

Coast Guard, DHS

§ 162.028-3

(2) [Reserved]

[CGD 95-027, 61 FR 26009, May 23, 1996, as amended by CGD 96-041, 61 FR 50734, Sept. 27, 1996; CGD 97-057, 62 FR 51049, Sept. 30, 1997; USCG-1999-6216, 64 FR 53228, Oct. 1, 1999; USCG-1999-5151, 64 FR 67185, Dec. 1, 1999; 69 FR 18803, Apr. 9, 2004; USCG-2009-0702, 74 FR 49238, Sept. 25, 2009; USCG-2012-0866, 78 FR 13252, Feb. 27, 2013; USCG-2013-0671, 78 FR 60160, Sept. 30, 2013]

§ 162.027-2 Design, construction, testing and marking requirements.

(a) Each combination solid stream and water spray firehose nozzle required to be approved under the provisions of this subpart must be designed, constructed, tested, and marked in accordance with the requirements of ASTM F 1546 (incorporated by reference, see § 162.027-1).

(b) All inspections and tests required by ASTM F 1546 (incorporated by reference, see § 162.027-1) 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 by the Coast Guard as meeting subpart 159.010 of this chapter may be obtained by contacting the Commandant (CG-ENG).

(c) The independent laboratory shall prepare a report on the results of the testing and shall furnish the manufacturer with a copy of the test report upon completion of the testing required by ASTM F 1546 (incorporated by reference, see § 162.027-1).

[CGD 95-027, 61 FR 26009, May 23, 1996, as amended by 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]

§ 162.027-3 Approval procedures.

(a) Firehose nozzles designed, constructed, tested, and marked in accordance with ASTM F 1546 (incorporated by reference, see § 162.027-1) are considered to be approved under the provisions of this chapter.

(b) Firehose nozzles designed, constructed, tested and marked in accordance with the provisions of this subpart in effect prior to June 24, 1996, are

considered to be approved under the provisions of this chapter.

[CGD 95-027, 61 FR 26009, May 23, 1996, as amended by USCG-1999-5151, 64 FR 67185, Dec. 1, 1999]

Subpart 162.028—Extinguishers, Fire, Portable, Marine Type

SOURCE: CGFR 60-36, 25 FR 10640, Nov. 5, 1960, unless otherwise noted.

§ 162.028-1 Applicable specifications.

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

(b) [Reserved]

§ 162.028-2 Classification.

(a) Every portable fire extinguisher shall be classified as to type and size as specified in § 76.50-5 (Subchapter H—Passenger Vessels) of this chapter.

(b) [Reserved]

§ 162.028-3 Requirements.

(a) *General.* Every portable fire extinguisher shall conform to the requirements for listing and labeling by a recognized laboratory, and shall be of such design, materials, and construction as to meet the requirements specified in this section.

(b) *Design and weight.* Every portable fire extinguisher shall be self-contained, i.e., when charged it shall not require any additional source of extinguishing agent or expellant energy for its operation during the time it is being discharged, and it shall weigh not more than 55 pounds, maximum, when fully charged.

(c) *Materials.* Materials used for exposed working parts shall be corrosion-resistant to salt water and spray. Materials used for other exposed parts shall be either corrosion-resistant or shall be protected by a suitable corrosion-resistant coating.

(1) *Corrosion-resistant materials.* The materials which are considered to be corrosion-resistant are copper, brass, bronze, certain copper-nickel alloys, certain alloys of aluminum, certain plastics, and certain stainless steels.

(2) *Corrosion-resistant coatings.* (i) The following systems of organic or metallic coatings for exposed non-working

ferrous parts, when applied on properly prepared surfaces after all cutting, forming, and bending operations are completed, are considered to provide suitable corrosion resistance:

(a) Bonderizing, followed by the application of zinc chromate primer, followed by one or more applications of enamel; or,

(b) Hot-dipped or electrodeposited zinc in thicknesses not less than 0.002 inch; or,

(c) Electrodeposited cadmium in thicknesses not less than 0.001 inch; or,

(d) Hot-dipped or sprayed aluminum in thicknesses not less than 0.002 inch; or,

(e) Copper plus nickel in total thicknesses not less than 0.003 inch, of which the nickel is not less than 0.002 inch, plus any thickness of chrome.

(ii) The metallic platings of less than the thicknesses specified in this paragraph are not acceptable for the protection against corrosion of ferrous parts.

(3) *Decorative platings.* Decorative platings in any thicknesses applied over corrosion-resistant materials and corrosion-resistant coatings are acceptable for either working or non-working parts.

(4) *Dissimilar metals.* The use of dissimilar metals in combination shall be avoided wherever possible, but when such contacts are necessary, provisions (such as bushings, gaskets, or o-rings) shall be employed to prevent such deleterious effects as galvanic corrosion, freezing or buckling of parts, and loosening or tightening of joints due to differences in thermal expansion.

(5) *Suitability of materials.* All extinguishers submitted for approval shall undergo the salt spray test in accordance with paragraph (c)(6) of this section.

(6) *Salt spray tests.* Expose the complete fully charged specimen extinguisher to a 20 percent sodium chloride solution spray at a temperature of 95 °F. (35 °C.) for a period of 240 hours. The procedures and apparatus described in Method 811 of Federal Test Method Standard No. 151 are suitable. Alternate methods may be found satisfactory if the results are comparable. Following the test, allow the specimen ex-

tinguisher to air dry for a period of 48 hours. Following the air drying—

(i) The extinguisher must be capable of being operated and recharged in a normal fashion;

(ii) Any coating required in this section to be corrosion resistant must remain intact and must not be removable (when such removal exposes a material subject to corrosion) by such action as washing or rubbing with a thumb or fingernail;

(iii) No galvanic corrosion may appear at the points of contact or close proximity of dissimilar metals;

(iv) The extinguisher and its bracket, if any, must not show any corrosion, except corrosion that can be easily wiped off after rinsing with tap water, on surfaces having no protective coating or paint; and,

(v) The gauge on a stored pressure extinguisher must remain watertight throughout the test.

(d) *Bursting pressure.* For all extinguishers except the carbon dioxide type, the hydrostatic bursting pressure of the extinguisher and component parts which are subjected to pressure, exclusive of the hose, shall be at least five times the maximum working pressure during discharge of the extinguisher at approximately 70 °F. During this test, a pressure gauge if fitted will usually be removed to avoid breaking the indicating mechanism, but the gauge shall be capable of withstanding the same test without leaking.

(e) *Vibration resistance.* The complete, fully charged specimen extinguisher, secured in its bracket which is mounted to the test machine, shall be tested in accordance with sections 3.1 through 3.1.4.4 of Military Standard MIL-STD-167. Following this test, there shall be no obvious failures of parts or assemblies, and the specimen shall be capable of being operated satisfactorily without undue effort or special procedures on the part of the operator, and the specimen shall be capable of being recharged satisfactorily in accordance with the directions on the name plate without the use of extraordinary tools or procedures.

(f) *Additional marking.* (1) As part of the usual name plate marking, there shall be included the rated capacity of the extinguisher in gallons, quarts, or

pounds, and complete instructions for recharging, including the identification of the recharge materials and of the pressure cartridge or separate container if one is used.

(2) For extinguishers which are not ordinarily discharged or opened during the regular maintenance inspections and tests, the weight of the fully charged extinguisher shall be die-stamped, embossed, or cast in a conspicuous location on the name plate, valve body, or shell of the extinguisher.

(3) Pasted-on type paper or decalcomania labels are not acceptable for any of the required extinguisher markings.

(4) For stored pressure type or cartridge operated type water or anti-freeze portable fire extinguishers, each extinguisher name plate shall be marked to indicate whether the extinguisher is to be filled with plain water or with anti-freeze solution. Combination type name plates showing the charge may be either plain water or antifreeze solution will not be permitted.

(5) Recharge packages shall be legibly marked with the name of the recharge and the capacity of contents in gallons, quarts, or pounds, in addition to the usual recharge package marking. Recharge pressure cartridges shall, in addition to the usual marking, also be plainly marked to show the distinctive identifying designation of the cartridge.

(g) *Mounting bracket.* Every portable fire extinguisher shall be supplied with a suitable bracket which will hold the extinguisher securely in its stowage location on vessels or boats, and which is arranged to provide quick and positive release of the extinguisher for immediate use.

(h) *Carbon dioxide type.* Every carbon dioxide type extinguisher shall be fitted with a valve which will withstand a minimum bursting pressure of 6,000 p.s.i., and a discharge hose or tube which will withstand a minimum bursting pressure of 5,000 p.s.i. The hose shall be constructed with either a wire braid or other conducting material for conducting static charges occurring at the discharge nozzle back to the body of the extinguisher.

(i) [Reserved]

(j) *Dry chemical type.* (1) [Reserved]

(2) Every dry chemical stored pressure type portable fire extinguisher, i.e., one which employs a single chamber for both the dry chemical and expellant gas, shall be fitted with a pressure gauge or device to show visual indication of whether or not the pressure in the chamber is in the operating range.

(k) *Toxic extinguishing agents.* Every portable fire extinguisher shall contain only agents which qualify for the Underwriters' Laboratories, Inc., toxicity rating of Group 5 or Group 6, and which in normal fire extinguishing use do not generate decomposition products in concentrations hazardous to life.

(l) *Gauge.* Every pressure gauge used on a portable fire extinguisher shall have an accuracy of at least 2 percent of the scale range for the middle half of the scale conforming to ASME Grade B commercial accuracy. The gauge when new shall be watertight, i.e., with the connection capped or plugged, no water shall penetrate to the interior of the case during submergence one foot below the surface of water for a period of two hours. The gauge shall be constructed of corrosion-resistant materials, so that the pointer or face lettering will not be obliterated by the action of salt water if some leakage should occur after rough handling or extended periods of service. The gauge, when attached to the fire extinguisher, shall pass the salt spray and vibration tests prescribed by § 162.028-3 (c)(1) and (e).

(m) *Fire tests.* In addition to the usual fire tests conducted to determine the suitability and adequacy of portable fire extinguishers, additional fire tests, such as those described in National Bureau of Standards Building Materials and Structures Report 150, issued June 14, 1957, may be employed in determining the suitability for "marine type" listing and labeling.

(n) *Additional tests.* Every portable extinguisher may be additionally examined and tested to establish its reliability and effectiveness in accordance with the intent of this specification for a "marine type" portable fire extinguisher when considered necessary by

§ 162.028-4

the Coast Guard or by the recognized laboratory.

[CGFR 60-36, 25 FR 10640, Nov. 5, 1960, as amended by CGFR 62-17, 27 FR 9046, Sept. 11, 1962; CGFR 56-28, 29 FR 12726, Sept. 9, 1964; CGFR 64-67, 29 FR 14742, Oct. 29, 1964; CGD 72-214R, 38 FR 6880, Mar. 14, 1973; CGD 73-73R, 38 FR 27354, Oct. 3, 1973]

§ 162.028-4 Marine type label.

(a) In addition to all other marking, every portable extinguisher shall bear a label containing the "marine type" listing manifest issued by a recognized laboratory. This label will include the classification of the extinguisher in accordance with the Coast Guard classification system, and the Coast Guard approval number, thus: "Marine Type USCG Type _____, Size _____, Approval No. 162.028/_____." All such labels are to be obtained from the recognized laboratory and will remain under its control until attached to product found acceptable under its listing and labeling program.

(b) All such labels are to be obtained only from the recognized laboratory and will remain under its control until attached to product found acceptable under its inspection and labeling program.

[CGFR 60-36, 25 FR 10640, Nov. 5, 1960, as amended by CGFR 64-19, 29 FR 7360, June 5, 1964]

§ 162.028-5 Independent laboratories: Listing.

The following have met the standards under §159.101-7 for listing as an independent laboratory to perform or supervise approval or productions inspections or tests of portable fire extinguishers:

(a) For dry chemical, CO₂, water and foam type portable fire extinguishers:

(1) Underwriters Laboratories, Inc., mailing address: P.O. Box 247, Northbrook, Illinois 60062.

(2) Underwriters' Laboratories of Canada, mailing address: 7 Crouse Rd, Scarborough, Ontario, MIR 3A9, Canada.

(b) For halon type fire extinguishers:

(1) Underwriters Laboratories, Inc., mailing address: P.O. Box 247, Northbrook, Illinois 60062.

(2) Underwriters' Laboratories of Canada, mailing address: 7 Crouse Rd,

46 CFR Ch. I (10-1-14 Edition)

Scarborough, Ontario, MIR 3A9, Canada.

(3) Factory Mutual Research Corporation, mailing address: 1151 Boston-Providence Turnpike, P.O. Box 688, Norwood, MA 02062.

[CGD 83-050, 49 FR 7566, Mar. 1, 1984]

§ 162.028-6 Examinations, tests, and inspections.

(a) Full examinations, tests, and inspections to determine the suitability of a product for listing and labeling, and to determine conformance of labeled product to the applicable requirements are conducted by the recognized laboratory. Whenever any work is being done on components or the assembly of such product, the manufacturer shall notify the recognized laboratory in order that an inspector may be assigned to the factory to conduct such examinations, inspections, and tests as to satisfy himself that the quality assurance program of the manufacturer is satisfactory, and that the labeled product is in conformance with the applicable requirements.

(b) Manufacturers of listed or labeled marine type portable fire extinguishers 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 of the extinguishers and various components produced to maintain the quality of the finished product. Records of tests conducted by the manufacturer shall be made available to the laboratory inspector or to the merchant marine inspector, or both, for review upon request.

(c) Follow-up check tests, examinations, and inspections of product listed and labeled as a "marine type" portable fire extinguisher acceptable to the Commandant as approved for use on merchant vessels and motorboats may be conducted by the Coast Guard, as well as by the recognized laboratory.

(d) 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 or labeled product, and either or