. 29, 1969]

§ 164.008–6 Retests.

(a) Manufacturers of approved bulkhead panels shall maintain quality control of materials used, manufacturing methods, and the finished product utilizing appropriate quality control testing so as to meet the requirements of this specification, and any other conditions outlined on the certificate of approval. Bulkhead panels are not inspected at regularly scheduled factory inspections; however, approved bulkhead panels are subject to retest for continued compliance with the requirements of this subpart on the following basis:

(1) The Coast Guard may detail a marine inspector or other Coast Guard designated inspector at any time to visit any place where bulkhead panels are manufactured to conduct any inspections or examinations deemed advisable and to select representative samples for further examination, inspection, or tests. The inspector shall be admitted to any place where work is done on bulkhead panels or component materials.

(2) At a frequency of not less than once every 5 years following issuance of approval, samples of an approved bulkhead panel selected from production stock shall be forwarded by the inspector to the Commandant for testing in accordance with the requirements of this subpart. Where the plant is outside the jurisdiction of a Coast Guard District Commander, the frequency of such selection and testing shall be every 2 years. The cost of such testing shall be borne by the manufacturer. The nature of the product or its production may dictate a differing retest frequency.

(3) The Coast Guard reserves the right to make spot-check tests of approved bulkhead panels at any time on samples selected by a marine inspector obtained during installation on a vessel. The manufacturer will incur no expense for such tests, but the results shall be binding upon the approval of his product.

(b) A small scale furnace test (2′ × 2′ furnace test) shall be conducted. The time of failure shall not vary from the original (2′ × 2′ furnace) test values by more than 10 percent. In addition, tests shall be conducted to determine incombustibility (§ 164.009), density and thickness. Values on retesting for density and thickness shall not vary from the original test values by more than 10 percent.

§ 164.008–7 Procedure for approval.

The following items shall be accomplished in sequential order.

(a) *Test request information*. If a manufacturer desires to have a bulkhead panel approved, a written request shall be submitted to the Commandant of the Coast Guard, together with the following:

(1) If the material has already been approved as an ''Incombustible Material'' under subpart 164.009 of this part, the approval number of the material shall be indicated. If not, the procedure set forth in subpart 164.009 of this part shall be followed; and such approval shall be obtained prior to submittal under this specification.

(2) The description and trade name of the bulkhead panel.

(3) A statement of the composition of the material and the percentage of each component.

(4) A sample of the material at least 1 foot square in each thickness and density of the material as manufactured.

(5) The range of thicknesses and/or densities in which it is proposed to

manufacture or use the material, together with any information or recommendations the manufacturer may have as maximum or minimum thickness or density.

(6) The location of the place or places where the material will be manufactured.

(7) A sketch showing typical installation methods and indicating limitations, if any.

(8) A general statement describing manufacturing procedures indicating the degree of quality control exercised and the degree of inspection performed by outside organizations.

(9) A statement indicating proposed methods for field identification of the products as being approved. Identification shall include the Coast Guard approval number.

(b) *Test suitability*. The above information will be examined by the Coast Guard and if it is indicated that the material is in all other respects suitable for testing, the manufacturer will be so advised. Coast Guard comments on the manufacturer's recommended thickness and density of the panel for the fire resistance and integrity test will be given at this time together with the estimated cost of the tests.

(c) *Samples to be submitted*. If the material is indicated as being suitable for testing, the manufacturer shall submit the samples required by paragraph (c)(1) of this section to the Fire Research Section of the National Bureau of Standards, Washington, DC 20234, and shall advise the Coast Guard of the shipment.

(1) One representative panel of the material having a surface approximately 4.65 square meters (50 square feet) and a height of 2.44 meters (8 feet) containing at least one vertical joint, located at approximately one-third panel width from one edge (20–24 inches), and one representative panel of the material having 60 cm. × 60 cm. (2′ × 2′) dimensions. If the manufacturer desires to submit the panel in thickness or size other than that recommended, prior approval shall be obtained from the Commandant. The manufacturer shall supply any labor required for fabrication of the panel and for attaching the panel to the frame for testing.

(d) *Pretest information*. At this time the manufacturer shall submit to the Coast Guard the following:

(1) A statement that the material as offered for testing and as described pursuant to §164.008–6(a)(3) is completely representative of the product which will be manufactured and sold under U.S. Coast Guard approval if such approval is granted and that the shipbuilder will be advised of the proper installation methods and the limitations of the conditions of approval.

(2) A commitment from the manufacturer that he will reimburse the National Bureau of Standards for the cost of the tests or review when billed by them.

(3) If the manufacturer desires to witness the test, he should so indicate at this time.

(e) *Test authorization*. The National Bureau of Standards will then be authorized to conduct the test noted in §164.008–4(a) and, upon completion of all testing, the manufacturer will be billed directly by the National Bureau of Standards, four copies of the report containing the information required by §164.008–5 shall be submitted to the Coast Guard.

(f) *Notification of results*. A copy of the report will be forwarded to the manufacturer, and he will be advised if his material is approved under this subpart. If approved, any stipulations of the approval will be specified. This information will be published in the FEDERAL REGISTER, and a certificate of approval will be issued to the manufacturer.

(g) *Other laboratories*. (1) If the manufacturer desires to have the tests conducted at some laboratory other than the National Bureau of Standards, this information shall be supplied at the time of initial contact with the Coast Guard. If the proposed laboratory is acceptable to the Coast Guard, the manufacturer will be so advised and any special testing requirements together with an estimated cost of expenses incurred by the National Bureau of Standards for their review will be specified at this time. Payment will be made as noted in paragraph (d)(2) of this section. The Coast Guard shall be notified in advance of the date of the test so that a representative may be present.

(2) The laboratory shall submit four copies of a detailed test report to the Coast Guard, together with representative samples of the material being taken before and after testing. The test report and samples will be examined by the National Bureau of Standards for compliance with this subpart. The test report shall include the information required by § 164.008–5 together with any other pertinent data.

[CGFR 69–72, 34 FR 17500, Oct. 29, 1969, as amended by USCG–2014–0688, 79 FR 58286, Sept. 29, 2014]

§ 164.008–8 Alternative materials.

Products approved under approval series 164.108 may be used where products approved under this subpart are required.

[USCG–2012–0196, 81 FR 48280, July 22, 2016]

Subpart 164.009—Noncombustible Materials for Merchant Vessels

SOURCE: CGD 74–129, 41 FR 41701, Sept. 23, 1976, unless otherwise noted.

§ 164.009–1 General.

(a) This subpart contains—

(1) Procedures for approval of noncombustible materials used in merchant vessel construction;

(2) The test and measurements required for approval of materials; and

(3) A list of noncombustible materials for which specific approval under this subpart is not required.

(b) The test and measurements described in this subpart are conducted by a laboratory designated by the Commandant. The following laboratories are so designated:

Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062

Dantest, National Institute for Testing and Verification, Amager Boulevard 115, DK 2300 Copenhagen S., Denmark

[CGD 74–129, 41 FR 41701, Sept. 23, 1976, as amended by CGD 86–035, 54 FR 36316, Sept. 1, 1989]

§ 164.009–3 Noncombustible materials not requiring specific approval.

The following noncombustible materials may be used in merchant vessel construction though not specifically approved under this subpart:

(a) Sheet glass, block glass, clay, ceramics, and uncoated fibers.

(b) All metals, except magnesium and magnesium alloys.

(c) Portland cement, gypsum, and magnesite concretes having aggregates of only sand, gravel, expanded vermiculite, expanded or vesicular slags, diatomaceous silica, perlite, or pumice.

(d) Woven, knitted or needle punched glass fabric containing no additives other than lubricants not exceeding 2.5 percent.

[CGD 86–035, 54 FR 36316, Sept. 1, 1989]

§ 164.009–7 Contents of application.

An application for approval of a material under this subpart must contain the following:

(a) The trade name of the material.

(b) The thickness or density, or both, of the material, or the range of thicknesses or densities, or both, of the material as manufactured.

(c) The composition of the material.

(d) The density and percentage of moisture and volatile matter of each component of the material.

(e) The address of the factory manufacturing the material.

(f) A sample representative of the material that is 305 mm long and 305 mm wide and that has a height equal to the largest thickness of the material as manufactured.

(g) If the applicant intends to observe the test and measurements of the sample, a statement to that effect.

(h) A commitment by the applicant to pay for the cost of the test and measurements when billed by the designated laboratory.

§ 164.009–9 Procedure for approval.

(a) An application for approval of a material under this subpart must be submitted to the Commandant (CG–ENG) according to § 159.005–1 of this subchapter.

(b) The application is examined by the Coast Guard to determine the probability that the material meets the requirements for approval. The Coast Guard notifies the applicant of the results of the examination and of the sample size necessary for submission to the designated laboratory.

(c) The designated laboratory notifies the applicant of the time and place for submission and testing of the sample.

(d) The designated laboratory conducts the tests and measurements of the sample in accordance with the procedures in this subpart, prepares a test report, and sends four copies of the report to the Commandant (CG–ENG). The applicant may observe the test and measurements.

(e) The Commandant sends a copy of the test report to the applicant and advises him whether the material is approved. If the material is approved, an approval certificate is sent to the applicant.

[CGD 74–129, 41 FR 41701, Sept. 23, 1976, as amended by CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013; USCG–2020–0519, 89 FR 76704, Sept. 18, 2024]

§ 164.009–11 Furnace apparatus.

(a) The test furnace apparatus consists of a furnace tube, stabilizer, draft shield, furnace stand, temperature coil controls with a voltage stabilizer, specimen holder, specimen insertion device, and three thermocouples (a furnace thermocouple to measure furnace temperature, a surface thermocouple to measure temperature at the surface of a specimen, and a specimen thermocouple to measure temperature at the center of a specimen). A detailed plan of the construction and arrangement of the furnace apparatus may be obtained from the Commandant (CG-521).

(b) Temperatures measured by the thermocouples are recorded by an instrument having a measuring range that corresponds to the temperature changes that occur during a furnace calibration or test. The temperature recording equipment is accurate to within at least 0.5 percent of temperatures recorded during a test.

[CGD 74–129, 41 FR 41701, Sept. 23, 1976, as amended by CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009]

§ 164.009–13 Furnace calibration.

A calibration is performed on each new furnace and on each existing furnace as often as necessary to ensure that the furnace is in good working order. In each calibration the energy input to the furnace is adjusted so that the furnace thermocouple gives a steady reading of 750 ±10 °C. The wall temperature of the furnace tube is then measured by an optical micro-pyrometer at intervals of 10mm on 3 equally spaced vertical axes. The furnace is correctly calibrated if the temperature of the furnace tube wall is between 825 and 875 °C. 50 mm above and below the midline of the wall and if the average wall temperature is approximately 850 °C.

§ 164.009–15 Test procedure.

(a) *General.* Paragraphs (b) through (k) of this section contain the test procedures for each material submitted for approval, except fiberglass and other materials that melt at 750° ±10 °C. Paragraph (l) of this section contains test procedures for fiberglass and other materials that melt at 750° ±10 °C.

(b) *Preparation of specimens.* (1) The designated laboratory prepares 5 cylindrical specimens representative of the properties of the sample submitted for testing. The dimensions of each specimen are as follows:

diameter: 45(+2/−0) mm
height: 50 ±3 mm
volume: 80 ±5 cm^3

(2) If the height of the sample, except a composite material, is less than 47 mm, the specimens prepared consist of layers of the sample.

(3) If the sample is a composite material and has a height that is not 50 ±3mm, the layers of the specimen prepared are proportional in thickness to the layers of the sample.

(4) The top and bottom faces of each specimen prepared are the faces of the material as manufactured.

(5) If it is not practicable to prepare a specimen by the procedures described in paragraphs (b)(2) through (b)(4) of this section, the test is performed on five specimens of each component of the sample made to the dimensions prescribed in paragraph (b)(1) of this section.

(c) *Conditioning of specimen.* Each specimen is conditioned for at least 20 hours in a ventilated oven maintained at 60 ±5 °C. and is then cooled to room temperature in a desiccator.

(d) *Weight of specimen.* The weight of each conditioned specimen after cooling is determined before it is tested.

(e) *Placement of specimen in holder.* After a specimen is conditioned and weighed, it is placed in the specimen holder. A specimen that is made of layers of a composite material is held firmly together in the specimen holder.

(f) *Attachment of thermocouples.* After the specimen is placed in the specimen holder, the thermocouples are attached to the specimen as follows: A vertical hole with a diameter of 2 mm and a depth that is half the height of the specimen is made in the center of the top of the specimen. The specimen thermocouple is then inserted into the hole so that its hot junction is at the center of the specimen. The surface thermocouple is put in contact with the surface of the specimen at its mid-height.

(g) *Preparation of the apparatus.* The apparatus is examined to determine whether it is in good working order and to ensure that the equipment is protected against drafts and is not exposed to direct sunlight or artificial illumination. The furnace temperature is stabilized at 750 °C. ±10 °C. and kept at that temperature for the duration of the test. The furnace temperature is stabilized when no adjustments are needed in the energy input to the furnace to keep the temperature constant.

(h) *Insertion of specimen.* After the furnace temperature is stabilized for at least 10 minutes, the specimen is inserted into the furnace. The insertion is completed within 5 seconds. The specimen is positioned so that the hot junction of the surface thermocouple is diametrically opposite the hot junction of the furnace thermocouple.

(i) *Heating period.* The heating period begins upon insertion of the specimen into the furnace and continues for 20 minutes, or until peak temperatures have passed.

(j) *Test observations.* Temperature measurements at each thermocouple are made at intervals of not more than 10 seconds during the heating period, and note is taken of the occurrence and duration of any flaming. At the end of the heating period, the specimen is removed from the furnace and weighed while still hot.

(k) *Test results.* Material is approved under this subpart if the test results of the sample submitted are within the following limits:

(1) The highest temperature recorded for each specimen during the test by the furnace thermocouple, when averaged with the highest temperatures recorded for the other specimens, is not more than 50 °C. above the stabilized furnace temperature.

(2) The highest temperature recorded for each specimen during the test by the surface thermocouple, when averaged with the highest temperatures recorded for the other specimens, is not more than 50 °C. above the stabilized furnace temperature.

(3) The duration of flaming of each specimen during the test, when averaged with duration of flaming recorded for the other specimens, is not more than 10 seconds.

(4) The average weight loss of the specimens after heating is not more than 50 percent of their average weight after conditioning.

(l) *Fiberglass and other materials that melt at 750 °C. ±10 °C.* If the material submitted for approval is fiberglass or other material that melts at 750° ±10 °C., it is tested as described in paragraphs (b) through (k) of this section, except the average weight loss of the sample is determined as follows:

(1) Five cylindrical specimens in addition to the five cylindrical specimens required in paragraph (b) of this section are prepared as described in paragraph (b) of this section.

(2) Each of the additional specimens is placed on a weighing dish and both the specimen and the weighing dish are

conditioned as described in paragraph (c) of this section.

(3) The weight of each specimen and its weighing dish is determined as described in paragraph (d) of this section.

(4) After a specimen and weighing dish are conditioned and weighed, they are placed in the specimen holder with the specimen supported by weighing dish. No specimen thermocouple or surface thermocouple is attached to the specimen.

(5) The apparatus is prepared as described in paragraph (g) of this section, and after the furnace temperature has stabilized for at least 10 minutes, the specimen and weighing dish are inserted into the furnace. The specimen and weighing dish are then heated for 20 minutes or until peak temperatures have passed. At the end of the heating period, the specimen and weighing dish are removed from the furnace and weighed while still hot.

(6) The average weight loss of the specimens after heating may not be more than 50 percent of their average weight before heating.

§ 164.009–17 Density measurement.

(a) The measurements described in this section are made to determine the density of a sample.

(b) If the sample is a solid material, a specimen that has a length of 305 mm, a width of 305 mm, and thickness equal to that of the sample is prepared. The length and width are measured to the nearest 0.80 mm and the thickness to the nearest 0.25 mm. Allowance is made for any irregularity in the surfaces of the specimen. The average of at least four measurements of each dimension is determined.

(c) If the sample is fibrous insulation, a specimen is prepared from sheets of the sample submitted. The sample is a cube and each dimension is 305 mm ±1.60 mm. The average of at least four measurements of each dimension is determined.

(d) The weight of a specimen is determined with a sensitive balance scale accurate to at least 0.5 percent of the weight of the specimen.

(e) The dimension and weight measurements of a specimen are made after it has been conditioned for at least one week, and for any additional time needed for the specimen to reach a constant weight, in an atmosphere that is 22.8 °C. ±2 °C. and 50 percent ±5 percent relative humidity.

§ 164.009–19 Measurement of moisture and volatile matter content.

(a) The measurements described in this section are made to determine the moisture and volatile matter content of a sample.

(b) A specimen cut from the density specimen of a sample is conditioned for at least one week, and for any additional time needed for the specimen to reach a constant weight, in an atmosphere that is 22.8 °C. ±2 °C., and 50 percent ±5 percent relative humidity. The conditioned specimen is then weighed and transferred to a previously weighed wide mouth weighing bottle that has a glass stopper. With the stopper removed, the bottle, stopper, and specimen are heated at 105 °C. ±5 °C. for four hours. After four hours, the stopper is inserted in the bottle and the bottle and sample are cooled and weighed.

(c) The content of moisture and volatile matter is the difference between the two weighings and is reported as a percentage of the weight of the conditioned specimen.

§ 164.009–21 Laboratory report.

The laboratory report of the test and measurements of a material contains the following:

(a) Name of the designated laboratory.

(b) Name of manufacturer of the material.

(c) Date of receipt of the material and dates of the test and measurements.

(d) Trade name of the material.

(e) Description of the material.

(f) Density of the sample.

(g) Percentage of moisture and volatile matter in the sample.

(h) Description of the specimens tested if the specimens are prepared from composite material.

(i) If the test was done on individual components of the sample, a description of the components.

(j) Test results including the following:

(1) Complete time and temperature data for each thermocouple.

(2) Each observation of flame emission and the time and duration of each emission.

§ 164.009–23 Factory inspection.

The Coast Guard does not inspect noncombustible materials approved under this subpart on a regular schedule. However, the Commander of the Coast Guard District in which a factory is located may detail a marine inspector at any time to visit a factory where a noncombustible material is manufactured to conduct an inspection of the manufacturing and quality control procedures and to select representative samples of the material for examination or tests to verify that the material is as stated in the original application for approval. The manufacturer is advised in advance of the time of testing samples selected and may witness the tests upon request.

§ 164.009–25 Marking.

The manufacturer must mark each shipping container for an approved noncombustible material with the approval number and date of approval of the material.

§ 164.009–26 Alternative materials.

Products approved under approval series 164.109 may be used where products approved under this subpart are required.

[USCG–2012–0196, 81 FR 48280, July 22, 2016]

Subpart 164.012—Interior Finishes for Merchant Vessels

§ 164.012–1 Applicable specifications.

(a) The following specifications, of the issue in effect on the contract date for the particular installation on any vessel, form a part of this subpart:

(1) American Society for Testing Materials' standard: E 84–98, Standard Test Method for Surface Burning Characteristics of Building Materials.

(2) National Fire Protection Association's standard: NFPA No. 255—Method of Test of Surface Burning Characteristics of Building Materials.

(3) Coast Guard specifications: 164.008—Bulkhead Panels for Merchant Vessels. 164.009—Incombustible Materials for Merchant Vessels.

(b) A copy of this subpart, together with copies of the specifications referred to in this section, shall be kept on file by the manufacturer of any Interior Finish except those qualifying under § 164.012–5(c). It should be noted that the standards listed in paragraphs (a) (1) and (2) of this section are identical and, therefore, only one need to be kept on file. The Coast Guard specifications may be obtained upon request from the Coast Guard Headquarters. Contact Commandant (CG–ENG), Attn: Office of Design and Engineering Systems, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509. ASTM International's standards may be purchased from that organization at 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428–2959. The National Fire Protection Association Standard may be purchased from that association at 1 Batterymarch Park, Quincy, MA 02269.

[CGFR 61–15, 26 FR 9303, Sept. 30, 1961, as amended by CGFR 65–16, 30 FR 10903, Aug. 21, 1965; CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–1999–5151, 64 FR 67185, Dec. 1, 1999; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.012–5 Scope.

(a) The purpose of this specification is to set forth the fire protection standards for ''Interior Finishes'' applied to ''Bulkhead Panels'' or ''Incombustible Materials'' approved under subpart 164.008 or 164.009 of this subchapter. The term ''Interior Finish'' means any coating, overlay, or veneer except standard paint which is applied for decorative or other purpose. It includes not only the visible finish, but all material used in its composition and in its application to the approved ''Bulkhead Panel'' or ''Incombustible Material.'' When finishes are applied to both sides of a panel, each must comply with this specification.

(b) ''Interior Finishes'' of not more than 0.075″ thickness qualifying under § 164.012–10 and those materials which are described in paragraph (c) of this section, may be used without restriction on all merchant vessels, including

those locations where combustible veneers, trim, moldings, and decorations are specifically prohibited by subpart 72.05 of subchapter H (Rules and Regulations for Passenger Vessels) of this chapter.

(c) With the exception of nitrocellulose or other highly inflammable or noxious fume-producing paints or lacquers (which are prohibited), a limited number of coats of any standard paint, or any ''Incombustible Material'' approved under subpart 164.009 of this subchapter in any thickness, or a combination thereof, are considered as automatically satisfying the intent of this specification and no test or proof of compliance will be required. Paint may be applied to one or both sides of ''Bulkhead Panels'' or ''Incombustible Materials,'' but it shall never be applied as an internal layer in sandwich or laminar construction.

[CGFR 61–15, 26 FR 9303, Sept. 30, 1961]

§ 164.012–10 Requirements.

(a) For an ''Interior Finish'' to qualify under this specification it shall not be more than 0.075 inch thick (including adhesive and any underlayment) and shall be subjected to the test described in either standard listed in § 164.012–1(a) (1) or (2). The ''Interior Finish'' shall be applied to a ¼-inch asbestos cement board, ''Bulkhead Panel'' or ''Incombustible Material'' approved under subparts 164.008 and 164.009, in the same manner as will be employed for the shipboard installation. The classification ratings determined by this test shall not exceed the following values:

Flame spread classification	20
Smoke classification	10

(b) [Reserved]

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970]

§ 164.012–11 Marking.

In addition to that information required by the recognized laboratory, the following information and special markings shall be included:

Complies with USCG subpart 164.012. Approval No. 164.012/—.

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970]

§ 164.012–12 Recognized laboratory.

A recognized laboratory is one which is operated as a nonprofit public service and is regularly engaged in the examination, testing, and evaluation as to the safety of insulation and surfacing materials; which has an established factory inspection, listing, and labeling program; and which has standards for evaluating listing and labeling which are acceptable to the Commandant. The following laboratories are recognized:

Underwriters' Laboratories, Inc.
333 Pfingston Road
Northbrook, IL 60062–2096

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970, as amended by USCG–1998–4442, 63 FR 52192, Sept. 30, 1998]

§ 164.012–13 Examinations, tests, and inspections.

(a) *Manufacturer's inspection and tests.* Manufacturers of listed and labeled Interior Finishes shall maintain quality control of the materials used, manufacturing methods and the finished product so as to meet the applicable requirements, and shall make sufficient inspections and tests of representative samples and components produced to maintain the quality of the finished product. Records of tests conducted by the manufacturer and records of materials, including affidavits by suppliers that applicable requirements are met, entering into manufacture shall be made available to the recognized laboratory inspector or the Coast Guard marine inspector, or both, for review upon request.

(b) *Laboratory inspection and tests.* Such examinations, inspections and tests as are required by the recognized laboratory for listed and labeled material produced will be conducted by the laboratory inspector at the place of manufacture or other location at the option of the laboratory.

(c) *Test facilities.* The laboratory inspector, or the Coast Guard marine inspector assigned by the Commander of the District in which the factory is located, or both, shall be admitted to any place in the factory where work is being done on listed and labeled products, and either or both inspectors may

take samples of parts or materials entering into construction of final assemblies, for further examinations, inspections, or tests. The manufacturer shall provide a suitable place and the apparatus necessary for the performance of the tests which are done at the place of manufacture.

(d) *Additional tests, etc.* Unannounced examinations, tests, and inspections of samples obtained either directly from the manufacturer or through commercial channels may be made to determine the suitability of a product for listing and labeling, or to determine conformance of a labeled product to the applicable requirements. These may be conducted by the recognized laboratory or the U.S. Coast Guard.

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970]

§ 164.012–14 Procedure for listing and labeling.

(a) Manufacturers having a surfacing material which they consider has characteristics suitable for general use on merchant vessels may make application for listing and labeling as an interior finish by addressing a request directly to a recognized laboratory. The laboratory will inform the submitter as to the requirements for inspection, examinations, and testing necessary for such listing and labeling. The request shall include a permission for the laboratory to furnish a complete test report together with a description of the quality control procedures to the Commandant, U.S. Coast Guard.

(b) The U.S. Coast Guard will review the test report and quality control procedures to determine if the approval requirements have been met. If this is the case, the Commandant will notify the laboratory that the material is approved and that when the material is listed and labeled it may be marked as being U.S. Coast Guard approved. Notice of U.S. Coast Guard approval will be published in CG–190.

(c) If disagreements concerning procedural, technical or inspection questions arise over U.S. Coast Guard approval requirements the opinion of the Commandant shall be requested by the laboratory.

(d) The manufacturer may at any time request clarification or advice from the Commandant on any question which may arise regarding manufacturing and approval of approved devices.

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970]

§ 164.012–15 Termination of listing and labeling.

(a) Listing and labeling as an interior finish acceptable to the Commandant as approved may be terminated, withdrawn, canceled, or suspended by written notice to the recognized laboratory from the Commandant, or by written notice to the manufacturer from the recognized laboratory or from the Commandant.

(b) The condition which may be the cause for termination of listing and labeling may be any of the following:

(1) When the manufacturer does not desire to retain the service.

(2) When the listed product is no longer being manufactured.

(3) When manufacturer's own program does not provide suitable assurance of the quality of the listed and labeled product being manufactured.

(4) When the product manufactured no longer conforms to the current applicable requirements of the U.S. Coast Guard and the recognized laboratory.

(5) When service experience or laboratory or U.S. Coast Guard reports indicate a product is unsatisfactory.

[CGFR 70–143, 35 FR 19967, Dec. 30, 1970]

§ 164.012–16 Alternative materials.

Products approved under approval series 164.112 may be used where products approved under this subpart are required.

[USCG–2012–0196, 81 FR 48280, July 22, 2016]

Subpart 164.013—Foam, Unicellular Polyethylene (Buoyant, Slab, Slitted Trigonal Pattern)

SOURCE: CGD 95–028, 62 FR 51216, Sept. 30, 1997, unless otherwise noted.

§ 164.013–1 Scope.

(a) This subpart contains performance requirements, acceptance tests, and production testing and inspection requirements for polyethylene foam used in the construction of personal

flotation devices (PFDs) approved under part 160 of this subchapter. Manufacturers shall also comply with the requirements of subpart 164.019 of this chapter.

(b) All polyethylene foams accepted under this subpart are non-standard components. Acceptance of polyethylene foam prior to being incorporated into finished PFDs, or during the course of manufacture, shall in no case be construed as a guarantee of the acceptance of the finished PFD.

§ 164.013–2 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, notice of change must be published in the FEDERAL REGISTER and the material made available to the public. All approved material incorporated by reference may be inspected at the National Archives and Records Administration (NARA), and at the Coast Guard Headquarters. Contact Commandant (CG–ENG–4), Attn: Lifesaving and Fire Safety Division, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509. The material is also available from the source 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:

UNDERWRITERS LABORATORIES (UL)

Underwriters Laboratories, Inc., P.O. Box 13995, Research Triangle Park, NC 27709–3995 (Phone (919) 549–1400; Facsimile: (919) 549–1842).

UL 1191, Standards for Components for Personal Flotation Devices, May 16, 1995—164.013–3; 160.013–5.

1(c) *Copies on file*. Copies of the specifications and letter of acceptance shall be kept on file by the manufacturer.

[CGD 95–028, 62 FR 51216, Sept. 30, 1997, as amended at 69 FR 18803, Apr. 9, 2004; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.013–3 Material properties and workmanship.

(a) *General*. The unicellular polyethylene foam shall be all new material complying with the requirements outlined in this specification. Unicellular polyethylene foam must comply with the requirements of UL 1191, sections 24, 25, and 26 and its assigned Use Code. Thickness tolerances of the foam must permit the manufacture of PFDs complying with their required buoyancy tolerances.

(b) *Use Codes 4BC, 4H*. Each foam which has a C-factor of at least 94 according to UL 1191 may be assigned Use Codes 4BC and 4H.

(c) *Use Codes 2, 3, 5R*. Each foam which has a V-factor of at least 85 according to UL 1191 may be assigned Use Codes 2, 3, 5R (recreational use applications).

§ 164.013–4 Samples submitted for acceptance.

Application samples. A product sample submitted for acceptance as required by § 164.019–7(c)(4) must consist of at least one square foot by the thickness of foam produced.

§ 164.013–5 Acceptance tests.

Manufacturers shall ensure that the performance and identification tests described in UL 1191, as appropriate, are performed on a minimum of five samples in each of the lightest and darkest colors submitted for acceptance by a recognized laboratory accepted under § 164.019.

§ 164.013–6 Production tests, inspections, and marking.

Manufacturers shall provide in-plant quality control of polyethylene foam in accordance with the requirements of § 164.019–13 and any requirements of the recognized laboratory. The manufacturer of the foam has primary responsibility for quality control over the production of the foam.

§ 164.013–7 Marking.

(a) *General*. The manufacturer must ensure that each shipping label, and each unit of put-up, is permanently and clearly marked in a color which contrasts with the color of the surface on which the marking is applied. Each label must be marked with—

(1) The manufacturer's or supplier's name, trade name, or symbol;

(2) The unique style, part, or model number of the material;

(3) The thickness of the material;

(4) The lot number of the material; and

(5) The product Use Code or Codes.

(b) Each unit of put-up must be marked with the appropriate recognized laboratory's certification marking(s).

Subpart 164.015—Plastic Foam, Unicellular, Buoyant, Sheet and Molded Shape

SOURCE: CGFR 65–37, 30 FR 11593, Sept. 10, 1965, unless otherwise noted.

§ 164.015–1 Applicable specifications and standards.

(a) *Specifications*. The following specification and standard, of the issue in effect on the date the plastic foam material is manufactured, form a part of this subpart:

(1) Military specification:

MIL-F-859—Fuel Oil, Boiler.

(2) Federal specification:

C-C-91—Candle illuminating.

(3) Federal standard:

Standard 601—Rubber: Sampling and Testing.

(4) ASTM

D4986–98, Standard Test Method for Horizontal Burning Characteristics of Cellular Polymeric Materials.

(b) *Copies on file*. Copies of the specifications and standards referred to in this section shall be kept on file by the plastic foam manufacturer with this subpart.

(1) The Federal Specification and the Federal Standard may be purchased from the General Services Administration, Federal Acquisition Service, Office of the FAS Commissioner, 2200 Crystal Drive, 11th Floor, Arlington, VA 22202; telephone 703–605–5400.

(2) The Military Specification may be obtained from the Military Specifications and Standards, Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111–5094, *https://assist.daps.dla.mil/quicksearch/*.

(3) The A.S.T.M. Standard may be purchased from the American Society for Testing Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959.

[CGFR 65–37, 30 FR 11593, Sept. 10, 1965, as amended by CGFR 65–64, 31 FR 563, Jan. 18, 1966; USCG–1999–5151, 64 FR 67186, Dec. 1, 1999; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.015–2 Types.

(a) Unicellular expanded polyvinyl chloride-acetate copolymer or synthetic rubber modified polyvinyl chloride, polymer or copolymer plastic foam shall be of three types as follows:

Type A—for life preservers, buoyant vests or buoyant cushions.

Type B—for buoyant vests or buoyant cushions.

Type C—for ring life buoys.

(b) [Reserved]

§ 164.015–3 Material and workmanship.

(a) The unicellular plastic foam shall be all new material complying with the requirements of this specification. The results of the tests described in § 164.015–4 shall yield property values within the limits shown in Table 164.015–4(a).

(b) The unicellular plastic foam shall be produced in sheet stock or molded shapes.

§ 164.015–4 Inspections and tests.

(a) *General*. Unicellular plastic foam to be used in a finished product subject to inspection by the Coast Guard also shall be subject to inspection at the plant where the foam is manufactured. The manufacturer of the foam has primary responsibility for quality control over the production of the foam. A marine inspector shall be admitted to any place in the factory where production or partial processing of the foam takes place, and he may take samples of the

foam or other materials for further inspections or tests. The manufacturer shall provide a suitable place and the apparatus necessary for the performance of certain tests to be witnessed by the marine inspector, the results of which shall comply with Table 164.015–4(a). Unless otherwise specified, all tests shall be conducted at a temperature of 21° ±3 °C. (70° ±5 °F.) The properties listed in Table 164.015–4(a) shall be determined on specimens of sheet foam or molded shapes.

TABLE 164.015–4(a)

Properties	Test method	Units	Type A	Type B	Type C
Density (maximum)	164.015–4(b)	Pounds/feet^3	5.0	5.0	8.5
Buoyancy in fresh water (minimum)	164.015–4(c)	Pounds/feet^3	54.0	54.0	52.0
Volume loss on heat aging (maximum).	164.015–4(d)	Percent	5.0	5.0	4.0
Compression deflection at 25 percent.	164.015–4(e)	P.s.i.	3.0 max.	3.0 max.	7.0 min.
Compression set (maximum)	164.015–4(f)	Percent	24	24	20
Fire retardance (maximum)	164.015–4(g)(1)	Seconds	2	.....	30
		Inches	1	.....	3
	164.015–4(g)(2)	Inches per minute	.....	4	.....
Tensile strength (minimum)	164.015–4(h)	P.s.i.	30	20	60
Ultimate elongation (minimum)	164.015–4(h)	Percent	75	75	.....
Water absorption (maximum)	164.015–4(i)	Pounds/feet^2	.06	.06	.06
Flexibility at 0 ±2F 164.015–4(j) No cracking No cracking					
Oil resistance	164.015–4(k)		(1)	(1)	(1)
Odor	164.015–4(l)		(2)	(2)	(2)

[1] No softening or swelling.
[2] Not objectionable.

(b) *Density*. The density of the material shall be determined by dividing the weight of the material by its volume and shall be expressed in pounds per cubic foot. The volume shall be determined by measuring the volume of water displaced by the material or by direct measurement of the specimen using vernier calipers reading to 0.001 inch A sheet specimen 4″ × 4″ × thickness furnished shall be used unless the foam is molded shape, then the largest single piece so molded shall be used.

(c) *Buoyancy in fresh water*—(1) *Specimens*. The buoyancy test shall be made with a sample of the sheet material measuring 12″ × 12″ × thickness of material furnished or with the largest molded shape furnished.

(2) *Procedure*. Securely attach a spring scale in a position directly over a test tank. Suspend a weighted wire basket from the scale in such a manner that the basket can be weighed while completely submerged in water. Proceed as follows:

(i) Weigh the empty basket under water.

(ii) Place the sample inside the basket and submerge it so that the top of the basket is at least 2 inches below the surface of the water. Allow the samples to remain submerged for 24 hours.

(iii) After 24 hours submergence period, weigh the wire basket with the sample inside while both are still under water.

(iv) The buoyancy is computed as paragraph (c)(2)(i) of this section minus (c)(2)(iii) of this section. The resulting value is divided by the volume of the

polyvinyl chloride foam expressed in cubic feet. The final result is in lbs./cu. ft.

(d) *Volume loss on heat aging*—(1) *Specimen*. Test specimens shall consist of pieces 4″ × 4″ × the thickness of the material furnished. Where the foam is an object of molded shape, the largest single piece so molded shall be used for this test.

(2) *Procedure*. Volume before and after the heat aging test shall be determined by measuring the volume of water displaced by the material. The specimens shall be placed in an oven maintained at 140° ±2 °F., for a period of one week. At the end of that period the specimens shall be removed from the oven and allowed to recover in the open for 5 hours at 70° ±2 °F. before the measurement of final volume is made. The test shall be run in triplicate, the results averaged and the percentage of volume loss calculated.

(e) *Compression deflection*. Compression deflection shall be determined in accordance with method 12151 of Federal Standard 601, except that the deflection shall be maintained at 25 percent with automatic or manual control, and the load observed and recorded 60 seconds after the 25 percent deflection is reached.

(f) *Compression set*—(1) *Specimens*. The specimens shall have parallel top and bottom surfaces which shall be at right angles to the side surfaces. The specimen may be cylindrical or rectangular. The minimum dimension across the top shall be at least 1.0 times the thickness and the top a minimum of 1 square inch in area, and a maximum of 16 square inches in area.

(2) *Apparatus*. The apparatus shall consist of a compression device with two parallel plates, between which the test specimen shall be compressed by means of four studs and nuts. The plates may be steel, aluminum or any rigid smooth metal of sufficient thickness to withstand the required compression stresses without bending. The surfaces against which the test specimens are held shall be smooth and shall be thoroughly cleaned and wiped dry before each test. Metal shims inserted between the plates shall be used to limit the compression of the specimen.

(3) *Procedure*. Thickness, before and after the compression set test shall be measured as specified in paragraph (h)(1) of this section. The test specimens shall be compressed 25% of the original thickness for 22 hours. At the end of that period, the test specimens shall be removed from the set apparatus and allowed to rest for 24 hours before measurement of final thickness is made. The compression set shall be calculated by means of the following formula:

$$\text{Compression set (percent)} = [(h_o - h_i) \div (h_o - h_s)] \times 100 \qquad (1)$$

where:

h_o = the original thickness.

h_i = the thickness 24 hours after removal from apparatus.

h_s = the test compression thickness.

(g) *Fire retardance*—(1) *Types A and C foams*. The test specimens shall be ¼ inch in thickness, 1 inch in width and approximately 6 inches in length. The specimens shall be clamped at one end in a position such that the long dimension forms a 45° angle with the horizontal and with the widths in a vertical position. A Bunsen burner with a 1 inch yellow flame shall be applied to the lower or free end of the specimen for 15 seconds. The burner shall then be removed and the time that the specimen continues to burn after removal of the burner shall be recorded as burning time. The length of char shall also be recorded. The test shall be performed in a location free from drafts. The average results of three determinations shall be reported. A plain wax candle equivalent to those meeting Federal Specification C-C 91 may be substituted for the Bunsen burner.

(2) *Type B foam*. The test specimens shall be ½ inch in thickness, 2 inches in width and approximately 6 inches in length. The specimens shall be tested in accordance with American Society for Testing Materials Designation D–1692T specification standard.

(h) *Tensile strength and the ultimate elongation*—(1) *Specimens*. The test specimens shall be dumbbell shaped, conforming in shape to die I of method 4111 of Standard FED-STD-601. The thickness of the specimen shall be ¼ inch. Two specimens shall be taken from the center of the sample piece and

two from one side, keeping the skin surface intact. The thickness shall be measured to the nearest 0.001 inch by a suitable measurement device such as a vernier caliper with a sliding vernier to read 0.001 inch. Care shall be taken not to compress or distort the specimen when measuring. The specimens taken from the center will be skinless; the others will have skin on one side. One-inch bench marks shall be placed midway on the constricted portion of the tensile specimen.

(2) *Procedure.* (i) The tensile strength of the specimens shall be determined in a standard tensile testing machine with a rate of separation of jaws set at 2 inches per minute. The bench marks shall be followed with a suitable pair of dividers until the specimen ruptures. A minimum of 4 specimens shall be tested and if any specimen breaks at the clamp or any specimen exhibits any obvious defects, the results obtained therewith shall be discarded. A new similar specimen shall then be prepared and tested. The tensile strength shall be calculated by dividing the breaking load (to the nearest 0.1 pound) by the original area of the cross section of the specimen in square inches and the result shall be expressed in pounds per square inch. The percent ultimate elongation shall be calculated as follows:

$$D_1 - D \div D \times 100 \qquad (2)$$

where:

D = distance between knife edges of bench marker.

D_1 = distance between bench marks at moment of rupture to the nearest 1/32 inch.

(3) *Averaging determinations.* The tensile strength in pounds per square inch and percent ultimate elongation of four determinations shall be averaged for each sample.

(i) *Water absorption*—(1) *Specimens.* Test specimens shall be 4″ × 4″ square and approximately 1″ in thickness. The specimen may have the natural skin on the top and bottom surfaces.

(2) *Procedure.* The specimens shall be weighed and submerged in water under a 10-foot head of water (equal to 4.35 psi) at room temperature (65°–95 °F.) for 48 hours. The specimens shall then be placed in a stream of air for the minimum time required to remove visible water from the surface, and reweighed. The results shall be calculated in terms of pounds of water gain per square foot of total exposed surface.

(j) *Flexibility*—(1) The size of the specimen shall be approximately 1′ × 8′ with a thickness of ¼′ ±1/16″. The test specimens and equipment shall be conditioned for at least 4 hours at 0 °F. ±2 °F., and bent 180° around a ½″ diameter steel mandrel within 5 seconds at the test temperature. Care shall be taken to avoid warming the test specimens, particularly at or near the bend point, in performing the test.

(k) *Oil resistance*—(1) *Specimens.* The test specimens shall be a disk approximately 1″ in diameter and 1″ (approximately) in thickness.

(2) *Procedure.* The specimen shall be immersed in fuel oil conforming to Navy special grade of Specification MIL-F-859 for 70 hours. The specimen shall then be removed, dipped in alcohol and blotted with filter paper. The specimen shall then be compared to an untreated specimen of similar size for apparent softness and visible swelling.

(l) *Odor.* The odor of unicellular polyvinyl chloride foam shall be determined by sniffing.

[CGFR 65–37, 30 FR 11593, Sept. 10, 1965, as amended by CGFR 65–64, 31 FR 563, Jan. 18, 1966; USCG–2014–0688, 79 FR 58286, Sept. 29, 2014]

§ 164.015–5 Procedure for acceptance.

(a) Unicellular plastic foam is not subject to formal approval, but will be accepted by the Coast Guard on the basis of this subpart for use in the manufacture of lifesaving equipment utilizing it.

(b) Upon receipt of an application requesting acceptance, the Commander of the Coast Guard District will detail a marine inspector to the factory to observe the production facilities and manufacturing methods and to select from foam already manufactured sufficient sample material for testing for compliance with the requirements of this specification. A copy of the marine inspector's report, together with the sample material and one copy of an independent laboratory test report will be forwarded to the Commandant and if

satisfactory notice of acceptance will be given to the manufacturer.

(c) Acceptance of unicellular plastic foam prior to being incorporated into finished products, or during the course of manufacture, shall in no case be construed as a guarantee of the acceptance of the finished products.

(d) The manufacturer of the foam shall provide the manufacturer of the lifesaving equipment with an affidavit certifying that the foam conforms to all of the requirements of this subpart.

Subpart 164.018—Retroreflective Material for Lifesaving Equipment

SOURCE: CGD 76–028, 44 FR 38786, July 2, 1979, unless otherwise noted.

§ 164.018–1 Scope.

This subpart prescribes design requirements, approval tests, and procedures for approving retroreflective material used on lifesaving equipment.

§ 164.018–3 Classification.

The following types of retroreflective material are approved under this specification:

(a) Type I—Material used on flexible surfaces and rigid surfaces, except rigid surfaces that are continuously exposed.

(b) Type II—Weather resistant material used on continuously exposed rigid surfaces.

§ 164.018–5 Specifications and standards incorporated by reference.

(a) The following federal and military specifications and standards are incorporated by reference into this subpart:

(1) Federal Specification L-P-375 C (April 23, 1970), entitled ''Plastic Film, Flexible, Vinyl Chloride'', as amended by Amendment 2 of December 2, 1976.

(2) Federal Specification L-S-300 B (July 12, 1974), entitled ''Sheeting and Tape, Reflective: Nonexposed Lens, Adhesive Backing.''

(3) Federal Specification CCC-C-426 D (August 12, 1970), entitled ''Cloth, Drill, Cotton.''

(4) Federal Specification CCC-C-443 E (December 2, 1974), entitled ''Cloth, Duck, Cotton (Single and Plied Filling Yarns, Flat).''

(5) Federal Test Method Standard 141a (September 1, 1965), entitled ''Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, Sampling and Testing.'' (Method 6141 ''Washability of Paints'', and Method 6142 ''Scrub Resistance'' as amended May 1, 1974).

(6) Federal Test Method Standard 370 (March 1, 1977), entitled ''Instrumental Photometric Measurements of Retroreflective Materials and Retroreflective Devices.''

(7) Military Specification MIL-C-17415 E (April 16, 1964), entitled ''Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use'', as amended by Amendment 5 of April 26, 1976.

(8) Military Specification MIL-R-21607 D (August 5, 1976), entitled ''Resins, Polyester, Low Pressure Laminating, Fire-retardant.''

(9) Military Specification MIL-C-43006 E (March 24, 1978), entitled ''Cloth and Strip Laminated, Vinyl Nylon High Strength, Flexible.''

(b) The Federal standards may be obtained from the General Services Administration, Federal Acquisition Service, Office of the FAS Commissioner, 2200 Crystal Drive, 11th Floor, Arlington, VA 22202; telephone 703–605–5400. The Military Specifications may be obtained from the Military Specifications and Standards, Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111–5094, *https://assist.daps.dla.mil/quicksearch/*.'' These materials are also on file in the FEDERAL REGISTER library.

(c) Approval to incorporate by reference the materials listed in this section was obtained from the Director of the Federal Register on June 14, 1979.

(d) When changes are made to a specification or standard incorporated by reference into this subpart, the effective date for its use will be the effective date set by the issuing authority unless otherwise determined by the Coast Guard.

[CGD 76–028, 44 FR 38786, July 2, 1979, as amended by USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.018–7 Approval procedures.

(a) An application for approval of retroreflective material must be submitted to the Commandant (CG–ENG) according to § 159.005–1 of this subchapter.

(b) Each application for approval must contain—(1) The name and address of the applicant;

(2) Plans or specifications of the material;

(3) A detailed description of the quality control procedures used in manufacturing the material; and

(4) A test report containing observations and results of approval testing conducted.

(c) The Commandant advises the applicant whether the retroreflective material is approved. If the material is approved, an approval certificate is sent to the applicant.

[CGD 76–028, 44 FR 38786, July 2, 1979, as amended by CGD 82–063b, 48 FR 4783, Feb. 3, 1983; CGD 88–070, 53 FR 34537, Sept. 7, 1988; CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013; USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.018–9 Design requirements.

(a) Type I retroreflective material must be capable of being attached to lifesaving equipment either by sewing it to the equipment or by means of an adhesive. Type II material must be capable of being attached to lifesaving equipment either by mechanical fasteners or by an adhesive.

(b) The following information must be stated on retroreflective material or on the package in which it is supplied to a user:

(1) Each surface to which the retroreflective material is designed to be attached.

(2) The instructions for attaching the material to each surface described in paragraph (b)(1) of this section.

(c) When retroreflective material designed for use with an adhesive is tested in accordance with the ''adhesion'' test method listed in § 164.018–11, the material must not peel for a distance of more than 5 cm (2 in.).

(d) When dry material is tested in accordance with the ''reflective intensity'' test method listed in § 164.018–11, the reflective intensity of the material must be equal to or greater than the values for reflective intensity listed in Table 164.018–9.

(e) When wet material is tested in accordance with the ''reflective intensity during rainfall'' test method listed in § 164.018–11, the reflective intensity of the material must be at least 90 percent of the values listed in Table 164.018–9.

(f) The reflective intensity of material after testing in accordance with the ''resistance to accelerated weathering'' test method listed in § 164.018–11 must be at least 50 percent of the values listed in Table 164.018–9.

(g) After testing in accordance with the ''fungus resistance'' test method listed in § 164.018–11, retroreflective material must not support fungus growth, and the reflective intensity of the material must be equal to or greater than the values for reflective intensity listed in Table 164.018–9.

(h) The reflective intensity of materials after testing in accordance with the ''resistance to water immersion'' test method described in § 164.018–11, must be equal to or greater than the values listed in Table 164.018–9, except that retroreflectivity is not required in the area extending outward 5 mm (0.2 inches) from each side of the cuts made in the material.

(i) The reflective intensity of material after testing in accordance with the ''abrasion resistance'' test method described in § 164.018–11(b)(2), must be at least 50 percent of the values listed in Table 164.018–9

(j) After retroreflective material is tested in accordance with the ''soil resistance and cleanability'' test method described in § 164.018–11(b)(3) the material must not have any visible damage or permanent soiling.

(k) Except as provided in paragraphs (c) through (j) of this section, retroreflective material when tested in accordance with the test methods listed in § 164.018–11 must meet the requirements prescribed for those test methods in Federal Specification L-S-300.

TABLE 164.018–9—REFLECTIVE INTENSITY

Divergence angle [1] (Observation angle) [2]	Incidence angle [1] (Entrance angle) [2]	Reflective intensity [1] (Specific intensity per unit area) [2]
0.2°	−4°	150
.2°	+ 30°	75
.2°	+ 45°	50
.5	−4°	57
.5	+ 30°	33
.5	+ 45°	25
2.0°	−4°	2.5
2.0°	+ 30°	2.0
2.0°	+ 45°	1.0

[1] These terms are described in Federal Specification L-S-300.
[2] These terms are described in Federal Test Method Standard 370.

§ 164.018–11 Approval tests.

(a) Retroreflective material submitted for Coast Guard approval must be tested in accordance with the following test methods described in Federal Specification L-S-300:

(1) Test conditions.

(2) Test panels.

(3) Adhesion test method using a 0.79 kg (1.75 lb.) test weight, except that one test panel must be immersed in distilled water in a covered container for 16 hours before the weight is applied and the other test panel must be immersed in salt water (4% NaCl by weight) in a covered container for 16 hours before the weight is applied. (This test method is required only for retroreflective material that is designed for use with an adhesive. If a particular test panel used in testing results in a test failure, the retroreflective material will not be approved for attachment to material of the type used as the test panel. The retroreflective material may nevertheless be approved for use with other types of material depending on the results of testing with the other panels. See paragraph (d) of this section for a listing of tests panels used.)

(4) Flexibility at standard conditions test method, except that when testing Type I material—

(i) The material must be unmounted;

(ii) A 1.5 mm (1/16-inch) mandrel must be used in place of the mandrel described in the test method; and

(iii) After testing at standard conditions, the material must be placed in a chamber at a temperature of −18 °C. (0 °F.) for at least 1 hour and then retested in the chamber at that temperature.

(5) Reflective intensity.

(6) Resistance to accelerated weathering test method and subtest methods ''reflective intensity after accelerated weathering,'' ''reflective intensity during rainfall,'' and ''adhesion after accelerated weathering.'' (The ''adhesion after accelerated weathering'' test method is required only for materials designed for use with an adhesive. The ''resistance to accelerated weathering'' test method must be performed for 250 hours, if testing Type I material, and for 1,000 hours if testing Type II material.)

(7) Resistance to heat, cold, and humidity.

(8) Fungus resistance.

(b) Retroreflective material submitted for approval must also be tested as follows:

(1) *Resistance to water immersion.* Two test panels are used. The test panels and test conditions must meet paragraphs (a)(1) and (a)(2) of this section. The retroreflective material on each test panel is cut with a sharp knife from each corner to the corner diagonally opposite so that an ''X'' is formed. The cuts must be made completely through the material to the metal panel. One panel is immersed in distilled water in a covered container. The other panel is immersed in salt water (4% NaCl by weight) in a covered container. After 16 hours in water, the panels are removed from the containers, rinsed of deposits, and dried. Reflective intensity values at the angles listed in Table 164.018–9 must be measured within 2 hours after removal of the panels from the water. When measuring the reflective intensity values, the area within 5 mm (0.2 in.) of either side of the ''X'' cuts, and within 5 mm of the cut edges of the material, must not be counted.

(2) *Abrasion resistance.* One test panel is used. The panel and test conditions must meet paragraphs (a)(1) and (a)(2) of this section. The test apparatus must meet Federal Test Method Standard 141, Method 6142, except that the brush must be dry. One thousand brush strokes are applied to the material. The test panel is then wiped with a

clean soft cloth. Thereafter, the reflective intensity of the area of the material in contact with the brush is measured at the angles listed in Table 164.018–9.

(3) *Soil resistance and cleanability*. One panel is used. The test panel and test conditions must meet paragraphs (a)(1) and (a)(2) of this section. A soiling medium is applied to the material as described in Federal Test Method Standard 141, Method 6141. The soiled area is then covered with a laboratory watch glass or similar device. After 24 hours, the material is uncovered and the soil medium wiped off with a clean, dry, soft cloth. The material is then wetted with mineral spirits and wiped with a cloth soaked in mineral spirits. Thereafter, it is washed with a 1 percent (by weight) solution of detergent in warm water and rinsed and dried with a clean, dry, soft cloth.

(c) Each measurement of reflective intensity required in paragraphs (a), (b)(1), and (b)(2) of this section must be made using either—

(1) The L-S-300 procedure for measuring reflective intensity; or

(2) The procedure for measuring specific intensity per unit area in Federal Test Method Standard 370, except that the test apparatus arrangement required in L-S-300 must be used.

(d) If material is designed for use with an adhesive, the ''adhesion'' test method required by paragraph (a)(3) of this section must be repeated using a 0.79 kg. (1.75 lb.) test weight and using each of the following materials as test panels in place of the aluminum test panels required by this test method:

(1) Smooth panel of cured polyester laminating resin meeting MIL-R-21607 (Types I and II material).

(2) Cotton drill (Type I material only) meeting CCC-C-426, or cotton duck meeting CCC-C-443 (Type I material only).

(3) Vinyl-nylon laminated cloth meeting MIL-C-43006 (Type I material only).

(4) Vinyl film meeting L-P-375 (Type I material only).

(5) Rubber coated cloth meeting MIL-C-17415 (Type I material only).

(e) Each flexible material listed in paragraph (d) of this section when used as a test panel must be bonded to a rigid backing.

(f) Test panel material listed in paragraph (d) of this section must—

(1) Be taken from an item of Coast Guard approved lifesaving equipment; or

(2) Be certified by the manufacturer of the material that it meets the applicable specification in paragraph (d) of this section.

§ 164.018–13 Production inspections.

The Coast Guard does not inspect retroreflective material approved under this subpart on a regular schedule. However, the Commandant may select samples and conduct tests and examinations whenever necessary to determine whether retroreflective material is being manufactured in compliance with the requirements of this subpart.

Subpart 164.019—Personal Flotation Device Components

SOURCE: CGD 84–068, 58 FR 29494, May 20, 1993, unless otherwise noted.

§ 164.019–1 Scope.

(a) This subpart contains general requirements for standard personal flotation device (PFD) components, procedures for acceptance of non-standard PFD components, and production quality control requirements for all PFD components, used in the construction of PFDs approved under part 160 of this subchapter.

(b) Other subparts of this part contain specific requirements applicable to particular PFD components used in the construction of Coast Guard-approved PFDs.

(c) Part 160 of this chapter contains specific requirements and limitations concerning the use of PFD components in the construction of particular Coast Guard-approved PFDs.

§ 164.019–3 Definitions.

Acceptance means certification by the Coast Guard that a component is suitable for use in the manufacture of Coast Guard-approved PFDs.

Commandant means the Chief of the Lifesaving and Fire Safety Division,

Office of Engineering and Design Standards, U.S. Coast Guard. Address: Commandant (CG–ENG–4), Attn: Lifesaving and Fire Safety Division, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509; telephone 202–372–1392.

Component manufacturer means either a component manufacturer or supplier seeking acceptance of a component, or a component manufacturer or supplier who has obtained acceptance of a component.

Inspector means a Coast Guard marine inspector, authorized representative of the Coast Guard, or a recognized laboratory representative.

Non-standard component means a PFD component which is equivalent in performance to a standard component.

PFD Type means the performance type designation as indicated in 33 CFR part 175 and this subchapter.

Standard component means a PFD component which complies in all respects with the material, construction, and performance requirements of a subpart of this part or part 160 of this chapter.

Use Code means an alphanumeric code assigned by the Commandant (CG–ENG–4) to a PFD component to designate the PFD Type(s) in which it may be used. Assigned Use Codes are listed in table 164.019–3.

TABLE 164.019–3

Use code	PFD type acceptable for use
1	I, II, and III.
2	II and III.
3	III.
4B	IV (all Ring Buoys).
4BC	IV (Buoyant Cushions).
4RB	IV (Recreational Ring Buoys only).
5	Wearable Type V (intended use must be specified).
5H	V (Hybrid).
5R	V (Recreational Style).
5SB	V (Sailboard vests).
5WV	V (Work vests).
6	Special, limited, or restricted use.
Suffix A	Adult only.
Suffix C	Child only.

[CGD 84–068, 58 FR 29494, May 20, 1993, as amended by CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; USCG–2006–25697; 71 FR 55747, Sept. 25, 2006; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.019–4 Component requirements.

(a) PFDs may be constructed only with Coast Guard-accepted PFD components meeting the requirements of this subchapter.

(b) PFD components may be used in the construction of PFDs only in accordance with their Use Codes.

§ 164.019–5 Standard components; acceptance criteria and procedures.

(a) *General.* Standard components used in the construction of PFDs must meet the applicable requirements of this part or part 160 and the documentation requirements of this section.

(b) *Use Codes.* Each standard component is assigned a Use Code as indicated in table 164.019–3. Additional Use Codes may be assigned by the Commandant.

(c) *Method and documentation of acceptance.* Except as provided in paragraph (d) of this section, the following requirements pertaining to the shipment of standard components must be met in order for the standard components to be considered Coast Guard-accepted standard components:

(1) Each shipment of standard components must be accompanied by an affidavit complying with § 164.019–11.

(2) A sample affidavit, or a copy of the affidavit, provided with the first shipment of standard components to a PFD manufacturer, must be provided to the Commandant.

(3) A revised sample affidavit, or a copy of the revised affidavit, must be provided to the Coast Guard any time the information on the affidavit accompanying a shipment of standard components materially changes.

(d) *Exception.* Affidavits are not required to be provided for standard components that are under the quality control oversight program of a recognized laboratory meeting the requirements of § 164.019–17.

(e) *Suspension or termination of acceptance.* The procedures in §§ 2.75–40 and 2.75–50 of this chapter for suspension and termination of approvals also apply to Coast Guard acceptances of PFD components.

§ 164.019–7 Non-standard components; acceptance criteria and procedures.

(a) *General*. Non-standard components may be used in the construction of PFDs only if they have been accepted by the Coast Guard in accordance with the requirements of this section.

(b) *Use Codes*. Each non-standard component is assigned a Use Code as indicated in table 164.019–3. Additional Use Codes may be assigned by the Commandant.

(c) *Request for acceptance*. The component manufacturer or the recognized laboratory that performs the acceptance testing required by the applicable subpart of this part or part 160 of this chapter must submit, in writing, to the Commandant, a request for acceptance of any non-standard component. The request must include the information, supporting documentation, and samples required by this section.

(1) The request must include a statement of the intended use of the component by the PFD manufacturer, and the Use Code(s) for which acceptance is requested. Intended uses must be for one or more of the following—

(i) Outer Envelope Fabric (exterior fabrics on wearable PFDs);

(ii) Cover Fabric (for throwable PFDs);

(iii) Inner Envelope Fabric;

(iv) Closure (including zippers) or Adjustment Hardware;

(v) Body Strap;

(vi) Grab Strap (applies to buoyant cushions only);

(vii) Tie Tape;

(viii) Reinforcing Tape;

(ix) Thread:

(x) Flotation Foam; or

(xi) Other (specify).

(2) The request must include a statement identifying the component in detail and including the unique style, part, or model number, the identification data required by the applicable subpart of this part, and any other manufacturer's identifying data. No two components which differ in any way, e.g., size, material composition, construction, may utilize the same identification number.

(3) The report of a recognized laboratory's test data in accordance with the ''acceptance tests'' required by the applicable subpart of this part or part 160 must be submitted with the request. Each report must include the name of the laboratory and a description of the test equipment and test methods used, and must be signed and dated by an authorized laboratory official.

(4) A sample of each component that is being considered must be submitted with the request. Where the lightest and darkest colors are being tested, samples of both colors must be submitted. A one linear yard sample is required in the case of textiles.

(5) The request must include a list of all materials used in the construction of the particular component. The list must contain specific identification and quantity of all materials used.

(6) For hardware and other mechanical components, the request must include scaled drawings showing details and dimensions of the mechanism.

(7) A statement of dimensional and performance tolerances, as appropriate, that will be maintained in production must be submitted with request.

(8) The request must include a description of the quality control procedures that will be in effect during production.

(9) The request must include a detailed description of the recognized laboratory's procedures for oversight of the manufacturer's program of production quality control, including a description of the laboratory's certification marking(s).

(10) The request must include any appropriate installation or use guidelines for the component.

(d) *Documentation of acceptance*. When an acceptance is granted, the Commandant provides written notice to the applicant.

(e) *Alternate requirements*. A component that does not meet the requirements of this subchapter is eligible for acceptance if it—

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

(2) Provides at least the same degree of safety as provided by a component that does comply with this subpart.

(f) *Additional tests and documentation.* The Commandant may prescribe additional tests or request additional documentation, if necessary, to determine the acceptability or suitability of a particular product.

(g) *Suspension or termination of acceptance.* The producers in §§ 2.75–40 and 2.75–50 of this chapter for suspension and termination of approvals also apply to Coast Guard acceptances of PFD components.

[CGD 84–068, 58 FR 29494, May 20, 1993; 58 FR 32416, June 9, 1993]

§ 164.019–9 Procedure for acceptance of revisions of design, process, or materials.

(a) The manufacturer shall not change the design, material, manufacturing process, or construction of a non-standard component unless it has been previously approved by the Commandant, in accordance with paragraph (b) of this section.

(b) The manufacturer or the recognized laboratory that performs the acceptance testing required by the applicable subpart of this part or part 160 of this chapter shall submit requests for acceptance of revisions in design, material, manufacturing process, or construction of a non-standard component in writing and describe the revision in detail similar to the original request for acceptance.

§ 164.019–11 Certification (affidavits).

General. Affidavits required by § 164.019–5(c) must be notarized, and certify that a component complies in all respects with the material and construction requirements of a subpart of this part or part 160 of this chapter. Each affidavit must contain the following information:

(a) Name and address of company.

(b) Name and title of signing company official.

(c) Description of the component by use of the unique style, part, or model number and other applicable distinctive characteristics such as weight, size, denier, treatments or coatings, etc.

(d) Production data (to include lot, batch number, and quantity shipped) in sufficient detail to enable the manufacturer or purchaser to trace a shipment of components back to the lots of raw materials used in its manufacture.

(e) The intended use of the component, from the list in § 164.019–7(c)(1).

(f) The PFD Type(s) for which the component is a standard component, as determined by—

(1) The standard material component requirements of part 160 of this chapter with which the component complies; or

(2) The Use Code(s) of the component.

(g) A statement indicating the specific provision(s) of this subchapter with which the component complies.

(h) A copy of the records of all required production tests performed on the component lots that are covered by the affidavit.

§ 164.019–13 Production quality control requirements.

(a) *General.* Each component manufacturer shall establish procedures for maintaining quality control of the materials used in production, manufacturing operations, and the finished product.

(b) *Recognized laboratory oversight.* Each manufacturer of non-standard components shall supplement its procedures for assuring production quality control with a program of oversight by a recognized laboratory, as described in the oversight procedures submitted to the Coast Guard in accordance with § 164.019–7(c)(9). The laboratory's oversight program must be performed at the place of manufacture unless alternate procedures have been accepted by the Commandant.

(c) *Production tests and inspections.* Production tests and inspections must be conducted in accordance with this section and subpart 159.007 of this chapter.

(d) *Responsibilities; component manufacturers.* Each component manufacturer shall—

(1) Perform all production tests and inspections required by the applicable subpart of this part;

(2) Adhere to the accepted quality control procedures for the component as submitted to the Coast Guard in accordance with § 164.019–7(c)(8); and

(3) Establish a continuing program of employee training and a program for maintaining production and test equipment.

(e) *Responsibilities; recognized laboratories*. The same recognized laboratory that performed the acceptance testing shall, at least quarterly, or more frequently if required by the applicable subpart of this part or by the oversight procedures submitted in accordance with § 164.019–7(c)(9)—

(1) Audit the component manufacturer's records required by § 164.019–15;

(2) Perform, or supervise the performance of, the tests required by this section, the applicable subpart of this part, and the accepted quality control and oversight procedures; and

(3) Verify, during each inspection, compliance by the manufacturer with the manufacturer's established quality control program and provide a summary report of any noncompliance to the Commandant at least annually.

(f) *Component lots*—(1) *Lot numbers*. The manufacturer shall assign a lot number to each group of components manufactured. A new lot must be started whenever any change is made in materials, design, or production method, and whenever any substantial discontinuity in the manufacturing process (such as a change in shift) occurs. Changes in lots of incoming materials must be treated as changes in materials. Lots must be numbered serially. The lot number assigned, in combination with the unique product name or identification, must enable the component manufacturer (or supplier), by referring to the records required by this subpart, to determine the source(s) of all raw materials used in that lot.

(2) *Lot size*. The maximum lot size for any particular component must be as defined in the applicable subpart of this part.

(g) *Samples*. (1) Procedures for selection of test samples, and required sample sizes, must be in accordance with the applicable subpart of this part.

(2) The inspector shall select different samples than were tested by the manufacturer.

(h) *Detailed product examination*—(1) *General*. In addition to the tests and inspections required by the applicable subpart of this part, the manufacturer or the inspector shall examine each sample component to determine that—

(i) The construction, markings, and workmanship conform to the information submitted in the request for acceptance; and

(ii) The component is not otherwise defective.

(2) *Inspection responsibility*. The manufacturer shall ensure that the inspection required by paragraph (h)(1) of this section is performed by a manufacturer's representative familiar with the performance requirements for the component, and all of the production quality control requirements. The manufacturer's representative must not be responsible for meeting production schedules, or be subject to supervision by someone responsible for meeting production schedules.

(i) [Reserved]

(j) *Accept/reject criteria*. (1) A component lot passes production testing and is therefore accepted if each sample tested passes each test.

(2) A lot having a production test failure may be accepted if it meets the following additional test requirements.

(i) When the basis of acceptability is an average result, a second sampling with an identical number of samples is taken. The results of this second sampling must be averaged with the initial results. If the average result passes the test, then the lot may be accepted.

(ii) When the basis of acceptability is individual sample results, a second sampling is taken. The size of the second sampling must be as specified in the subpart of this part which covers the component. If each sample in this sampling passes the test, the lot may be accepted.

(3) A rejected lot of components may be resubmitted for testing, examination, or inspection if—

(i) The manufacturer first removes each component having the same type of defect or;

(ii) After obtaining authorization from the Commandant or the recognized laboratory, the manufacturer reworks the lot to correct the defect.

(4) A rejected lot or rejected component may not be sold or offered for sale with the representation that it meets the requirements of this subpart or is accepted by the Coast Guard, and may not be used in the construction of Coast Guard-approved PFDs.

(k) *Facilities and equipment*—(1) *General*. The manufacturer shall provide

the test equipment and facilities for performing production tests, examinations, and inspections described in the applicable subpart of this part and in the quality control and oversight procedures submitted in accordance with § 164.019–7(c) (8) and (9).

(2) *Calibration*. The manufacturer shall have the calibration of all test equipment checked at least every 6 months by a weights and measures agency or by the equipment manufacturer, distributor, or dealer.

(3) *Facilities for inspector's use*. The manufacturer shall provide a suitable place and the necessary apparatus for the inspector to use in conducting or supervising tests. For the detailed product examination, the manufacturer shall provide a suitable working environment and a smooth-top table for the inspector's use.

(4) *Access to facilities*. The manufacturer shall permit the inspector to have access to any place in the factory where work is being done on PFD components or where components are stored. The inspector may take samples of parts or materials entering into production or completed components, for further examinations, inspections, or tests.

(l) [Reserved]

(m) *Alternate procedures for standard components*. In lieu of the quality control procedures specified in this section, manufacturers of standard components may follow the quality control procedures in a Federal or military specification with which the component is required to comply by this subchapter, or equivalent procedures accepted by the Commandant.

(n) *Additional tests*. The Commandant may prescribe additional production tests and inspections to maintain quality control. A representative of the Commandant may conduct inspections for compliance with the requirements of this subpart.

[CGD 84–068, 58 FR 29494, May 20, 1993; 58 FR 32416, June 9, 1993]

§ 164.019–15 Component manufacturer records.

(a) Each component manufacturer shall retain records as required by § 159.007–13 of this chapter.

(b) The records required by paragraph (a) of this section must include the following information:

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

(2) For each test and inspection, the identification of the samples used, the lot number, the unique component identification, and the quantity of the component in the lot.

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

(c) Manufacturers utilizing procedures and apparatus meeting the requirements of the applicable subpart of this part or the independent laboratory's accepted follow-up inspection procedures are not required to include the description of procedures or photographs or apparatus required by § 159.007–13 of this chapter in the manufacturers' records.

(d) In addition to the records required by paragraphs (a) and (b) of this section, each component manufacturer shall retain the following:

(1) Records for all materials used in production, including name and address of the supplier, date of purchase and receipt, and lot number.

(2) A copy of this subpart, and other subparts applicable to the component manufactured.

(3) Each document incorporated by reference in the applicable subpart(s) of this part.

(4) A copy of the accepted component specifications and identifying data.

(5) Records of calibration of all test equipment, including the identity of the agency performing the calibration, date of calibration, and results.

(e) Manufacturers shall retain the records required by paragraph (d)(1) of this section for at least 60 months.

(f) Upon request, manufacturers shall make available to the inspector or to the Commandant records of tests conducted by the manufacturer and records of materials entering into construction, including affidavits by suppliers certifying that applicable requirements are met.

§ 164.019–17 Recognized laboratory.

(a) *General.* A laboratory may be designated as a recognized laboratory under this subpart if it is—

(1) Accepted by the Coast Guard as an independent laboratory under subpart 159.010 of this subchapter; and

(2) Established in the inspection of factory production, listing, and labeling, by having an existing program and standards for evaluation, listing, and marking components, that are acceptable to the Commandant.

(b) *Designated recognized laboratories.* A current listing of recognized laboratories is available from the Commandant upon request.

Subpart 164.023—Thread for Personal Flotation Devices

SOURCE: CGD 84–068, 58 FR 29497, May 20, 1993, unless otherwise noted.

§ 164.023–1 Scope.

This subpart contains performance requirements, acceptance tests, and production testing and inspection requirements for thread used in the construction of personal flotation devices (PFDs) approved under part 160 of this subchapter. Manufacturers must also comply with the requirements of subpart 164.019 of this chapter.

§ 164.023–3 Specifications and standards incorporated 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, notice of change must be published in the FEDERAL REGISTER and the material made available to the public. All approved material may be inspected at the National Archives and Records Administration (NARA), and at Coast Guard Headquarters. Contact Commandant (CG–ENG–4), Attn: Lifesaving and Fire Safety Division, U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE., Washington, DC 20593–7509. The material is also available from the sources indicated in paragraph (c) 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:

FEDERAL STANDARDS AND TEST METHOD STANDARDS

The following test methods in Federal Test Method Standard No. 191A, Textile Test Methods, July 20, 1978:

(1) Method 4010, Length-Weight Relation; Thread; Yards Per Pound (m/kg)—164.023–11.

(2) Method 4100, Strength and Elongation, Breaking; and Tenacity; of Thread and Yarn; Single Strand—164.023–7.

(3) Method 5804, Weathering Resistance of Cloth; Accelerated Weathering Method—164.023–7.

FEDERAL SPECIFICATIONS

(4) V-T-285E—Thread, Polyester, August 21, 1986—164.023–5.

(5) V-T-295E—Thread, Nylon, August 1, 1985—164.023–5.

MILITARY SPECIFICATIONS

(6) MIL-T-43548C—Thread, Polyester Core: Cotton-, Rayon-, or Polyester-Covered, September 30, 1986—164.023–5.

(7) MIL-T-43624A—Thread, Polyester, Spun, January 22, 1982—164.023–5.

(c) The Federal standards may be obtained from the General Services Administration, Federal Acquisition Service, Office of the FAS Commissioner, 2200 Crystal Drive, 11th Floor, Arlington, VA 22202; 703–605–5400. Military Specifications and Standards, Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111–5094, *https://assist.daps.dla.mil/quicksearch/.*

[CGD 84–068, 58 FR 29497, May 20, 1993, as amended by CGD 95–072, 60 FR 50467, Sept. 29, 1995; CGD 96–041, 61 FR 50734, Sept. 27, 1996; 69 FR 18803, Apr. 9, 2004; USCG–2009–0702, 74 FR 49238, Sept. 25, 2009; USCG–2013–0671, 78 FR 60162, Sept. 30, 2013]

§ 164.023–5 Performance; standard thread.

(a) *Use Codes 1, 2, 3, 4BC, 4RB, 5 (any).* Each thread which complies with all of the requirements of a specification listed in table 164.023–5(a) is assigned Use Codes 1, 2, 3, 4BC, 4RB, and 5 (any).

TABLE 164.023–5(a)

[Use codes 1, 2, 3, 4BC, 4RB, 5(any)]

Federal or military specification	Material	Type	Class	Ticket No. or size range
V-T-285E	Polyester	I or II	1	E, F, FF.
V-T-295E	Nylon	I or II	A	E, F, FF.
MIL-T-43624A	Polyester			24 through 12.
MIL-T-43548C	Polyester covered only			24 through 12.

(b) *Use Code 4B*. Each thread which meets the requirements of Federal Specifications V-T-295, Type II, Class A, number size 4, is assigned Use Code 4B.

§ 164.023–7 Performance; non-standard thread.

(a) *Use Codes 1, 2, 3, 4BC, 4RB, 5 (any)*. Each non-standard thread which meets all of the requirements of paragraphs (a)(1) through (a)(3) of this section is assigned Use Codes 1, 2, 3, 4BC, 4RB, and 5 (any).

(1) *Single strand breaking strength*. The thread, as received, must have a single strand breaking strength of not less than 25 N (5.7 lb.), when tested in accordance with Test Method 4100 in Federal Test Method Standard No. 191A using a Constant-Rate-of-Traverse (CRT) testing machine.

(2) *Single strand breaking strength (after weathering)*. After exposure in a sunshine carbon-arc weatherometer in accordance with Test Method 5804 in Federal Test Method Standard No. 191A for a period of 100 hours, the thread must retain at least 60 percent of its single strand breaking strength as received, and have a breaking strength of at least 21 N (4.7 lb.).

(3) *Loop breaking strength*. The thread, as received, must have a loop breaking strength of not less than 45 N (10.0 lb.), when tested in accordance with Test Method 4100 in Federal Test Method Standard No. 191A using a CRT testing machine, except that—

(i) Each specimen must consist of two 35 cm (14 in.) pieces of thread; and

(ii) Both ends of one piece of thread must be secured without twisting in one clamp of the testing machine so that the length of the loop formed equals one half the distance between the clamps. One end of the second piece must then be passed without twisting through the loop formed by the first, and both ends must be secured in the other clamp of the machine. The breaking strength must then be determined under the single strand test.

(b) *Use Code 4B*. Each non-standard thread which meets all of the requirements of paragraphs (b)(1) and (b)(2) of this section is assigned Use Code 4B.

(1) *Single strand breaking strength*. The thread as received must have a single strand breaking strength of not less than 160 N (36.0 lb.) when tested in accordance with Test Method 4100 in Federal Test Method Standard No. 191A using a CRT testing machine.

(2) *Single strand breaking strength (after weathering)*. After exposure in a sunshine carbon-arc weatherometer in accordance with Test Method 5804 in Federal Test Method Standard No. 191A for a period of 100 hours, the thread must retain at least 60 percent of its single strand breaking strength.

(c) *Prohibited threads*. Cotton thread, and monofilament thread of any composition, will not be accepted for use in structural applications unless demonstrated to the Commandant to be equivalent to standard thread in durability in all foreseeable conditions of use and stowage.

§ 164.023–9 Samples submitted for acceptance.

Application samples. A product sample submitted for acceptance as required by § 164.019–7(c)(4) must consist of at least one unit of put-up of thread.

§ 164.023–11 Acceptance tests.

(a) *Performance testing*. Manufacturers shall ensure that the performance tests described in § 164.023–7 (a) or (b), as appropriate, are performed on a minimum of five samples in each of the lightest and darkest colors submitted for acceptance.

(b) *Identification testing.* Manufacturers shall ensure that the following identification tests are conducted:

(1) The average length/weight ratio of the thread in meters per kilogram (yards per pound) must be determined in accordance with Test Method 4010 in Federal Test Method Standard 191A.

(2) The generic chemical composition of the thread must be determined by qualitative infrared analysis, thermogravimetric analysis, differential scanning calorimeter, or other equivalent means adequate to conclusively identify the composition of the product tested.

(3) Elongation at break must be determined on the same samples tested for single strand breaking test in accordance with § 164.023–7(a)(1) or (b)(1), as appropriate.

§ 164.023–13 Production tests and inspections.

(a) *Manufacturer's test equipment and facilities.* The manufacturer shall provide the following test equipment and facilities for use in production tests and inspections:

(1) A Constant Rate of Traverse tensile testing machine, capable of initial clamp separation of ten inches and a rate of separation of 30 cm (12 in.) per minute.

(2) Fletcher, Callaway, U.S. Rubber clamps, or equivalent cam-actuated clamps to prevent slippage and twist of the samples.

(3) An analytical balance or grain-yarn scale, accurate to within 0.25 percent of the measured value.

(b) *Lot size.* Lot size must not exceed 460,000 meters (500,000 yds.) or 45 kg (100 lb.) of any color.

(c) *Sample selection.* Samples must be selected at random by the manufacturer (or inspector, as applicable) after the entire lot of thread has been completed.

(d) *Second sampling.* A second sampling, where required, must consist of five times the original sample size.

(e) *Manufacturer's production tests.* The component manufacturer shall perform the following tests on the samples indicated (each sample to include at least 5 specimens unless otherwise specified in the referenced test procedure) on each lot of thread:

(1) *Breaking strength.* One sample must be tested in accordance with § 164.023–7(a)(1) or § 164.023–7(b)(1), as applicable.

(2) *Length/weight ratio.* One sample must be tested in accordance with § 164.023–11(b)(1).

(f) *Recognized laboratory production tests.* Manufacturers shall ensure that the following tests and inspections are performed on non-standard components by a recognized laboratory:

(1) *Composition.* At least annually, one sample of each accepted thread must be tested in accordance with § 164.023–11(b)(2).

(2) *Breaking strength.* At least quarterly, one sample in each of the lightest and darkest colors accepted must be tested in accordance with § 164.023–7(a)(1) or § 164.023–7(b)(1), as applicable. This test may be performed by a recognized laboratory, or witnessed by a recognized laboratory inspector at the manufacturer's plant, at the laboratory's discretion.

(3) *Elongation.* At least annually, one sample of each accepted thread in each of the lightest and darkest colors accepted must be tested in accordance with § 164.023–11(b)(3). This test may be performed by a recognized laboratory, or witnessed by a recognized laboratory inspector at the manufacturer's plant, at the laboratory's discretion.

(g) *Accept/reject criteria.* Unless the alternate procedures as permitted by § 164.019–013(m) are followed, the results of required production testing on a lot must meet the following criteria for the lot to be shipped as Coast Guard-accepted thread:

(1) Breaking strength test results must be within 10 percent below and 20 percent above the acceptance testing values but not less than the performance minimums.

(2) Length/weight values must be within 5 percent of the acceptance testing values but not less than the performance minimums.

(3) Elongation values must be within 20 percent of the acceptance testing values but not less than the performance minimums.

(4) Composition testing must indicate that the sample tested is of identical composition to the sample tested for

acceptance or in accordance with the performance specification.

§ 164.023–15 Marking.

(a) *General.* The manufacturer must ensure that each shipping label, and each spool or individual unit of put-up, is permanently and clearly marked in a color which contrasts with the color of the surface on which the marking is applied. Each label must be marked with—

(1) The manufacturer's or supplier's name, trade name, or symbol;

(2) The unique style, part, or model number of the thread;

(3) The size of the thread;

(4) The composition of the thread; and

(5) The lot number of the thread.

(b) *Non-standard thread.* In addition to the markings specified in paragraph (a) of this section, each unit of put-up of non-standard thread must be marked with the appropriate recognized laboratory's certification marking(s).

Subpart 164.105—Deck Assemblies (A–60) For SOLAS Vessels

SOURCE: USCG–2012–0196, 81 FR 48280, July 22, 2016, unless otherwise noted.

§ 164.105–1 Scope.

This subpart prescribes requirements for approval of deck assemblies (A–60) for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.105–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org.*

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.105–3(a).

(2) [Reserved]

§ 164.105–3 Testing, marking, and inspection requirements.

(a) Each deck assembly submitted for type approval must be tested for noncombustibility under Annex 1, Part 1 and then tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.105–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx.*

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a deck assembly.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the

manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.105–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.106—Primary Deck Coverings for SOLAS Vessels

SOURCE: USCG–2012–0196, 81 FR 48281, July 22, 2016, unless otherwise noted.

§ 164.106–1 Scope

This subpart prescribes requirements for approval of primary deck coverings for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.106–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.106–3(a).

(2) [Reserved]

§ 164.106–3 Testing, marking, and inspection requirements.

(a) Each primary deck covering submitted for type approval must be tested in accordance with the flame spread procedures specified in Part 5 of Annex 1 and the smoke density and toxicity criteria in Part 2 of Annex 1 of the FTP Code (incorporated by reference, see § 164.106–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007

of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a primary deck covering.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

[USCG–2012–0196, 81 FR 48281, July 22, 2016, as amended by USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.106–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.107—Structural Insulation (A–60) for SOLAS Vessels

SOURCE: USCG–2012–0196, 81 FR 48282, July 22, 2016, unless otherwise noted.

§ 164.107–1 Scope.

This subpart prescribes requirements for approval of structural insulation (A–60) for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS). Products approved under these requirements may be used in place of products required to be approved as meeting the requirements of § 164.007.

§ 164.107–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.107–3(a).

(2) [Reserved]

§ 164.107–3 Testing, marking, and inspection requirements.

(a) Each structural insulation (A–60) submitted for type approval must be tested in accordance with the non-combustibility test under Annex 1, Part 1 and then tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.107–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a structural insulation.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.107–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.108—Bulkheads (B–0 and B–15) for SOLAS Vessels

SOURCE: USCG–2012–0196, 81 FR 48282, July 22, 2016, unless otherwise noted.

§ 164.108–1 Scope.

This subpart prescribes requirements for approval of bulkheads (B–0 and B–15) for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS). Products approved under these requirements may be used in place of products required to be approved as meeting the requirements of § 164.008.

§ 164.108–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United

Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.108–3(a).

(2) [Reserved]

§ 164.108–3 Testing, marking, and inspection requirements.

(a) Each bulkhead (B–0 & B–15) submitted for type approval must be tested in accordance with non-combustibility under Annex 1, Part 1 and then tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.108–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a bulkhead.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.108–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4) United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.109—Non-combustible Materials (SOLAS)

SOURCE: USCG–2012–0196, 81 FR 48283, July 22, 2016, unless otherwise noted.

§ 164.109–1 Scope.

This subpart prescribes requirements for approval of non-combustible materials for use on SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS). Products approved under these requirements may be used in place of products required to be approved as meeting the requirements of § 164.009.

§ 164.109–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal

Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.109–3(a).

(2) [Reserved]

§ 164.109–3 Testing, marking, and inspection requirements.

(a) Non-combustible materials submitted for type approval must be tested in accordance with Annex 1, Part 1 of the FTP Code (incorporated by reference, see § 164.109–2). Five specimens must be tested and the test need not last longer than 30 minutes.

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a non-combustible material.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.109–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.110—Continuous Ceilings (B–0 and B–15) (SOLAS)

SOURCE: USCG–2012–0196, 81 FR 48284, July 22, 2016, unless otherwise noted.

§ 164.110–1 Scope.

This subpart prescribes requirements for approval of continuous ceilings (B–0 and B–15) for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.110–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.110–3(a).

(2) [Reserved]

§ 164.110–3 Testing, marking, and inspection requirements.

(a) Continuous Ceilings (B–0 and B–15) (SOLAS) submitted for type approval must be tested for non-combustibility under Annex 1, Part 1, and then tested for fire resistance under Annex 1, Part 3, Appendix 2, of the FTP Code (incorporated by reference, see § 164.110–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a continuous ceiling.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.110–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product

designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.111—Draperies, Curtains, and Other Suspended Textiles

SOURCE: USCG–2012–0196, 81 FR 48284, July 22, 2016, unless otherwise noted.

§ 164.111–1 Scope.

This subpart prescribes requirements for approval of draperies, curtains, and other suspended textiles as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.111–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.111–3(a).

(2) [Reserved]

§ 164.111–3 Testing, marking, and inspection requirements.

(a) Draperies, curtains, and other suspended textiles submitted for type approval must be tested for qualities of resistance to the propagation of flame not inferior to those of wool of mass 0.8 kg/m^2 under Annex 1, Part 7, of the FTP Code (incorporated by reference, see § 164.111–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as draperies, curtains and other suspended textiles.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.111–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate

this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.112—Interior Finish (Bulkheads and Ceiling Finishes) (SOLAS)

SOURCE: USCG–2012–0196, 81 FR 48285, July 22, 2016, unless otherwise noted.

§ 164.112–1 Scope.

This subpart prescribes requirements for approval of interior finishes (bulkheads and ceiling finishes) for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS). Products approved under these requirements may be used in place of products required to be approved as meeting the requirements of § 164.012.

§ 164.112–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.112–3(a).

(2) [Reserved]

§ 164.112–3 Testing, marking, and inspection requirements.

(a) Interior Finishes (Bulkheads and ceiling finishes) for SOLAS vessels submitted for type approval must be tested for surface flammability in Annex 1, Part 5, and the smoke density and toxicity criteria of Annex 1, Part 2, of the FTP Code (incorporated by reference, see § 164.112–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as an interior finish.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.112–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.117—Floor Finish (SOLAS)

SOURCE: USCG–2012–0196, 81 FR 48286, July 22, 2016, unless otherwise noted.

§ 164.117–1 Scope.

This subpart prescribes requirements for approval of floor finishes for SOLAS vessels as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.117–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.117–3(a).

(2) [Reserved]

§ 164.117–3 Testing, marking, and inspection requirements.

(a) Floor finishes for SOLAS vessels submitted for type approval must be tested for surface flammability in Annex 1, Part 5, and the smoke density and toxicity criteria of Annex 1, Part 2, of the FTP Code (incorporated by reference, see § 164.117–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to

select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a floor finish.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.117–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.120 [Reserved]

Subpart 164.136—Fire Doors

SOURCE: USCG–2012–0196, 81 FR 48286, July 22, 2016, unless otherwise noted.

§ 164.136–1 Scope.

This subpart prescribes requirements for approval of fire doors as required by the International Convention for the Safety of Life at Sea (SOLAS). Products approved under these requirements may be used where fire doors of the same class are required in domestic vessels.

§ 164.136–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.136–3(a).

(2) [Reserved]

§ 164.136–3 Testing, marking, and inspection requirements.

(a) Fire doors submitted for type approval must be tested for non-combustibility under Annex 1, Part 5, and then tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.136–2). Adhesives used in the construction of fire doors need not be non-combustible, but they must be tested for low flame spread characteristics under Annex 1, Part 5 of the FTP Code and should be included in the approved door's follow-up program.

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire door.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.136–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.137—Windows

SOURCE: USCG–2012–0196, 81 FR 48287, July 22, 2016, unless otherwise noted.

§ 164.137–1 Scope.

This subpart prescribes requirements for approval of windows as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.137–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.137–3(a).

(2) [Reserved]

[USCG–2012–0196, 81 FR 48287, July 22, 2016, as amended by USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.137–3 Testing, marking, and inspection requirements.

(a) Windows submitted for type approval must be tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.137–2). Windows must also meet the thermal radiation test supplement to fire resistance, and hose stream test supplement, as outlined in Appendix 1 of Part 3 of the FTP Code.

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a window.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

[USCG–2012–0196, 81 FR 48287, July 22, 2016, as amended by USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.137–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.138—Fire Stops (Penetration Seals)

SOURCE: USCG–2012–0196, 81 FR 48288, July 22, 2016, unless otherwise noted.

§ 164.138–1 Scope.

This subpart prescribes requirements for approval of fire stops (penetration seals) as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.138–2 Incorporation by reference.

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved incorporation by reference (IBR) material is available for inspection at the Coast Guard and at the National Archives and Records Administration (NARA). Contact Coast Guard at: Commandant (CG–ENG–4), U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE, Washington, DC 20593–7509; email *typeapproval@uscg.mil* or visit *www.dco.uscg.mil/CG-ENG-4/*. For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov*. The material may be obtained from the International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *www.imo.org*.

(a) 2010 FTP, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''); IBR approved for § 164.138–3(a).

(b) [Reserved]

[USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.138–3 Testing, marking, and inspection requirements.

(a) Fire stops (penetration seals) submitted for type approval must be tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.138–2), including testing in accordance with Part 3, Appendix 3 and Appendix 4.

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire stop.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

[USCG–2012–0196, 81 FR 48288, July 22, 2016, as amended by USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.138–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request

must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.139–Dampers

SOURCE: USCG–2012–0196, 81 FR 48289, July 22, 2016, unless otherwise noted.

§ 164.139–1 Scope.

This subpart prescribes requirements for approval of fire dampers as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.139–2 Incorporation by reference.

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved incorporation by reference (IBR) material is available for inspection at the Coast Guard and at the National Archives and Records Administration (NARA). Contact Coast Guard at: Commandant (CG–ENG–4), U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Avenue SE, Washington, DC 20593–7509; email *typeapproval@uscg.mil* or visit *www.dco.uscg.mil/CG-ENG-4/*. For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov*. The material may be obtained from International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *www.imo.org*.

(a) 2010 FTP Code, International Code for the Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''); IBR approved for § 164.139–3(a).

(b) [Reserved]

[USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.139–3 Testing, marking, and inspection requirements.

(a) Automatic fire dampers that are installed in A-class divisions that are submitted for type approval must be tested for fire resistance under Annex 1, Part 3 of the FTP Code (incorporated by reference, see § 164.139–2), including testing in accordance with Appendix 2.

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire damper.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and shall furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

[USCG–2012–0196, 81 FR 48289, July 22, 2016, as amended by USCG–2020–0519, 89 FR 76705, Sept. 18, 2024]

§ 164.139–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate

this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.141—Plastic Pipes

SOURCE: USCG–2012–0196, 81 FR 48289, July 22, 2016, unless otherwise noted.

§ 164.141–1 Scope.

This subpart prescribes requirements for approval of plastic piping systems. Plastic piping systems include the pipe, fittings, system joints, method of joining, and any internal or external liners, coverings, and coatings required to comply with the performance criteria of this subpart.

§ 164.141–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.141–3(c).

(2) Resolution A.653(16), Recommendation on Improved Fire Test Procedures for Surface Flammability of Bulkhead, Ceiling and Deck Finish Materials, adopted on 19 October 1989 (''IMO Resolution A.653(16)''), IBR approved for § 164.141–3(a).

(3) Resolution A.753(18), Guidelines for the Application of Plastic Pipe on Ships, adopted on 4 November 1993 (''IMO ResolutionA.753(18)''), IBR approved for § 164.141–3(a) and (b).

(4) Resolution MSC.313(88), Amendments to the Guidelines for the Application of Plastic Pipes on Ships, (''IMO Resolution MSC.313(88)''), adopted 26 November 2010, IBR approved for § 164.141–3(a) and (b).

§ 164.141–3 Testing, marking, and inspection requirements.

(a) All plastic piping submitted for approval must meet the flame spread requirements of IMO Resolution A.653(16) as modified for pipes by IMO Resolution A.753(18) and IMO Resolution MSC.313(88) (all incorporated by reference, see § 164.141–2) except that:

(1) The test specimens need not be wrapped in aluminum foil; and

(2) Testing need not be conducted on every pipe size. Testing may be conducted on piping sizes with the maximum and minimum wall thickness intended to be approved. This will qualify all piping sizes within the tested range.

(b) In order to receive approval for fire endurance, pipe must be tested as indicated in IMO Resolution A.753(18) and IMO Resolution MSC.313(88). When satisfying the requirements for L1 or L2 service, the pipe will be approved for

use in lesser service grades. The approval of piping systems of sizes different than those tested will be allowed as provided for in Table 164.141(a) of this subpart.

TABLE 164.141(a)—APPROVAL OF PIPING SYSTEMS OF SIZES DIFFERENT THAN TESTED

Size * tested, inches	Minimum size * approved	Maximum size * approved, inches
0 to ≤2	Size Tested	Size Tested.
>2 to ≤6	Size Tested	≤6.
>6 to ≤12	Size Tested	≤12.
>12 to ≤24	Size Tested	≤24.
>24 to ≤36	Size Tested	≤36.
>36 to ≤48	Size Tested	≤48.

* Nominal outside diameter

(c) To be approved for smoke and toxicity requirements, piping systems must meet the requirements of Annex 1, Part 2 of the FTP Code (incorporated by reference, see §164.141–2) with the following modifications:

(1) Plastic piping meeting paragraph 2.2 of Annex 2 of the FTP Code as having very low flame spread when tested to Part 5 are deemed to meet the smoke and toxicity requirements without testing to Part 2.

(2) Testing need only be conducted on piping sizes with the maximum and minimum wall thicknesses intended to be approved.

(3) The test sample should be fabricated by cutting pipes lengthwise into individual sections and then assembling the sections into a test sample as representative as possible of a flat surface. All cuts should be made normal to the pipe wall.

(4) The number of sections that must be assembled together to form a square test sample with sides measuring 3 inches, should be that which corresponds to the nearest integral number of sections which will result in a test sample with an equivalent linearized surface width between 3 and 3 ½ inches. The surface width is defined as the measured sum of the outer circumference of the assembled pipe sections normal to the lengthwise sections.

(5) The test samples should be mounted on calcium silicate board and held in place by the edges of the test frame and, if necessary, by wire. There should be no gaps between individual sections and the samples should be constructed so that the edges of two adjacent sections coincide with the centerline of the test holder.

(6) The space between the concave unexposed surface of the test sample and the surface of the calcium silicate backing should be left void.

(7) The void space between the top of the exposed test surface and the bottom edge of the sample holder frame should be filled with a high temperature insulating wool where the pipe extends under the frame.

(8) When the pipes are to include fireproofing or coatings, the composite structure consisting of the segmented pipe wall and fireproofing shall be tested and the thickness of the fireproofing should be the minimum thickness specified for the intended usage.

(9) Test samples should be oriented in the apparatus such that the pilot burner flame will be normal to the lengthwise piping sections.

(d) Where required to be approved, piping systems must comply with the non-metallic materials requirements in 46 CFR 56.60–25(a)(1).

(e) All testing and inspections required by this subpart, except as allowed by paragraph (b) of this section, must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(f) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(g) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as plastic piping.

(h) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(i) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.141–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.142—Bedding Components

SOURCE: USCG–2012–0196, 81 FR 48291, July 22, 2016, unless otherwise noted.

§ 164.142–1 Scope.

This subpart prescribes requirements for approval of bedding components as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.142–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.142–3(a).

(2) [Reserved]

§ 164.142–3 Testing, marking, and inspection requirements.

(a) Bedding components that are submitted for type approval must be tested for qualities of resistance to the ignition and propagation of flame of Annex 1, Part 9 of the FTP Code (incorporated by reference, see § 164.142–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as

meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a bedding component.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.142–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.144—Upholstered Furniture

SOURCE: USCG–2012–0196, 81 FR 48291, July 22, 2016, unless otherwise noted.

§ 164.144–1 Scope.

This subpart prescribes requirements for approval of upholstered furniture as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.144–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.144–3(a).

(2) [Reserved]

§ 164.144–3 Testing, marking, and inspection requirements.

(a) Upholstered furniture that is submitted for type approval must be tested for qualities of resistance to the ignition and propagation of flame of Annex 1, Part 8 of the FTP Code (incorporated by reference, see § 164.144–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as upholstered furniture.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.144–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.146—Fire Door Control System (SOLAS)

SOURCE: USCG–2012–0196, 81 FR 48292, July 22, 2016, unless otherwise noted.

§ 164.146–1 Scope.

This subpart prescribes requirements for approval of fire door control systems as required by the International Convention for the Safety of Life at Sea (SOLAS).

§ 164.146–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.146–3(a).

(2) [Reserved]

§ 164.146–3 Testing, marking, and inspection requirements.

(a) A fire door control system that is submitted for type approval must be tested in accordance with Annex 1, Part 4 of the FTP Code (incorporated by reference, see § 164.146–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire door control system.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.146–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.201—Fire-resisting Materials for High-speed Craft

SOURCE: USCG–2012–0196, 81 FR 48293, July 22, 2016, unless otherwise noted.

§ 164.201–1 Scope.

This subpart prescribes requirements for approval of fire-resisting materials for high-speed craft as required by the International Code of Safety for High Speed Craft (HSC Code).

§ 164.201–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1

CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.201–3(a).

(2) [Reserved]

§ 164.201–3 Testing, marking, and inspection requirements.

(a) Fire-resisting materials for high-speed craft that is submitted for type approval must be tested in accordance with Annex 1, Part 10 of the FTP Code (incorporated by reference, see § 164.201–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire resisting material for high speed craft.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire-testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.201–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

Subpart 164.207—Fire-resisting Divisions for High-speed Craft

SOURCE: USCG–2012–0196, 81 FR 48293, July 22, 2016, unless otherwise noted.

§ 164.207–1 Scope.

This subpart prescribes requirements for approval of fire-resisting divisions for high-speed craft as required by the International Code of Safety for High-Speed Craft (HSC Code).

§ 164.207–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–ENG), 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). 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) International Maritime Organization (IMO) Publishing, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0)20 7735 7611, *http://www.imo.org*.

(1) 2010 FTP Code, International Code for Application of Fire Test Procedures, 2010 (Resolution MSC.307(88)), 2012 Edition (''FTP Code''), IBR approved for § 164.207–3(a).

(2) [Reserved]

§ 164.207–3 Testing, marking, and inspection requirements.

(a) Fire-resisting divisions for high-speed craft that are submitted for type approval must be tested in accordance with Annex 1, Part 11 of the FTP Code (incorporated by reference, see § 164.207–2).

(b) All testing and inspections required by this subpart must be performed by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter. A list of independent laboratories accepted as meeting subpart 159.010 of this chapter is available online at *http://psix.uscg.mil/EQLabs/Default.aspx*.

(c) The independent laboratory must perform an initial factory inspection to select the test specimens and establish the materials of construction, chemical make-up, dimensions, tolerances, and other related factors needed to confirm product consistency during follow-up production inspections.

(d) Production inspections must be performed by the independent laboratory in accordance with subpart 159.007 of this chapter at least annually to confirm that no changes have been made to the product that may adversely affect its fire performance as a fire resisting division for high speed craft.

(e) The independent laboratory must prepare production inspection procedures and a report of the results of the fire-testing program, and must furnish the manufacturer with three copies of each upon completion of the required testing.

(f) Materials approved under this subpart must be shipped in packaging that is clearly marked with the name of the manufacturer, product designation, date of manufacture, batch or lot number, and Coast Guard type approval number.

§ 164.207–4 Approval procedures.

(a) Manufacturers that desire type approval should submit a written notice to the Commandant (CG–ENG–4) describing the product and its intended uses. The Commandant will evaluate this information and notify the manufacturer of the product's suitability for testing. The manufacturer should then contract directly with an accepted independent laboratory to perform the required tests and inspections.

(b) Upon completion of the required testing and inspections, the manufacturer must submit either a written request for type approval to the Commandant (CG–ENG–4), United States Coast Guard, 2703 Martin Luther King Jr. Avenue SE., Stop 7509, Washington, DC 20593–7509, or electronically submit a request to *typeapproval@uscg.mil*. The request must indicate the name and address of the manufacturer, all product designations, and the address of all manufacturing facilities. The request must include a copy of the final fire test report and the production inspection procedures. From the information

submitted, the Commandant determines whether or not the product is acceptable for type approval. If the product is determined to be acceptable, a type approval certificate valid for a 5-year period will be issued. If the product is not accepted, the manufacturer will be notified of the reasons why.

PART 165 [RESERVED]