

Subpart C—Fire Main System**§ 118.300 Fire pumps.**

(a) A self priming, power driven fire pump must be installed on each vessel.

(b) On a vessel without overnight accommodations, or with overnight accommodations for not more than 49 passengers, the fire pump must be capable of delivering a single hose stream from the highest hydrant, through the hose and nozzle required by § 118.320 of this part, at a pitot tube pressure of 345 kPa (50 psi).

(c) On a vessel carrying more than 600 passengers or with overnight accommodations for more than 49 passengers, the fire pump must meet § 76.10-5 of this chapter.

(d) A fire pump may be driven by a propulsion engine. A fire pump must be permanently connected to the fire main and may be connected to the bilge system to meet the requirements of § 119.520 of this subchapter.

(e) A fire pump must be capable of both remote operation from the operating station and local operation at the pump.

[CGD 85-080, 61 FR 917, Jan. 10, 1996; 61 FR 20556, May 7, 1996, as amended at 62 FR 51351, Sept. 30, 1997]

§ 118.310 Fire main and hydrants.

(a) Except as required by paragraph (d) of this section, a vessel must have a sufficient number of fire hydrants to reach any part of the vessel using a single length of fire hose.

(b) Piping, valves, and fittings in a fire main system must comply with part 119, subpart G of this subchapter.

(c) Each fire hydrant must have a valve installed to allow the fire hose to be removed while the fire main is under pressure.

(d) On a vessel carrying more than 600 passengers or with overnight accommodations for more than 49 passengers, the fire main and hydrants must meet § 76.10-10 of this chapter.

[CGD 85-080, 61 FR 917, Jan. 10, 1996, as amended at 62 FR 51351, Sept. 30, 1997]

§ 118.320 Fire hoses and nozzles.

(a) A fire hose with a nozzle must be attached to each fire hydrant at all times. For fire hydrants located on

open decks or cargo decks, where no protection is provided, hoses may be temporarily removed during heavy weather or cargo handling operations, respectively. Hoses so removed must be stored in nearby accessible locations.

(b) Each hose must:

(1) Be lined commercial fire hose that conforms to Underwriters Laboratory (UL) 19 "Lined Fire Hose and Hose Assemblies," or hose that is listed and labeled by an independent laboratory recognized by the Commandant as being equivalent in performance;

(2) Be 15.25 meters (50 feet) in length and 40 millimeters (1.5 inches) in diameter; and

(3) Have fittings of brass or other suitable corrosion-resistant material that comply with National Fire Protection Association (NFPA) 1963 "Fire Hose Connections," or other standard specified by the Commandant.

(c) Each nozzle must either:

(1) Be of a type approved in accordance with approval series 162.027; or

(2) Be of type recognized by the Commandant as being equivalent in performance.

[CGD 85-080, 61 FR 917, Jan. 10, 1996; 61 FR 24464, May 15, 1996, as amended at 62 FR 51351, Sept. 30, 1997; 62 FR 64305, Dec. 5, 1997]

Subpart D—Fixed Fire Extinguishing and Detecting Systems**§ 118.400 Where required.**

(a) The following spaces must be equipped with a fixed gas fire extinguishing system, in compliance with § 118.410 of this part, or other fixed fire extinguishing system specifically approved by the Commandant, except as otherwise allowed by paragraph (b) of this section:

(1) A space containing propulsion machinery;

(2) A space containing an internal combustion engine of more than 50 hp;

(3) A space containing an oil fired boiler;

(4) A space containing combustible cargo or ship's stores inaccessible during the voyage (a carbon dioxide system must be installed in such a space, and Halon systems are not allowed);

(5) A paint locker; and

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(6) A storeroom containing flammable liquids (including liquors of 80 proof or higher where liquor is packaged in individual containers of 9.5 liters (2.5 gallons) capacity or greater).

(b) Alternative system types and exceptions to the requirements of paragraph (a) of this section are:

(1) A fixed gas fire extinguishing system, which is capable of automatic discharge upon heat detection, may only be installed in a normally unoccupied space with a gross volume of not more than 170 cubic meters (6,000 cubic feet);

(2) A pre-engineered fixed gas extinguishing system must be in compliance with §118.420 of this part and may only be installed in a normally unoccupied machinery space, a paint locker, or a storeroom containing flammable liquids (including liquors of 80 proof or higher where liquor is packaged in individual containers of 9.5 liters (2.5 gallons) capacity or greater), with a gross volume of not more than 57 cubic meters (2,000 cubic feet);

(3) A B-II portable fire extinguisher installed outside the space may be substituted for a fixed gas fire extinguishing system in a storeroom containing flammable liquids (including liquors of 80 proof or higher where liquor is packaged in individual containers of 9.5 liters (2.5 gallons) capacity or greater) or a paint locker, with a volume of not more than 5.7 cubic meters (200 cubic feet);

(4) A space that is so open to the atmosphere that a fixed gas fire extinguishing system would be ineffective, as determined by the cognizant OCMI, is not required to have a fixed gas fire extinguishing system; and

(5) Where the amount of carbon dioxide gas required in a fixed fire extinguishing system can be supplied by one portable extinguisher or a semi-portable extinguisher, such an extinguisher may be used subject to the following:

(i) Cylinders shall be installed in a fixed position outside the space protected;

(ii) The applicator shall be installed in a fixed position so as to discharge into the space protected; and

(iii) Controls shall be installed in an accessible location outside the space protected.

(c) The following spaces must be equipped with a fire detecting system of an approved type that is installed in accordance with §76.27 in subchapter H of this chapter, except when a fixed gas fire extinguishing system that is capable of automatic discharge upon heat detection is installed or when the space is manned:

(1) A space containing propulsion machinery;

(2) A space containing an internal combustion engine of more than 37.3 kW (50 hp); and

(3) A space containing an oil fired boiler.

(d) All griddles, broilers, and deep fat fryers must be fitted with a grease extraction hood that complies with §118.425 of this part.

(e) Except for continuously manned operating stations as allowed by paragraph (f), each accommodation space, control space, and service space must be fitted with the following systems:

(1) A smoke actuated fire detecting system of a type approved by the Commandant that is installed in accordance with §76.27 in subchapter H of this chapter; and

(2) A manual alarm system that meets the requirements in §76.35 in subchapter H of this chapter.

(f) On vessels with no overnight accommodation; public spaces that may be assumed to be occupied by a large number of persons when passengers are on board need only be served by a manual alarm system that meets the requirements in §76.35 in subchapter H of this chapter. The alarm boxes must be located in the vicinity of each required exit, and easily seen in case of need.

(g) An enclosed vehicle space must be fitted with an automatic sprinkler system that meets the requirements of §76.25 in subchapter H of this chapter; and

(1) A fire detecting system of a type approved by the Commandant that is installed in accordance with §76.27 in subchapter H of this chapter; or

(2) A smoke detecting system of a type approved by the Commandant that is installed in accordance with §76.33 in subchapter H of this chapter.

(h) A partially enclosed vehicle space must be fitted with a manual sprinkler

system that meets the requirements of § 76.23 in subchapter H of this chapter.

[CGD 85-080, 61 FR 917, Jan. 10, 1996, as amended at 62 FR 51351, Sept. 30, 1997; USCG-1999-6216, 64 FR 53227, Oct. 1, 1999]

§ 118.410 Fixed gas fire extinguishing systems.

(a) *General.* (1) A fixed gas fire extinguishing system aboard a vessel must be approved by the Commandant, and be custom engineered to meet the requirements of this section unless the system meets the requirements of § 118.420 of this part.

(2) System components must be listed and labeled by an independent laboratory. A component from a different system, even if from the same manufacturer, must not be used unless included in the approval of the installed system.

(3) System design and installation must be in accordance with the Marine Design, Installation, Operation, and Maintenance Manual approved for the system by the Commandant.

(4) A fixed gas fire extinguishing system may protect more than one space. The quantity of extinguishing agent must be at least sufficient for the space requiring the greatest quantity as determined by the requirements of paragraphs (f)(4) or (g)(2) of this section.

(b) *Controls.* (1) Controls and valves for operation of a fixed gas fire extinguishing system must be:

(i) Located outside the space protected by the system; and

(ii) Not located in a space that might be inaccessible in the event of fire in the space protected by the system.

(2) Except for a normally unoccupied space of less than 170 cubic meters (6000 cubic feet), release of an extinguishing agent into a space must require two distinct operations.

(3) A system must have local manual controls at the storage cylinders capable of releasing the extinguishing agent. In addition, a normally manned space must have remote controls for releasing the extinguishing agent immediately outside the primary exit from the space.

(4) Remote controls must be located in a breakglass enclosure to preclude accidental discharge.

(5) Valves and controls must be of a type approved by the Commandant and protected from damage or accidental activation. A pull cable used to activate the system controls must be enclosed in conduit.

(6) A system protecting more than one space must have a manifold with a normally closed stop valve for each space protected.

(7) A gas actuated valve or device must be capable of manual override at the valve or device.

(8) A system, which has more than one storage cylinder for the extinguishing agent and that relies on pilot cylinders to activate the primary storage cylinders, must have at least two pilot cylinders. Local manual controls in compliance with paragraph (b)(3) of this section must be provided to operate the pilot cylinders but are not required for the primary storage cylinders.

(9) A system protecting a manned space must be fitted with a time delay and alarm of a type approved by the Commandant, arranged to require the alarm to sound for at least 20 seconds or the time necessary to escape from the space, whichever is greater, before the agent is released into the space. Alarms must be conspicuously and centrally located. The alarm must be powered by the extinguishing agent.

(10) A device must be provided to automatically shut down power ventilation serving the protected space and engines that draw intake air from the protected space prior to release of the extinguishing agent into the space.

(11) Controls and storage cylinders must not be in a locked space unless the key is in a breakglass type box conspicuously located adjacent to the space.

(c) *Storage space.* (1) Except as provided in paragraph (c)(2) of this section, a storage cylinder for a fixed gas extinguishing system must be:

(i) Located outside the space protected by the system; and

(ii) Not located in a space that might be inaccessible in the event of a fire in the space protected by the system.

(2) A normally unoccupied space of less than 170 cubic meters (6,000 cubic feet) may have the storage cylinders located within the space protected.