

SECTION 5

SUPPRESSION OF FIRE: FIRE FIGHTING

1 General

1.1 General requirements

1.1.1 If a fire-fighting system not required by this section is installed, it is to comply with the relevant articles of Ch 4, Sec 10.

2 Water supply systems

2.1 Application

2.1.1 The present Article applies only to yachts of 24 m in length and over.

2.2 Engineering requirements

2.2.1 The water supply system is to be designed in accordance with Tab 1.

2.2.2 Sanitary, bilge, general service or any other pumps may be used as fire pumps if they comply with the requirements of this article and do not affect the ability to cope with pumping of the bilges. Fire pumps are to be so connected that they cannot be used for pumping oil or other flammable liquids.

2.2.3 Fire pump(s) is (are) to be capable of supplying the hydrants referred to in Tab 1 at the required pressure of at least 2,3 bar.

Table 1 : Water supply installation for yachts of 24 m in length and over

Equipment	Number
FIRE PUMPS	
Independently driven power pumps	–
Power pumps	1
Hand pumps	1
FIRE HYDRANTS	
Sufficient number and so located that at least one powerful water jet can reach any normally accessible part of the yacht	X
FIRE HOSES (length > 15 m)	
With couplings and nozzles	≥ 3
HOSE NOZZLES	
Dual purpose (spray/jet) with 12mm jet and integral shut-off. Jet may be reduced to 10mm and shut-off omitted for hand pump hoses	X

2.2.4 A sufficient number of fire hydrants and, if necessary, a fire main, fire hoses, nozzles and couplings are to be provided according to Tab 1.

2.2.5 Provisions are to be taken to protect exposed fire lines from frost damage.

3 Fire-extinguishing arrangements in machinery spaces

3.1 Yachts of less than 24m in length

3.1.1 Fire-extinguishing arrangement for engine spaces containing diesel engines

The fire-extinguishing arrangement in the engine space is to be in accordance with Tab 2.

3.1.2 Fire-extinguishing arrangement for engine spaces containing gasoline engines

The protection of the engine space is to be achieved by a fixed fire-extinguishing system.

3.1.3 Types of fire-extinguishing systems

- a) A fixed fire extinguishing system required by [3.1.1] and [3.1.2] may be a fixed gas fire-extinguishing system complying with the provisions of Ch 4, Sec 10, [3]
- b) A portable fire extinguisher system required by [3.1.1] may be a system with dry powder as extinguishing medium, contained in a fixed cylinder under pressure of nitrogen and fitted with a nozzle with opening both automatic and manually remote controlled from outside the corresponding space.

3.1.4 Portable Fire extinguisher

One portable fire extinguisher in compliance with Ch 4, Sec 10, [2] is to be dedicated to the protection of each engine space.

Table 2 : Protection of the engine space for diesel engines

Combined rating (main and auxiliaries) of the diesel engine	Protection achieved by
less than or equal to 120 kW	<ul style="list-style-type: none"><li>- fixed fire-extinguishing system, or</li><li>- portable fire extinguisher of a type and size suitable to flood the engine space through a fire port in the engine casing</li></ul>
more than 120 kW	<ul style="list-style-type: none"><li>- fixed fire-extinguishing system</li></ul>

3.2 Yachts of 24 m in length and over

3.2.1 Fixed fire-extinguishing systems

A fixed fire-extinguishing system is to be provided in the machinery spaces of category A.

3.2.2 Types of fixed fire-extinguishing systems

A fixed fire extinguishing system required by [3.2.1] may be any of the following systems:

- a) a fixed gas fire-extinguishing system complying with the provisions of Ch 4, Sec 10, [3]
- b) a fixed pressure water-spraying fire-extinguishing system complying with the provisions of Ch 4, Sec 10, [4].

3.2.3 Fire extinguishers arrangement

The fire extinguishers arrangement in machinery spaces of category A is to be provided in accordance with Tab 3.

Table 3 : Fire extinguishers arrangement in machinery spaces of category A

Portable fire extinguishers (in compliance with Ch 4, Sec 10, [2])	Number
Spaces containing internal combustion engines (one extinguisher per 375 kW of internal combustion engine power)	≥ 2
Other machinery spaces of category A	1

4 Fire-extinguishing arrangements in accommodation and service spaces

4.1 Sprinkler systems

4.1.1 If fitted, the automatic sprinkler, fire detection and fire alarm systems are to be designed in accordance with Ch 4, Sec 10, [5].

4.1.2 Protection of Saunas

Saunas, if any, are to comply with the requirements of Ch 4, Sec 2, [1.3.3].

4.2 Portable fire extinguishers

4.2.1 Yachts of less than 24 m in length

- a) Portable fire extinguishers of the carbon dioxide type are not to be located or provided for use in accommodation spaces. Extinguishers are to be stowed in readily accessible and marked locations
- b) The portable fire extinguishers arrangement is to be in accordance with Tab 4. Portable fire extinguishers are to be in compliance with Ch 4, Sec 10, [2]

4.2.2 Yachts of 24 m in length and over

- a) A minimum of at least 3 portable fire extinguishers are to be provided within accommodation and service spaces. As far as practical, the fire extinguishers provided are to have a uniform method of operation and are to be of an approved type and capacity. Portable fire

extinguishers are to be in compliance with Ch 4, Sec 10, [2]

- b) The number, location, fire extinguishing medium type and capacity are to be selected according to the perceived fire risk, but for each deck, one portable extinguisher should be available for use within a distance of 10 m from any location
- c) Portable fire extinguishers of the carbon dioxide type are not to be located or provided for use in accommodation spaces. Extinguishers are to be stowed in readily accessible and marked locations.

4.3 Specific requirements for galleys

4.3.1 General

Galley equipment is to comply with Ch 4, Sec 2, [1.2] and ventilation system for galley on yachts of 24 m in length and over is to comply with Ch 4, Sec 4, [5.2.5].

4.3.2 Fire-extinguishing arrangement for yachts of less than 24 m in length

The following portable equipment is required near the cooking appliances:

- a) a portable fire extinguisher, in compliance with Ch 4, Sec 10, [2] located inside the galley near to the entrance to the space. This portable fire extinguisher can be one of the portable fire extinguishers required in Tab 4
- b) a fire blanket.

For yachts of less than 15 m in length, only one portable fire extinguisher as required in a) or only one fire blanket as required in b) may be accepted.

4.3.3 Portable fire equipment on yachts of 24 m in length and over

The following portable equipment is required in galleys:

- a) a portable fire extinguisher, located inside the galley near to the entrance to the space. This portable fire extinguisher can be comprised in the 3 minimum portable fire extinguishers required on board according to [4.2.2] a) but is considered in addition to the portable fire extinguisher provided for each deck according to [4.2.2] b)
- b) a fire blanket.

4.3.4 Deep-fat cooking equipment

Deep-fat cooking equipment, if any, is to be fitted with the following:

- a) an automatic or manual fire-extinguishing system tested to an international standard
- b) a primary and backup thermostat with an alarm to alert the operator in the event of failure of either thermostat
- c) arrangements for automatically shutting off the electrical power upon activation of the fire-extinguishing system
- d) an alarm for indicating operation of the fire-extinguishing system in the galley where the equipment is installed
- e) controls for manual operation of the fire-extinguishing system which are clearly labelled for ready use by the crew.

4.4 Specific requirements for spaces containing flammable products

4.4.1 Paint lockers and flammable liquid lockers are to be protected by:

- a) a carbon dioxide system, designed to give a minimum volume of free gas equal to 40% of the gross volume of the protected space
- b) a dry powder system, designed for at least 0,5 kg powder/m<sup>3</sup>
- c) a water spraying or sprinkler system, designed for 5 l/m<sup>2</sup> min. Water spraying systems may be connected to the fire main of the yacht

- d) a portable carbon dioxide fire extinguisher sized to provide a minimum volume of free gas equal to 40% of the gross volume of the space. A discharge port is to be arranged in the locker to allow the discharge of the extinguisher without having to enter into the protected space. The required portable fire extinguisher is to be stowed adjacent to the port, or
- e) a port or hose connection may be provided to facilitate the use of fire main water.

In all cases, the system is to be operable from outside the protected space.

Table 4 : Portable fire extinguishers arrangement in yachts of less than 24m in length

Type of space	L < 10 m	10 m < L < 15 m	L > 15 m
Main helm position or cockpit	- within 1 m	- within 2,5 m	- within 2 m unobstructed distance
Accommodation area	- within 5 m from the centre of a berth <b>(1)</b>		- within L/3 from the centre of any berth, measured in the horizontal projection <b>(1)</b> - at least one extinguisher is to be located within each 20 m² of the accommodation area <b>(1)</b>
Cooking area	See [4.3]		
<b>(1)</b> If an accommodation area is protected by an automatic sprinkler system as mentioned in [4.1], only one portable fire extinguisher is to be carried in that accommodation section. <b>Note 1:</b> A single extinguisher may meet more than one of the requirements of this table.			