

must comply with §72.05 in subchapter H of this chapter.

**§ 116.405 General arrangement and outfitting.**

(a) *Fire hazards to be minimized.* The general construction of the vessel must be such as to minimize fire hazards insofar as it is reasonable and practicable.

(b) *Combustible materials to be limited.* Limited amounts of combustible materials such as wiring insulation, pipe hanger linings, nonmetallic (plastic) pipe, and cable ties are permitted in concealed spaces except as otherwise prohibited by this subpart.

(c) *Combustibles insulated from heated surfaces.* Internal combustion engine exhausts, boiler and galley uptakes, and similar sources of ignition must be kept clear of and suitably insulated from combustible material.

(d) *Separation of machinery and fuel tank spaces from accommodation spaces.* Machinery and fuel tank spaces must be separated from accommodation spaces by boundaries that prevent the passage of vapors.

(e) *Paint and flammable liquid lockers.* Paint and flammable liquid lockers must be constructed of steel or equivalent material, or wholly lined with steel or equivalent material.

(f) *Nonmetallic piping in concealed spaces.* The use of nonmetallic (plastic) pipe within a concealed space in a control space, accommodation space, or service space is permitted in nonvital service only if the piping material has a flame spread rating of not more than 20 and a smoke developed rating of not more than 10 when tested in accordance with ASTM E 84 (incorporated by reference, see §114.600) or UL 723 by an independent laboratory.

(g) *Vapor barriers.* Vapor barriers must be provided where insulation of any type is used in spaces where flammable and combustible liquids or vapors are present, such as machinery spaces and paint lockers.

(h) *Interior finishes.* Combustible interior finishes allowed by §116.422(d) of this part must not extend into hidden spaces, such as behind linings, above ceilings, or between bulkheads.

(i) *Waste Receptacles.* Unless other means are provided to ensure that a po-

tential waste receptacle fire would be limited to the receptacle, waste receptacles must be constructed of non-combustible materials with no openings in the sides or bottom.

(j) *Mattresses.* All mattresses must comply with either:

(1) The U.S. Department of Commerce Standard for Mattress Flammability (FF 4-72.16), 16 CFR Part 1632, Subpart A and not contain polyurethane foam; or,

(2) International Maritime Organization Resolution A.688(17) "Fire Test Procedures For Ignitability of Bedding Components." Mattresses that are tested to this standard may contain polyurethane foam.

[CGD 85-080, 61 FR 900, Jan. 10, 1996, as amended at 62 FR 51348, Sept. 30, 1997; USCG-2000-7790, 65 FR 58462, Sept. 29, 2000]

**§ 116.415 Fire control boundaries.**

(a) *Type and construction of fire control bulkheads and decks—(1) Major hull structure.* The hull, structural bulkheads, columns and stanchions, superstructures, and deckhouses must be composed of steel or equivalent material.

(2) Bulkheads and decks—Bulkheads and decks must be classed as A-60, A-30, A-15, A-0, B-15, B-0, C, or C' based on the following:

(i) A-Class bulkheads or decks must be composed of steel or equivalent material, suitably stiffened and made intact with the main structure of the vessel, such as the shell, structural bulkheads, and decks. They must be so constructed that, if subjected to the standard fire test, they are capable of preventing the passage of smoke and flame for 1 hour. In addition, they must be so insulated with approved structural insulation, bulkhead panels, or deck covering so that, if subjected to the standard fire test for the applicable time period listed below, the average temperature on the unexposed side does not rise more than 139° C (250° F) above the original temperature, nor does the temperature at any one point, including any joint, rise more than 181° C (325° F) above the original temperature:

A-60 Class .....	60 minutes
A-30 Class .....	30 minutes
A-15 Class .....	15 minutes