
STATUTORY INSTRUMENTS

1998 No. 1012

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

**SHIPS OTHER THAN PASSENGER SHIPS OR
TANKERS TO WHICH PART VIII APPLIES**

**SHIPS OF CLASSES VII, VII(A), VIII, VIII(A), IX and IX(A) AND TANKERS OF
CLASSES VII(T), VIII(T), VIII(A)(T) AND IX(A)(T) OF 500 TONS OR OVER**

Application

69. Regulations 70 to 84 inclusive shall apply to ships of Classes VII, VII(A), VIII, VIII(A), IX and IX(A) of 500 tons or over and tankers, other than tankers to which Part VIII applies of Classes VII(T), VIII(T), VIII(A)(T) and XI(A)(T) of 500 tons or over, constructed on or after 1st September 1984. Such ships constructed on or after 26th May 1965 but before 1st September 1984 shall comply with the requirements of Schedule 4 of Merchant Shipping Notice MSN 1670.

Structure

70. Regulation 52 shall apply to ships to which this Part applies as it applies to ships to which Part VI applies.

Helicopter decks

71. Regulation 53 shall apply to ships to which this Part applies as it applies to ships to which Part VI applies.

Methods of fire protection

72. One of the following methods of protection shall be adopted in the accommodation and service spaces—

- (a) Method IC—The construction of all internal divisional bulkheading shall be of non-combustible “B” Class divisions or “C” Class divisions without the installation of an automatic sprinkler, fire detection and fire alarm system in the accommodation and service spaces, except as required by regulation 82; or
- (b) Method IIC—An automatic sprinkler, fire detection and fire alarm system as required by regulation 82 shall be fitted in all spaces in which fire might be expected to originate with no restriction on the type of internal divisional bulkheading; or
- (c) Method IIIC—A fixed fire detection and fire alarm system, as required by regulation 82 shall be fitted in all spaces in which a fire might be expected to originate with no restriction on the type of internal divisional bulkheading, except that in no case shall the area of any accommodation space or spaces bounded by continuous “A” Class divisions and/or “B” Class divisions exceed 50 square metres subject to the requirements of regulation 73(4).

Bulkheads within accommodation spaces, services spaces and control stations

73.—(1) All bulkheads which are required to be “B” Class divisions shall extend from deck to deck and to the shell or other boundaries, unless continuous “B” Class ceilings and/or linings are fitted on both sides of the bulkhead in which case the bulkhead may terminate at the continuous ceiling and/or lining.

(2) In ships where Method IC is adopted all bulkheads which are not required to be either “A” Class divisions or “B” Class divisions, shall be “C” Class divisions.

(3) In ships where Method IIC is adopted there is no restriction on the construction of bulkheads which are not required to be “A” Class divisions or “B” Class divisions except where “C” Class bulkheads are required in accordance with Table 1 in Schedule 1 in Merchant Shipping Notice MSN 1668.

(4) In ships where Method IIIC is adopted there is no restriction on the construction of bulkheads which are not required to be “A” Class divisions or “B” Class divisions except where “C” Class bulkheads are required in accordance with Table 1 in Schedule 1 in Merchant Shipping Notice MSN 1668. In no case shall the area of any accommodation space or spaces bounded by continuous “A” Class divisions and/or “B” Class divisions exceed 50 square metres provided that this area may be exceeded in public spaces.

Fire integrity of bulkheads and decks

74. In addition to complying with the specific provisions for fire integrity of bulkheads and decks referred to elsewhere in this Part of the Regulations the minimum fire integrity of bulkheads and decks shall be as prescribed in Schedule 1 of Merchant Shipping Notice MSN 1668.

Protection of stairways and lifts in accommodation and service spaces

75.—(1) Every stairway within accommodation spaces, service spaces and control stations shall be constructed of steel except where the Secretary of State may approve the use of other equivalent material. Every such stairway and lift shall lie respectively within an enclosure or trunk constructed of “A” Class divisions of “A-0” standard except that an isolated stairway serving only two decks shall only be required to be enclosed at one level by either “A” Class divisions of “A-0” standard; or “B” Class divisions of “B-0” standard; provided that the fire integrity of any bulkhead which separates a stairway from either a machinery space of Category A or a ro-ro cargo space shall be determined by reference to Table 1 of Schedule 1 in Merchant Shipping Notice MSN 1668.

(2) Every opening in a stairway enclosure and lift trunk shall be provided with a means of closure which shall be permanently attached thereto and which shall comply with the requirements of regulation 76 or 77, whichever is applicable.

Openings in “A” Class divisions

76.—(1) Where an “A” Class division is pierced for the passage of electric cables, pipes, trunks, girders, or beams or for other purposes, the arrangements shall be such that the effectiveness of the division in resisting fire is not thereby impaired.

(2) The construction of all doors and frames in “A” Class bulkheads, with the means of securing the doors when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as is reasonably practicable, equivalent to that of the bulkheads in which the doors are situated.

(3) Every door in an “A” Class bulkhead shall be so constructed that it can be opened and closed by one person from either side of the division.

(4) Every door in an “A” Class bulkhead which forms part of a stairway enclosure or lift trunk serving accommodation spaces, service spaces or control stations and every door in a casing of a machinery space of Category A shall be self-closing.

(5) Hold-back arrangements may be fitted to doors to which paragraph (4) refers provided that such arrangements—

- (a) have remote release fittings of a type which in the event of disruption of the control system will automatically close the doors; and
- (b) will permit each door to be closed manually.

(6) Doors fitted in boundary bulkheads of machinery spaces of Category A shall be reasonably gastight and self-closing.

(7) Watertight doors need not be insulated.

(8) Where ventilation ducts pass through “A” Class divisions the requirements of Schedule 3 in Merchant Shipping Notice MSN 1668 shall apply.

Openings in “B” Class divisions

77.—(1) Where a “B” Class division is pierced for the passage of electric cables, pipes, trunks, girders, or beams, or for other purposes, the arrangements shall be such that the effectiveness of the division in resisting fire is not thereby impaired.

(2) The construction of all doors and door frames in “B” Class bulkheads shall provide resistance to fire as well as the passage of flame, as far as is reasonably practicable, equivalent to that of the bulkheads in which the doors are situated.

(3) The number of ventilation openings in “B” Class divisions shall be kept to a minimum and shall be provided as far as is reasonably practicable only in the lower part of a door and fitted with a grille constructed of steel or under a door except that such openings shall not be provided in a door in a “B” Class division forming a stairway enclosure. The net area of any such opening or openings shall not exceed 0.05 square metre and in no case shall a gap under a door exceed 25 millimetres. The grille shall be capable of being manually closed from each side of the door.

(4) Every door in a “B” Class bulkhead which forms a stairway enclosure or part thereof shall be self-closing.

(5) Hold-back arrangements may be fitted to doors to which paragraph (4) refers provided that such arrangements—

- (a) have remote release fittings of a type which in the event of disruption of the control system will automatically close the doors; and
- (b) will permit each door to be closed manually.

Ventilation systems

78.—(1) Where ventilation systems penetrate decks, precautions shall be taken, in addition to those relating to the fire integrity of the decks required by regulation 76, to reduce the likelihood of smoke and hot gases passing from one between-deck space to another through the system. In addition to insulation requirements contained in this regulation, vertical ducts shall, be insulated as required by the Tables in Schedule 1 in Merchant Shipping Notice MSN 1668.

(2) Ducts serving a stairway enclosure shall be taken from the fan room independently of other ducts in the ventilation system and shall not serve any other space.

(3) There shall be provided for every control station situated below deck, other than a control station in the machinery space, means to ensure ventilation, visibility and freedom from smoke within it so that in the event of a fire in the ship, the equipment it contains may be operated effectively.

Unless the control station is situated on, and has access to, an open deck or is provided with local closing arrangements equally effective to maintain ventilation, visibility and freedom from smoke in the event of a fire in the ship, there shall be provided at least two entirely separate means of supplying air to such control stations and the air inlets to these sources of supply shall be so situated that the risk of both drawing in smoke simultaneously is, as far as practicable, eliminated.

(4) Ventilation ducts except those in cargo spaces, shall be constructed in accordance with the specifications set out in Schedule 3 in Merchant Shipping Notice MSN 1668.

Details of construction

79.—(1) Where Method IC is adopted ceilings, linings, draught stops and their associated grounds in accommodation and service spaces and control stations shall be non-combustible.

(2) Where Method IIC or Method IIIC is adopted ceilings, linings, draught stops and their associated grounds in corridors and stairway enclosures serving accommodation and service spaces and control stations shall be non-combustible.

Restriction of combustible materials

80.—(1) All exposed surfaces in corridors and stairway enclosures and surfaces in concealed or inaccessible spaces within accommodation and service spaces and control stations shall be such that a surface spread of flame of Class 1 is not exceeded.

(2) Primary deck coverings in accommodation and service spaces and control stations shall be of an approved material which will not readily ignite or give rise to toxic or explosive hazards at elevated temperatures.

(3) Paints, varnishes and other finishes used on exposed surfaces within accommodation and service spaces, control stations and machinery spaces shall not contain nitrocellulose or other highly flammable base products and shall not be capable of producing excessive quantities of smoke. Such surfaces, except where otherwise required by these Regulations, shall be such that a surface spread of flame of Class 2 will not be exceeded: provided that these requirements shall not apply to furniture, furnishings, machinery and similar items.

- (a) (4) (a) Insulating materials shall be of non-combustible materials except in respect of—
- (i) cargo spaces;
 - (ii) materials used to insulate refrigerated compartments;
 - (iii) materials used to insulate valves associated with hot and cold service systems provided that their exposed surfaces are such that a surface spread of flame of Class 1 will not be exceeded; and
 - (iv) vapour barriers and adhesives used in conjunction with insulating materials, if their exposed surfaces are such that a surface spread of flame of Class 1 will not be exceeded.
- (b) In a ship constructed before 1st February 1992, a non-combustible bulkhead, lining or ceiling fitted in an accommodation or service space may have a combustible veneer which—
- (i) in corridors, stairway enclosures and control stations, does not exceed 1.5 millimetres in thickness;
 - (ii) in any other accommodation or service space, does not exceed 2.0 millimetres in thickness.
- (c) In a ship constructed on or after 1st February 1992—

- (i) the total volume of combustible facings, mouldings, decorations and veneers in any accommodation or service space bounded by non-combustible bulkheads, ceilings and linings shall not exceed a volume equivalent to a 2.5 millimetre veneer on the combined area of the walls and ceilings;
- (ii) a non-combustible bulkhead, lining or ceiling fitted in an accommodation or service space may have a combustible veneer with a gross calorific potential not exceeding 45 megajoules per square metre of surface area for the thickness used (as measured in accordance with the method specified in International Standard ISO 1716–1973(E) or with an equivalent British Standard which the Secretary of State may specify in a Merchant Shipping Notice).

Miscellaneous items of fire protection

81.—(1) Any pipe which penetrates an “A” Class division or “B” Class division shall be of suitable material having regard to the temperature such divisions are required to withstand.

(2) In accommodation spaces, service spaces or control stations pipes intended to convey oil or other flammable liquids shall be of a suitable material having regard to the risk of fire.

(3) Overboard scuppers, sanitary discharges or other outlets close to or below the waterline shall not be of a material likely to fail in the event of fire and thereby give rise to danger of flooding.

(4) Electric space heaters shall be fixed in position and shall be so constructed as to reduce the risk of fire to a minimum. No such heater shall be constructed with an element so exposed that clothing, curtains or other material can be scorched or set on fire by heat from the element.

(5) Cellulose-nitrate film shall not be used in cinematograph installations.

(6) All waste-paper receptacles shall be constructed of non-combustible materials with solid sides and bottoms.

(7) In spaces where penetration of oil products is possible, the exposed surface of insulation materials shall be impervious to oil or oil vapours.

(8) Every air space enclosed behind a ceiling, panel or lining within accommodation spaces, service spaces and control stations shall be divided by close fitting draught stops which shall be spaced not more than 14 metres apart and which shall be closed at each deck.

Fixed fire detection and fire alarm system, and automatic sprinkler, fire detection and fire alarm system

82.—(1) In ships in which Method IC is adopted, a fixed fire detection and fire alarm system of an approved type complying with the requirements specified in Schedule 5 in Merchant Shipping Notice MSN 1666 shall be so installed and arranged as to provide smoke detection and manually-operated call points in all corridors, stairways and escape routes within accommodation spaces.

(2) In ships in which Method IIC is adopted, an automatic sprinkler, fire detection and fire alarm system of an approved type complying with the requirements specified in Schedule 1 in Merchant Shipping Notice MSN 1666 shall be so installed and arranged as to protect accommodation spaces, galleys and other service spaces, except spaces which afford no substantial fire risk such as void spaces and sanitary spaces. In addition, a fixed fire detection and fire alarm system of an approved type complying with the requirements specified in Schedule 5 in Merchant Shipping Notice MSN 1666 shall be so installed and arranged as to provide smoke detection and manually-operated call points in all corridors, stairways and escape routes within accommodation spaces.

(3) In ships in which Method IIIC is adopted, a fixed fire detection and fire alarm system of an approved type complying with the requirements specified in Schedule 5 in Merchant Shipping Notice MSN 1666 shall be so installed and arranged as to detect the presence of fire in all accommodation

spaces and service spaces, except spaces which afford no substantial fire risk such as void spaces and sanitary spaces. Notwithstanding the foregoing exception smoke detection and manually-operated call points shall be installed in all corridors, stairways and escape routes.

Special arrangements in machinery spaces

- 83.** The following provisions shall apply to machinery spaces—
- (a) the number of openings to machinery spaces shall be the minimum compatible with the proper working of the ship;
 - (b) windows shall not be fitted in machinery space boundaries;
 - (c) any machinery space of Category A which is accessible from an adjacent shaft tunnel shall be provided with a light-weight steel fire-screen door in addition to any watertight door; the fire-screen door shall be operable from each side and shall be located at the shaft tunnel side of the bulkhead.

Means of escape

84.—(1) In every ship stairways and ladderways shall be arranged so as to provide ready means of escape to the lifeboat and liferaft embarkation deck from all accommodation spaces, service spaces and other spaces in which crew are normally employed. In particular the following shall be complied with—

- (a) at all levels of accommodation there shall be provided at least two widely separated means of escape from each restricted space or group of spaces;
- (b) below the lowest open deck such escapes shall be by means of stairways except that one of these stairways may be replaced by a trunked vertical ladder;
- (c) above the lowest open deck the means of escape shall be stairways or doors to an open deck or a combination thereof;
- (d) one of the means of escape may be dispensed with in an exceptional case having regard to the nature and location of the space and to the number of persons who normally might be accommodated or employed there;
- (e) no dead-end corridors having a length of more than 7 metres shall be permitted; a dead-end corridor is a corridor or part of a corridor from which there is only one escape route;
- (f) the width and continuity of the means of escape shall be to the satisfaction of the Secretary of State; and
- (g) if a radio office has no direct access to the open deck, two means of escape from such office shall be provided; one of these escapes may be an opening type window or sidescuttle of sufficient size.

(2) In all cargo spaces intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion where the crew is normally employed the number and locations of escape routes to the open deck shall be sufficient to provide ready escape for the number of persons involved but shall in no case be less than two and shall be as widely separated as possible.

(3) In every ship two means of escape shall be provided from each machinery space of Category A. In particular one of the following provisions shall be complied with—

- (a) two sets of steel ladders as widely separated as possible leading to doors in the upper part of the space similarly separated and from which access is provided to the lifeboat or liferaft embarkation deck or decks; in general, one of these ladders shall provide continuous fire shelter from the lower part of the space to a safe position outside the space; the shelter shall be of steel, insulated where necessary, and be provided with a self-closing steel door at the lower end; or

- (b) one steel ladder leading to a door in the upper part of the space from which access is provided to the lifeboat or liferaft embarkation deck or decks and additionally, in the lower part of the space and in a position well separated from the ladder referred to, a steel door capable of being operated from each side and which provides access to a safe escape route from the lower part of the space to the lifeboat and liferaft embarkation deck.
- (4) In a ship of less than 1,000 tons the Secretary of State may permit one of the means of escape required by paragraph (3) to be dispensed with having regard to the size and disposition of the upper part of the space.
- (5) From machinery spaces other than machinery spaces of Category A, escape routes shall be provided having regard to the nature and location of the space and the number of persons normally employed in that space.
- (6) Lifts shall not be considered as forming one of the required means of escape as required by this regulation.