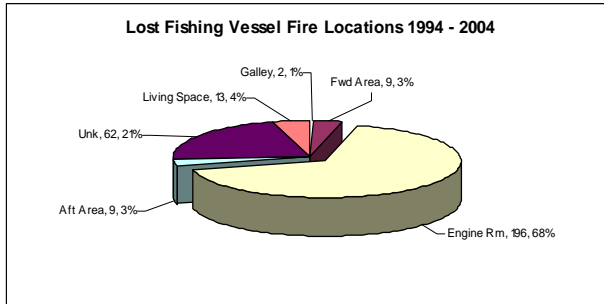




# Fire Extinguishers and Requirements

Fires were the second leading cause of commercial fishing vessel losses from 1994 to 2004 according to a Coast Guard analysis of casualties. While it was difficult to determine the exact cause of many of the fires the study did show that 68% of the fires occurred in the engine room.



## Types of fires and extinguishing agents.

Three elements must be present for a fire to occur: fuel, oxygen, and heat or an ignition source. When one of these elements is removed, the fire can be extinguished. There are four classes of fires and several types of extinguishing agents.

A Class "A" fire includes ordinary combustibles such as wood, paper, cloth, trash, etc.. The best extinguishing agents for an "A" fire are water or chemical foam.

A Class "B" fire involves flammable or combustible liquids. The best extinguishing agents for a "B" fire are carbon dioxide, dry chemical, or aqueous film forming foam (AFFF).

A Class "C" fire involves electrical equipment. The preferred extinguishing agent is carbon dioxide. Dry chemical can be used.

A Class "D" fire involves combustible metals like magnesium. The best extinguishing agent is a dry powder suitable for the metal involved. This class of fire is not likely on a fishing vessel.

Extinguishing agents either cool or smother the fire. Closing off the space from air can help extinguish the fire. Removing the fuel is also effective in extinguishing the fire.

## Types of fire extinguishers.

Extinguishers are classified by a letter and number symbol. The letter indicates the type of fire (A, B, C, or D) it is designed to extinguish and the number (I - V) indicates the relative size of the extinguisher. The higher the number, the larger the extinguisher. Sizes I and II are hand-portable, and sizes III, IV, and V are semi-portable extinguishers. Some extinguishers have multi-class ratings such as "Type A:B:C, Size II". Examples of type and sizes for use on vessels are:



Class	Foam (gal)	CO2 (lbs)	Dry Chem (lbs)
B-I	1.75	4	2
B-II	2.5	15	10
B-III	12	35	20
B-IV	20	50	30
B-V	40	100	50

## Types and number of fire extinguishers required.

Fire extinguishers to be used on vessels must be Coast Guard Approved and labeled for Marine Use or as Marine Type.

Length (feet)	No fixed system in machinery space	Fixed system in machinery space
Under 26 *	1 B-I	0
26 to <40	2 B-I **	1 B-I
40 to <65	3 B-I **	2 B-I **

\* If propelled by outboard motors and not carrying passengers for hire, no fire extinguisher is required if the vessel construction will not permit the entrapment of explosive or flammable gases or vapors. However, the Coast Guard recommends every vessel carry a fire extinguisher(s).

\*\* One B-II extinguisher may be substituted for two B-I extinguishers.

Space	Type	Quantity/Location
Safety areas, communicating corridors.	A-II	1 per corridor, not over 150' apart, ok in stairs.
Pilothouse	C-I	2 in vicinity of exit.
Service spaces, galleys.	B-II or C-II	1 per 2500 sq.ft. or fraction, for hazards.
Paint lockers.	B-II	1 outside at exit.
Accessible baggage and storerooms.	A-II	1 per 2500 sq.ft. or fraction, at exits.
Work shops and similar spaces.	A-II	1 outside space at exit
Internal combustion propelling machinery space.	B-II	1 for each 1000 BHP or fraction, not less than 2 or more than 6.
Electric propulsion motors or generator unit, open type	C-II	1 for each propulsion motor, generator unit.
Auxiliary spaces.	B-II	1 outside space at exit
Internal combustion machinery space.	B-II	1 outside space at exit
Electric emergency motors or generators.	C-II	1 outside space at exit

Based on the Gross Tonnage of a vessel, the minimum number of B-II fire extinguishers that must be carried onboard are:

0 to 50 GT	1	500 to <1,000 GT	6
50 to <100 GT	2	1,000 GT or greater	8
100 to <500 GT	3		

On vessels over 300 GT, either one Type B-III semi-portable fire-extinguishing system or a fixed fire-extinguishing system must be fitted in the machinery space.

## Excess fire extinguishers.

Additional fire extinguishers may be installed if they do not endanger the vessel or individuals on board in any way, and, at a minimum, are listed and labeled by an independent nationally-recognized testing laboratory and meet an appropriate industry standard for design, installation, testing, and maintenance.

## Inspection and maintenance of fire extinguishers.

Check fire extinguishers monthly to ensure that:

- Seals and tamper indicators are not broken or missing;
  - Pressure gauges/indicators are in the operable range; and
  - No damage, rust, corrosion, leakage, or clogged nozzles exist.
- Annually, fire extinguishers should be inspected, weighed, or tested by a servicing organization in accordance with NFPA 10. Portable fire extinguishers must be installed or mounted in an approved marine type bracket.

For more fishing vessel information, go to: [www.FishSafe.info](http://www.FishSafe.info)

