

afford an equal degree of safety and heat resistivity as that afforded by the hull may be approved; and

(4) The material specification must show that the rigid nonmetallic material possesses characteristics adequate for its intended service and environment and must be approved for use by the cognizant OCMI.

(e) Where flexible nonmetallic hose is permitted for use in piping systems by this section, it must meet SAE Standard J-1942, "Hose and Hose Assemblies for Marine Applications," or be specifically approved by the Commandant. The following restrictions apply:

(1) Flexible nonmetallic hose must be complete with factory-assembled end fittings requiring no further adjustment of the fittings on the hose, or field attachable type fittings may be used. Hose end fittings must comply with SAE J-1475, "Hydraulic Hose Fittings For Marine Applications." Field attachable fittings must be installed following the manufacturer's recommended practice. If special equipment is required, such as crimping machines, it must be of the type and design specified by the manufacturer. If field attachable type fittings are used, each hose assembly must be individually hydrostatically tested to twice the maximum operating pressure of the system;

(2) Flexible nonmetallic hose may be used in non-vital water and pneumatic systems, subject to the limitations of paragraph (d)(1) through (d)(4) of this section. Unreinforced hoses are limited to a maximum service pressure of 349 kPa (50 psig), reinforced hoses are limited to a maximum service pressure of 1,034 kPa (150 psig); and

(3) Flexible nonmetallic hose may be used in lube oil, fuel oil and fluid power systems, subject to the following requirements:

(i) Flexible hose may only be used at a pressure not to exceed the manufacturer's rating and must have a high resistance to saltwater, petroleum oils, and vibration;

(ii) Flexible hose runs must be visible, easily accessible, protected from mechanical damage, and must not penetrate watertight decks or bulkheads;

(iii) Flexible hose must be fabricated with an inner tube and a cover of syn-

thetic rubber or other suitable material reinforced with wire braid;

(iv) Flexible hose used for alcohol-gasoline blend fuels must meet the permeability requirements specified in 33 CFR part 183, subpart J; and

(v) For the purpose of flexibility only, flexible hose installed in lengths of not more than 760 millimeters (30 inches) and subject to pressures of not more than 35 kPa (5 psig), may meet the following requirements:

(A) Suitable compression type connection fittings may be accepted;

(B) Flexible hose designed for use with hose clamps may be installed with two clamps, at both ends of the hose, which:

(1) Do not rely on the spring tension of the clamp for compressive force; and

(2) Are installed beyond the bead or flare or over the serrations of the mating spud, pipe, or hose fitting; and

(C) USCG Type A1, A2, B1, or B2 flexible hose may be accepted in accordance with 33 CFR part 183, subpart J.

[CGD 85-080, 61 FR 986, Jan. 10, 1996, as amended at 62 FR 51358, Sept. 30, 1997]

§ 182.730 Nonferrous metallic piping materials.

(a) Nonferrous metallic piping materials are acceptable for use in the following:

(1) Non-vital systems;

(2) Aluminum fuel piping, if of a minimum of Schedule 80 wall thickness on an aluminum hulled vessel;

(3) Aluminum bilge, ballast, and firemain piping on an aluminum hulled vessel;

(4) If acceptable to the cognizant OCMI, nonferrous metallic piping with a melting temperature above 927° C (1,700° F) may be used in vital systems that are deemed to be galvanically compatible; and

(5) Other uses specifically accepted by the cognizant OCMI.

(b) Where nonferrous metallic material is permitted for use in piping systems by this subpart, the restrictions in this paragraph apply:

(1) Provisions must be made to protect piping systems using aluminum alloys in high risk fire areas due to the low melting point of aluminum alloys;

(2) Provisions must be made to prevent or mitigate the effect of galvanic corrosion due to the relative solution potentials of copper, aluminum, and alloys of copper and aluminum, which are used in conjunction with each other, steel, or other metals and their alloys;

(3) A suitable thread compound must be used in making up threaded joints in aluminum pipe to prevent seizing. Pipe in the annealed temper must not be threaded;

(4) The use of aluminum alloys with a copper content exceeding 0.6 percent is prohibited; and

(5) The use of cast aluminum alloys in hydraulic fluid power systems must be in accordance with the requirements of §58.30-15(f) in subchapter F of this chapter.

PART 183—ELECTRICAL INSTALLATION

Subpart A—General Provisions

Sec.

- 183.100 Intent.
- 183.115 Applicability to existing vessels.
- 183.130 Alternative standards.

Subpart B—General Requirements

- 183.200 General design, installation, and maintenance requirements.
- 183.210 Protection from wet and corrosive environments.
- 183.220 General safety provisions.

Subpart C—Power Sources and Distribution Systems

- 183.310 Power sources.
- 183.320 Generators and motors.
- 183.322 Multiple generators.
- 183.324 Dual voltage generators.
- 183.330 Distribution panels and switchboards.
- 183.340 Cable and wiring requirements.
- 183.350 Batteries—general.
- 183.352 Battery categories.
- 183.354 Battery installations.
- 183.360 Semiconductor rectifier systems.
- 183.370 General grounding requirements.
- 183.372 Equipment and conductor grounding.
- 183.376 Grounded distribution systems (neutral grounded).
- 183.378 Ungrounded systems.
- 183.380 Overcurrent protection.
- 183.390 Shore power.
- 183.392 Radiotelephone installations.

Subpart D—Lighting Systems

- 183.410 Lighting fixtures.
- 183.420 Navigation lights.
- 183.430 Portable lights.
- 183.432 Emergency lighting.

Subpart E—Miscellaneous Systems and Requirements

- 183.520 Lifeboat winches.
- 183.530 Hazardous areas.
- 183.540 Elevators.
- 183.550 General alarm systems.

AUTHORITY: 46 U.S.C. 2103, 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGD 85-080, 61 FR 997, Jan. 10, 1996, unless otherwise noted.

Subpart A—General Provisions

§ 183.100 Intent.

This part contains requirements for the design, construction, installation, and operation of electrical equipment and systems including power sources, lighting, motors, miscellaneous equipment, and safety systems.

§ 183.115 Applicability to existing vessels.

(a) Except as otherwise required by paragraphs (b) and (c) of this section, an existing vessel must comply with the regulations on electrical installations, equipment, and material that were applicable to the vessel on March 10, 1996, or, as an alternative, the vessel may comply with the regulations in this part.

(b) An existing vessel must comply with the requirements of §§183.420 and 183.430.

(c) New installations of electrical equipment and material, and the repair or replacement of wire and cable, on an existing vessel, which are completed to the satisfaction of the cognizant Officer in Charge, Marine Inspection (OCMI) on or after March 11, 1996, must comply with this part. Replacement of existing equipment, not including wire or cable, installed on the vessel prior to March 11, 1996 need not comply with the regulations in this part.

§ 183.130 Alternative standards.

(a) A vessel, other than a high speed craft, of not more than 19.8 meters (65