
STATUTORY INSTRUMENTS

1998 No. 1012

**The Merchant Shipping (Fire Protection:
Large Ships) Regulations 1998**

PART III

FIRE PREVENTION AND FIRE APPLIANCES

SHIPS OTHER THAN PASSENGER SHIPS AND TANKERS

SHIPS OF CLASS VII OF 500 TONS OR OVER

Fire pumps, fire mains, water service pipes, hydrants, hoses and nozzles

16.—(1) Every ship of Class VII of 500 tons or over shall be provided with appliances whereby at least two jets of water can reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated, and any store room and any part of any cargo space when empty.

- (a) (2) (a) Every ship of Class VII of 1,000 tons or over shall be provided with at least two fire pumps operated by power. Each such pump shall be capable of delivering at least one jet of water simultaneously from each of any two fire hydrants, hoses and nozzles provided in the ship and shall comply with the requirements of regulation 38.
- (b) Every ship of Class VII of 500 tons or over but under 1,000 tons shall be provided with at least one fire pump operated by power, which shall be capable of delivering at least one jet of water simultaneously from each of any two fire hydrants, hoses and nozzles provided in the ship and shall comply with the requirements of regulation 38, provided that the capacity of the fire pump shall not be less than 25 cubic metres per hour.
- (c) In every ship of Class VII of 500 tons or over, in addition to the fire pumps required by this regulation one of the other pumps fitted in the machinery space such as general service, bilge and ballast pumps shall be capable of providing water to the fire main at the required capacity and the pressure of the fire pumps.
- (a) (3) (a) If in any ship of Class VII of 500 tons or over a fire in any one compartment could put all the fire pumps out of action there shall be provided, in a position outside the machinery spaces, an independently driven power-operated emergency fire pump and its source of power and sea connection.
- (b) In every ship of Class VII of 500 tons or over but under 2,000 tons, the emergency fire pump shall be capable of delivering at least one jet of water simultaneously from each of any two hydrants and hoses through nozzles which comply with the requirements of regulation 40(5)(b) whilst maintaining a pressure of at least 210 kPa at any hydrant in the ship provided that for such ships of 1,000 tons or over, the pressure at any hydrant shall not be less than 250 kPa.
- (a) (4) (a) In every ship of Class VII of 500 tons or over there shall be provided a fire main, water service pipes, hydrants, hoses and nozzles which shall comply with the requirements of regulations 39 and 40.

- (b) (i) Every such ship of 1,000 tons or over shall, in addition to any fire hoses provided in the machinery spaces, be provided with at least one firehose for each 30 metres (or part thereof) length of the ship but in no case less than five hoses and such hoses shall have a total length of at least 60 per cent of the length of the ship. In addition to such hoses there shall be provided one spare fire hose.
- (ii) In every such ship of 500 tons or over there shall be provided in ro-ro cargo spaces at least three water-fog applicators in addition to the nozzles required by these Regulations.
- (iii) In every such ship of 500 tons or over in every ro-ro cargo space the number of hydrants with hoses shall be so arranged that at least two jets of water each from a single length of hose not emanating from the same hydrant may reach any part of the space. Such hydrants shall be positioned near the accesses to the protected space.
- (iv) Every such ship of 500 tons or over but under 1,000 tons shall, in addition to any fire hoses provided in the machinery spaces, be provided with at least two fire hoses having a total length of at least 60 per cent of the length of the ship and one spare fire hose.
- (c) In every such ship of 500 tons or over fitted with oil-fire boilers or internal combustion type propelling machinery, there shall be provided in each space containing such boilers or machinery at least two fire hydrants, one on the port side and one on the starboard side, and in addition where there is access to the machinery space of any such ship by way of a shaft tunnel, a fire hydrant shall be provided in the tunnel at the end adjacent to that space. A fire hose and nozzle shall be provided at every such fire hydrant.

Additional requirements for ships constructed on or after 1st September 1984

- (d) In every ship of Class VII of 2,000 tons or over the emergency fire pump shall—
 - (i) be capable of delivering at least one jet of water simultaneously from each of any two hydrants and hoses through nozzles which shall comply with the requirements of regulation 40(5)(b); and
 - (ii) meet the requirements or regulations 38(5).

Portable fire extinguishers

17.—(1) Every ship of Class VII of 500 tons or over shall be provided with a sufficient number of portable fire extinguishers to ensure that at least one such extinguisher will be readily available for use in any part of the accommodation spaces, service spaces and control stations. The number of such extinguishers shall not be less than five in a ship of 1,000 tons or over and not less than three in a ship of 500 tons or over but under 1,000 tons.

Additional requirements for ships constructed on or after 25th May 1980

- (2) In every such ship there shall be provided in each ro-ro cargo space intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion—
 - (a) at least two portable extinguishers suitable for extinguishing oil fires for every 40 metres length of deck space so arranged that at least one extinguisher is available on each side of the space and at least one extinguisher is available at each access to the space; and
 - (b) one foam-applicator unit complying with the requirements of Schedule 6 in Merchant Shipping Notice MSN 1665. Not less than two such applicators shall be available in the ship for use in any such space.

Fixed fire-extinguishing arrangements in cargo spaces

18.—(1) In every ship of Class VII of 2,000 tons or over, other than ships to which paragraph (3) applies, there shall be provided a fixed fire-smothering gas installation complying with the requirements of Schedule 4 in Merchant Shipping Notice MSN 1666 which shall be so arranged as to protect every cargo space.

(2) The Secretary of State may exempt any ship (other than a ship engaged in the carriage of dangerous goods) from the requirements of paragraph (1) in so far as such arrangements relate to the provision of a fixed fire-smothering gas or steam installation in the cargo holds of the ship if he is satisfied that—

- (a) the ship is constructed and solely intended for the carriage of bulk cargoes which are—
 - (i) listed in Table 1 of MSC Circular 671 as non-combustible or constituting a low fire risk; or
 - (ii) listed in Table 2 of MSC Circular 671 and for which a fixed gas system is ineffective, the cargo spaces being provided with an approved fire-extinguishing system which can be shown to give equivalent fire protection; and
- (b) the holds are provided with steel hatch covers and effective means of closing all ventilators and other openings thereto; or
- (c) to require compliance would be unreasonable on account of the short duration of the voyages on which the ship is engaged.

Additional requirements for ships constructed on or after 25th May 1980

(3) In every ship of Class VII engaged in the carriage of dangerous goods there shall be provided—

- (a) a fixed gas fire-extinguishing system complying with the requirements of Schedule 4 in Merchant Shipping Notice MSN 1666 for every cargo space (other than ro-ro cargo spaces not capable of being sealed); and
- (b) a fixed pressure water-spraying system complying with the requirements of Schedule 3 in Merchant Shipping Notice MSN 1666 for every ro-ro cargo space not capable of being sealed.

(4) In every ship of Class VII of 2,000 tons or over there shall be provided in each open ro-ro cargo space having a deck cover and each space which is a closed ro-ro cargo space but not capable of being sealed, a fixed pressure water-spraying system complying with Schedule 3 in Merchant Shipping Notice MSN 1666. Due consideration shall be given to bilge pumping arrangements and drainage facilities.

Additional requirements for ships constructed on or after 1st September 1984

(5) In every ship of Class VII of 500 tons or over there shall be provided for every ro-ro cargo space not capable of being sealed a fixed pressure water-spraying system complying with Schedule 3 in Merchant Shipping Notice MSN 1666.

(6) In every ship of Class VII of 500 tons or over there shall be provided for every ro-ro cargo space capable of being sealed and for every cargo space (other than a ro-ro cargo space) intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion a fixed pressure water-spraying system complying with Schedule 3, or a fixed gas fire-extinguishing system complying with Schedule 4, in Merchant Shipping Notice MSN 1666.

Special requirements for cargo space ventilation

Requirements for ships constructed on or after 1st September 1984

19.—(1) In every ship of Class VII of 500 tons or over there shall be provided in each closed ro-ro cargo space and each cargo space intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion an effective power-ventilation system to provide at least six air changes per hour based on an empty hold. Ventilation fans shall where practicable be run continuously whenever vehicles are on board. Where this is impracticable, they shall be operated for a limited period daily as weather permits and in any case for a reasonable period prior to discharge, after which period such spaces shall be proved gas-free. One or more portable combustible gas detecting instruments shall be carried for this purpose. The system shall be entirely separate from other ventilating systems. Ventilation ducts serving such spaces capable of being effectively sealed shall be separated for each cargo space. The Secretary of State may require the capability to increase the number of air changes when vehicles are being loaded or unloaded. The system shall be capable of being controlled from a position outside such spaces. In addition—

- (a) the ventilation shall be so arranged as to prevent air stratification and the formation of air pockets;
- (b) means shall be provided to indicate any loss of the required ventilating capacity on the navigating bridge;
- (c) arrangements shall be provided to permit a rapid shut-down and effective closure of the ventilating system in case of fire, taking into account the weather and sea conditions.

Machinery spaces of Category A

- (a) **20.** (1) (a) In every ship of Class VII of 500 tons or over there shall be provided for the protection of any machinery space of Category A at least one of the following fire-extinguishing installations—
 - (a) a fixed pressure water-spraying system complying with the requirements of Schedule 2 in Merchant Shipping Notice MSN 1666;
 - (b) a fixed gas fire-extinguishing system complying with the requirements of Schedule 4 in Merchant Shipping Notice MSN 1666; or
 - (c) a fixed high-expansion foam system complying with the requirements of Schedule 8 in Merchant Shipping Notice MSN 1666.
 - (b) If the engine and boiler rooms are not entirely separated from each other by a bulkhead, or if fuel oil can drain from the boiler room into the engine room, the combined engine and boiler rooms shall for the purpose of this paragraph be regarded as a single space.
- (2) In addition to the requirements of paragraph (1) above there shall be provided—
- (a) in each boiler room one or more foam fire extinguishers each of at least 135 litres capacity or carbon dioxide fire extinguishers of at least 45 kilogrammes capacity. The extinguishers shall be sited so as to be readily accessible in the event of fire and they shall be sufficient in number to enable foam or carbon dioxide to be directed on to any part of the boiler room and spaces containing any part of the oil fuel installation;
 - (b) in each boiler room at least one portable foam-applicator unit complying with the requirements of Schedule 6 in Merchant Shipping Notice MSN 1665;
 - (c) in each firing space and in each space which contains any part of any oil fuel installation, at least two portable fire extinguishers suitable for extinguishing oil fires, in addition to any which may be carried in compliance with the preceding sub-paragraph;
 - (d) in each firing space a receptacle containing 0.3 cubic metre of sand or other dry material suitable for extinguishing oil fires, together with a scoop for its distribution or alternatively an additional portable fire extinguisher suitable for extinguishing oil fires.

(3) In addition to the requirements of paragraph (1) there shall be provided in any such spaces containing internal combustion type machinery—

- (a) one or more foam fire extinguishers of at least 45 litres capacity or carbon dioxide fire extinguishers of at least 16 kilogrammes capacity sufficient in number to enable foam or carbon dioxide to be directed on to any part of the fuel and lubricating oil pressure systems, gearing and other areas of high fire risk;
- (b) at least one portable foam-applicator unit complying with the requirements of Schedule 6 in Merchant Shipping Notice MSN 1665;
- (c) portable fire extinguishers suitable for extinguishing oil fires sufficient in number to ensure that at least one extinguisher is not more than 10 metres walking distance from any position within the space: provided that there shall be not less than two extinguishers.

Machinery spaces containing steam turbines or enclosed steam engines

21. In every ship of Class VII of 500 tons or over there shall be provided in spaces containing steam turbines or enclosed pressure-lubricated steam engines used either for main propulsion, or having in the aggregate power of not less than 375 kW for auxiliary purposes—

- (a) foam fire extinguishers each of at least 45 litres capacity or carbon dioxide fire extinguishers each of at least 16 kilogrammes capacity sufficient in number to enable foam or carbon dioxide to be directed on to any part of the pressure-lubrication system and on to any part of the casings enclosing pressure-lubricated parts of the turbines, engines or associated gearing and any other areas of high fire risk: provided that such extinguishers shall not be required if equivalent protection is provided in such spaces by a fixed fire-extinguishing system fitted in compliance with regulation 20(1);
- (b) portable fire extinguishers suitable for extinguishing oil fires sufficient in number to ensure that at least one extinguisher is not more than 10 metres walking distance from any position within the space: provided that there shall be not less than two extinguishers; and

Additional requirement for ships constructed after 1st September 1984

- (c) where such spaces are to be periodically unattended there shall be provided additionally either a fixed pressure water-spraying system complying with the requirements of Schedule 2, or a fixed gas fire-extinguishing system complying with the requirements of Schedule 4, in Merchant Shipping Notice MSN 1666.

Fire-extinguishing appliances in other machinery spaces

Requirements for ships constructed on or after 25th May 1980

22. Where a fire hazard exists in any machinery space for which no specific provisions for fire-extinguishing are made in regulations 20 and 21 there shall be provided in, or adjacent to that space sufficient number of portable fire extinguishers to ensure that at least one extinguisher is not more than 10 metres walking distance from any position within that space unless equivalent means of fire extinction are provided.

Paint lockers etc.

23. In every ship of Class VII of 500 tons or over, every paint locker and flammable liquid locker shall be protected by an approved fire-extinguishing system.

Fire detection and fire alarm systems and sample extraction smoke detection systems

24.—(1) Every ship of Class VII of 500 tons or over shall be provided with a fixed fire detection and fire alarm system of an approved type complying with the requirements of Schedule 5 in Merchant Shipping Notice MSN 1666 in any machinery space where the installation of automatic and remote control systems and equipment has been approved in lieu of continuous manning of the space.

Additional requirements for ships constructed on or after 25th May 1980

(2) In every ship of Class VII of 500 tons or over there shall be provided in each cargo space (other than ro-ro cargo spaces) intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion either a fixed fire detection and fire alarm system of an approved type complying with Schedule 5, or a sample extraction smoke detection system complying with Schedule 6, in Merchant Shipping Notice MSN 1662.

Additional requirements for ships constructed on or after 1st September 1984

(3) In every ship of Class VII of 500 tons or over, in any machinery spaces where the main propulsion and associated machinery including sources of main electrical supply are provided with automatic or remote control under continuous manned supervision from a control room, there shall be provided a fixed fire detection and alarm system of an approved type complying with Schedule 5 in Merchant Shipping Notice MSN 1666.

(4) In every Class VII ship of 500 tons or over there shall be provided in each ro-ro cargo space a fixed fire detection and fire alarm system of an approved type complying with Schedule 5 in Merchant Shipping Notice MSN 1666.

Firemen's outfits

25.—(1) Every ship of Class VII of 500 tons or over shall carry firemen's outfits complying with the requirements of regulation 46 in accordance with the following scale—

<i>Tonnage of the ship</i>	<i>Number of outfits</i>
500 but under 4,000	2
4,000 or over	3

(2) At least one such outfit carried in any such ship shall include a breathing apparatus of the air-hose type.

(3) If in any such ship which carries firemen's outfits containing only breathing apparatus of the air-hose type, an air-hose exceeding 36 metres in length is necessary to reach from a point on the open deck well clear of any hatch or doorway any part of the accommodation, service, cargo or machinery spaces, at least one of the fireman's outfits provided pursuant to paragraph (1) shall include breathing apparatus of the self-contained type.

Requirements for ships constructed on or after 25th May 1980

(4) Every ship of Class VII of 500 tons or over shall carry firemen's outfits which shall comply with the requirements of regulation 46 in accordance with the following scale—

<i>Tonnage of the ship</i>	<i>Number of outfits</i>
500 but under 2,500	2

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<i>Tonnage of the ship</i>	<i>Number of outfits</i>
2,500 but under 4,000	3
4,000 or over	4

(5) One such outfit carried in any such ship shall include a breathing apparatus of the air-hose type and the remainder shall include breathing apparatus of the self-contained type provided that where the air-hose of an air-hose type breathing apparatus is required, in order to comply with paragraph 1 of Schedule 5 in Merchant Shipping MSN 1665, to exceed 36 metres in length a self-contained breathing apparatus shall be provided either in addition to or as a substitute for that air-hose breathing apparatus.

International shore connection

26. Every ship of Class VII of 500 tons or over shall be provided with at least one international shore connection which shall comply with the requirements of Schedule 1 in Merchant Shipping Notice MSN 1665 to enable water to be supplied from another ship, or from the shore, to the fire main. Fixed provision shall be made to enable such a connection to be used on the port side and on the starboard side of the ship.