

SMALL PASSENGER VESSEL INFORMATION PACKAGE

Section D – Fire Fighting:

- **Power Driven Pumps**
- **Fire Main System**
- **Fixed Gas Fire Extinguishing Systems**
- **Portable Fire Extinguishers**
- **Fire Axe**
- **Fire and Smoke Detection System**

Power Driven Fire Pumps - 46 CFR 181.300

<p>General Requirements</p>	<p>A self priming power driven fire pump is required on the following mechanically propelled small passenger vessels:</p> <ul style="list-style-type: none"> • Vessel \leq 65 feet that is a ferry • Vessel \leq 65 feet carrying more than 49 passengers • All vessels $>$ 65 feet <p>Vessels not required to have a power driven fire pump must have at least 3 (2 1/2 gallon) buckets. Each bucket must have:</p> <ul style="list-style-type: none"> • A lanyard attached • Stenciled in a contrasting color "FIRE BUCKET".
<p>Fire Pump Requirements</p>	<p>The pump may be driven off of a propulsion engine or other source of power and must be permanently connected to the fire main. This pump may also be connected to the bilge system so that it can serve as a fire pump and a bilge pump.</p> <ul style="list-style-type: none"> • Vessel \leq 65 feet carrying more than 49 passengers and • All vessels $>$ 65 feet: <ul style="list-style-type: none"> - Minimum fire pump capacity 50 gallons per minute - Minimum pressure at the pump outlet 60 psi - Pressure gauge fitted at the pump outlet • Vessel \leq 65 feet that is a ferry carrying not more that 49 passengers: <ul style="list-style-type: none"> - Minimum fire pump capacity 10 gallons per minute - Pump must be capable of projecting a stream from the highest hydrant through the hose and nozzle a minimum distance of 25 feet

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Fire Main System - 46 CFR 181.310 - 181.320

<p>General Requirements</p>	<p>All vessels required to have a power driven fire pump are required to have a fire main.</p> <p>Piping used in the fire main system must be constructed with ferrous materials.</p> <p>Fire hydrants for all vessels shall be of sufficient number and so located that any part of the vessel may be reached with an effective stream of water from a single length of hose.</p> <p>A length of fire hose will be attached to each hydrant at all times.</p>
<p>Fire Hoses and Nozzles</p>	<ul style="list-style-type: none"> • Vessel \leq 65 feet carrying more than 49 passengers and • All vessels $>$ 65 feet: <ul style="list-style-type: none"> - Fire hose must be commercial grade 1-1/2 inch lined fire hose (UL 19 approved), or equivalent: <ul style="list-style-type: none"> * Fire hose must be 50 feet in length. * Having fittings of brass or other corrosion resistant material. - The nozzle must be of a type approved in accordance with CG approval 162.027. • Vessel \leq 65 feet that is a ferry carrying not more that 49 passengers: <ul style="list-style-type: none"> - Fire hose and nozzle may be as required above, or - Garden hose: <ul style="list-style-type: none"> * Good commercial grade, constructed with inner rubber tube, plies of braided fabric and outer rubber or equivalent cover. * Sufficient strength to withstand maximum pressure of the fire pump. * All fittings on the hose must be of a suitable corrosion resistant material. - Nozzle: <ul style="list-style-type: none"> * Capable of being changed between solid stream and spray pattern. * Corrosion resistant material.

Fixed Gas Fire Extinguishing Systems - 46 CFR 181.400 - 181.420

<p>General Requirements</p>	<p>A fixed gas fire extinguishing system must be installed in the following locations on all vessels:</p> <ul style="list-style-type: none"> • A space containing propulsion machinery. • A space containing an internal combustion engine of more than 50 hp (37.3 kw). • A space containing machinery powered by gasoline or other fuels
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	<p>having a flash point of 110°F or lower.</p> <ul style="list-style-type: none"> • A space containing fuel tanks for gasoline or any other fuel having a flash point of 110°F or lower. • Cargo spaces, which are inaccessible during a voyage and used for combustible cargo. (Only CO2 will be allowed). • A paint locker. • A storeroom containing flammable liquids (<i>including liquor of 80 proof or higher where liquor is packaged in individual containers of 9.5 liter (2.5 Gallons) capacity or greater</i>). 		
Type System Required	<p>Fixed gas fire extinguishing systems shall be approved by the Commandant and installed to the satisfaction of the OCMI.</p> <p>Depending on the application, acceptable systems include CO2, Halon and pre-engineered automatic discharged systems.</p>		
Amount of CO2 Gas Required	<p>The number of pounds of CO2 required is calculated by determining the gross volume of the space and dividing by the factor as listed in the chart below.</p>		
	Factor	Gross volume of compartment (cubic feet)	
		Over	Not Over
	15	----	500
	16	500	1,600
	18	1,600	4,500
	20	4,500	50,000
22	50,000	----	
Additional Requirements	<p>46 CFR 181.410 prescribes the specific system requirements</p> <p>As mentioned; we recommend you obtain a copy of the regulations, if installing a fixed gas fire extinguishing system.</p>		

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Portable Fire Extinguishers - 46 CFR 181.500

General Requirements	The minimum number of portable fire extinguishers required shall be determined by using the table below				
	Space Protected	Minimum Number Required	Type Extinguisher Permitted		
			CG Class	Medium	Minimum Size
	Operating Station	1	B-1, C-1	Halon, Carbon Dioxide, Dry Chemical	2.5 lbs 4 lbs 2 lbs
	Machinery Space	1 for each	B-II, C-II located just outside exit	Carbon Dioxide	15 lbs
	Open Vehicle Deck	1 for every 10 vehicles	B-II	Foam Halon Carbon Dioxide Dry Chemical	2.5 gals 10 lbs 15 lbs 10 lbs
	Accommodation Space	1 for each 250 sq ft or fraction thereof	A-II	Foam Dry Chemical	2.5 gals 10 lbs
Galley, Pantry, Concession Stand	1 for each	A-II, B-II	Foam Dry Chemical	2.5 gals 10 lbs	
Extinguishers must be UL approved for marine use and must be mounted on the approved marine mounting bracket.					
Location	Extinguisher must be located so as to be convenient to the space protected when not specified.				

Fire Axe - 46 CFR 181.600

General Requirement	Each vessel more than 65 feet in length is required to be equipped with one fire axe.
	The fire axe must be located in or adjacent to the pilothouse.

Fire and Smoke Detection Systems - 46 CFR 181.40 & 181.450

General Requirement	The following spaces must be fitted with a fire detecting system, except when the space is protected by a fire extinguishing system that is capable of automatic discharge upon heat detection, or if the space is manned:
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	<ul style="list-style-type: none"> • A space containing propulsion machinery. • A space containing an internal combustion engine of more than 50 hp (37.3 kw). • A space containing an oil fired boiler. • A space containing machinery powered by gasoline or other fuels having a flash point of 110°F or lower. • A space containing fuel tanks for gasoline or any other fuel having a flash point of 110°F or lower.
<p>Smoke Detecting System</p>	<p>Each overnight accommodation space on a vessel with overnight accommodations for passengers must be fitted with an independent modular smoke detecting and alarm unit.</p> <p>The unit must be:</p> <ul style="list-style-type: none"> • UL Standard 217 and be listed as a "Single Station Smoke Detector-Also suitable for use in Recreational Vehicles". • Contain an independent power source. • Alarm on low power.

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