

**§ 108.477**

(2) Drains to remove liquid from the system.

(e) Piping in a foam extinguishing system must be used only for discharging foam.

**§ 108.477 Fire hydrants.**

(a) If a fixed foam extinguishing system has outlets in a main machinery space, at least 2 fire hydrants, in addition to the fire hydrants required by §108.423 of this subpart, must be installed outside the entrances to the space with each at a separate entrance.

(b) Each hydrant must have enough hose to spray any part of the space.

(c) Each hydrant must have a combination nozzle and applicator.

**FIRE PROTECTION FOR HELICOPTER FACILITIES**

**§ 108.486 Helicopter decks.**

At least two of the accesses to the helicopter landing deck must each have a fire hydrant on the unit's fire main system located next to them.

**§ 108.487 Helicopter deck fueling operations.**

(a) Each helicopter landing deck on which fueling operations are conducted must have a fire protection system that discharges protein foam or aqueous film forming foam.

(b) a system that only discharges foam must—

(1) Have enough foam agent to discharge foam continuously for at least 5 minutes at maximum discharge rate;

(2) Have at least the amount of foam agent needed to cover an area equivalent to the swept rotor area of the largest helicopter for which the deck is designed with foam at—

(i) If protein foam is used, 6.52 liters per minute for each square meter (.16 gallons per minute for each square foot) of area covered for five minutes;

(ii) If aqueous film forming foam is used, 4.07 liters per minute for each square meter (.1 gallons per minute for each square foot) of area covered for five minutes; and

(3) Be capable of discharging from each hose at 7 kilograms per square centimeter (100 pounds per square inch) pressure—

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(i) A single foam stream at a rate of at least 340 liters (90 gallons) per minute; and

(ii) A foam spray at a rate of at least 190 liters (50 gallons) per minute.

(c) Each system must have operating controls at each of its hose locations, be protected from icing and freezing, and be capable of operation within 10 seconds after activation of its controls.

(d) Each system must have at least one hose at each of the two access routes required by §108.235(f) of this part. Each hose must be reel mounted and long enough to cover any point on the helicopter deck. Each hose that discharges foam must have a nozzle that has foam stream, foam spray, and off positions.

**§ 108.489 Helicopter fueling facilities.**

(a) Each helicopter fueling facility must have a fire protection system that discharges one of the following agents in the amounts prescribed for the agents over the area of the fuel containment systems around marine portable tanks, fuel transfer pumps and fuel hose reels:

(1) Protein foam at the rate of 6.52 liters per minute for each square meter (.16 gallons per minute for each square foot) of area covered for five minutes.

(2) Aqueous film forming foam at the rate of 4.07 liters per minute for each square meter (.1 gallon per minute for each square foot) of area covered for five minutes.

(3) 22.5 kilograms (50 pounds) of dry chemical (B-V semi-portable) for each fueling facility of up to 27.87 square meters (300 square feet).

(b) If the fire protection system required by §108.487 of this subpart is arranged so that it covers both a helicopter fueling facility and a landing deck, the system must have the quantity of agents required by this section in addition to the quantity required by §108.487.

**HAND PORTABLE AND SEMI-PORTABLE FIRE EXTINGUISHING SYSTEMS**

**§ 108.491 General.**

(a) Each portable and semi-portable fire extinguisher on a unit must be approved under subpart 162.028 or 162.039 of this chapter.