
STATUTORY INSTRUMENTS

1998 No. 1012

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

PASSENGER SHIPS

SHIPS OF CLASSES I, II, AND II(A)

Ships Constructed on or after 1st October 1994

- (b) (5) (b) In every ship constructed on or after 1st October 1994 carrying more than 36 passengers there shall be installed in all service spaces, control stations and accommodation spaces including corridors and stairways so as to protect such spaces, an automatic sprinkler, fire detection and fire alarm system of an approved type complying with the requirements of Schedule 1 in Merchant Shipping Notice MSN 1666 and so as to provide smoke detection, a fixed fire detection and fire alarm system complying with the requirements of Schedule 5 in Merchant Shipping Notice MSN 1666. Smoke detectors need not be fitted in private bathrooms and galleys. Spaces having little or no fire risk such as voids, public toilets and similar spaces need not be fitted with such automatic sprinkler system or fixed fire detection and alarm system. Control stations where water may cause damage to essential equipment may be fitted with an approved fixed fire-extinguishing system of another type.
- (6) The Secretary of State may exempt any ship from the requirements of paragraphs (1), (2), (4) and (5) in respect of—
- (a) any spaces which afford no substantial fire risk; or
 - (b) except in ships constructed on or after 1st October 1994 carrying more than 36 passengers, any control station.

Protection of special category spaces and ro-ro cargo spaces

65. —The following provisions shall apply to special category spaces and ro-ro cargo spaces whether above or below the bulkhead deck—

- (a) if it is not practicable to divide such spaces into main vertical zones, equivalent protection shall be obtained by dividing such spaces into horizontal zones; such a horizontal zone for the purpose of this regulation may include special category spaces or ro-ro cargo spaces on more than one deck provided that the total overall clear height for vehicles does not exceed 10 metres; the bulkheads and decks forming the boundaries of such a horizontal zone shall be insulated respectively—
 - (i) in the case of ships carrying more than 36 passengers constructed before 1st October 1994, as required for Category 11 spaces in Tables 1 and 3 of Schedule 1 in Merchant Shipping Notice MSN 1667;
 - (ii) in ships constructed on or after 1st October 1994 carrying more than 36 passengers, the boundary bulkheads and decks shall be insulated to “A-60” standard. However when a space classified in accordance with Schedule 1 in Merchant Shipping Notice

MSN 1667 as Category 5, 9 or 10 is on one side of the division the standard may be reduced to “A-0”;

- (iii) in the case of ships carrying 36 passengers or less as required for Category 11A spaces in Tables 1 and 2 of Schedule 2 in Merchant Shipping Notice MSN 1667.
- (b) the requirements of regulations 58 and 60 for maintaining the integrity of vertical zones shall apply to bulkheads and decks forming the boundaries separating horizontal zones from each other and from the remainder of the ship;
- (c) a fixed pressure water-spraying system complying with the requirements specified in Schedule 3 in Merchant Shipping Notice MSN 1666 shall be provided;
- (d) indicators shall be provided on the navigating bridge which shall show when any access fire door in the boundary of a special category space or ro-ro cargo space is closed; and
- (e) the outlet from any exhaust ventilation duct shall be sited in a safe position having regard to possible sources of ignition; ventilation ducts, including dampers, shall be of steel and arrangements shall be provided to permit a rapid shut-down and effective closure of the ventilation system in case of fire.

Protection of cargo spaces, other than special category spaces and ro-ro cargo spaces intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion

66. In every ship the following provisions shall apply to any cargo space, other than a special category space or ro-ro cargo space containing motor vehicles with fuel in their tanks for their own propulsion—

- (a) a fixed fire detection and fire alarm system of an approved type complying with the requirements specified in Schedule 5 or a sample extraction smoke detection system complying with Schedule 6 in Merchant Shipping Notice MSN 1666 shall be provided;
- (b) a fixed pressure water-spraying system complying with the requirements specified in Schedule 3 in Merchant Shipping Notice MSN 1666 or a fixed gas fire-extinguishing system complying with the requirements specified in Schedule 4 in Merchant Shipping Notice MSN 1666 shall be provided; and
- (c) the outlet from any exhaust ventilation duct shall be sited in a safe position having regard to possible sources of ignition; ventilation ducts, including dampers, shall be of steel.

Special arrangements in machinery spaces

67. —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) doors in the boundaries of machinery spaces of Category A, other than watertight doors and the fire-screen door referred to in paragraph (d), shall be arranged so that the closure of the door will be assured in the event of fire in the space; and the doors shall be provided with closing arrangements which either comply with the requirements of regulation 58(7) as it applies to ships constructed before 1st October 1994 or are provided with power-operated closing arrangements operable from the control position required by regulation 47(2); and
- (d) any machinery space of Category A which is accessible from an adjacent shaft tunnel shall be provided with a lightweight 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

68.—(1) Every ship shall be provided with doorways, stairways, ladderways and other ways to provide readily accessible means of escape to the lifeboat and liferaft embarkation decks for all persons in the ship from accommodation spaces, service spaces and other spaces in which the crew is normally employed, other than machinery spaces. The means of escape shall be so designed and constructed as to be capable of being easily used by the persons for whom they are intended. The number, width and continuity of such means of escape shall be sufficient, having regard to the number of persons by whom they may be used.

(2) Notwithstanding the generality of paragraph (1), in every ship the following shall be complied with—

- (a) there shall be provided below the bulkhead deck at least two means of escape from each watertight compartment or from each similarly restricted space or group of spaces; at least one of the means of escape provided from each such compartment or from each such space or group of spaces shall be independent of watertight doors; one of the means of escape may be dispensed with, in an exceptional case, having regard to the nature and location of spaces and to the number of persons who normally might be employed or, except in case of a ship constructed on or after 1st October 1994 accommodated there. Where one of the means of escape is dispensed with, the sole means of escape shall provide satisfactory safe escape, provided that in a ship constructed on or after 1st October 1994 the clear width of stairways in such escapes may be less than 900 millimetres but shall not be less than 800 millimetres, with handrails on both sides;
- (b) there shall be provided above the bulkhead deck at least two means of escape from each space bounded by main vertical zone bulkheads or from each similarly restricted space or group of spaces;
- (c)
 - (i) in the case of a ship constructed before 1st October 1994, at least one of the means of escape required by sub-paragraphs (a) and (b) shall be by means of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks or the highest level served by the stairway, whichever level is the highest; however, where only one means of escape is permitted for the purpose of compliance with sub-paragraph (a), the sole means of escape shall provide satisfactory safe escape;
 - (ii) in the case of a ship constructed on or after 1st October 1994 at least one of the means of escape required by sub-paragraphs (a) and (b) shall consist of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks, or to the uppermost weather deck if the embarkation deck does not extend to the main vertical zone being considered. In the latter case, direct access to the embarkation deck by way of external open stairways and passageways shall be provided and shall have emergency lighting in accordance with regulation 48 of the Merchant Shipping (Passenger Ship Construction and Survey) Regulations 1984 and slip-free surfaces underfoot. In such ships boundaries facing external open stairways and passageways forming part of an escape route and boundaries in such a position that their failure during a fire would impede escape to the embarkation deck shall have fire integrity, including insulation values, in accordance with the appropriate Tables in regulation 55. In such ships the widths, number and continuity of escapes shall be as follows—
 - (aa) stairways shall not be less than 900 millimetres in clear width. Stairways shall be fitted with handrails on each side. The minimum clear width of stairways shall be increased by 10 millimetres for every one person provided for in excess of 90 persons. The maximum clear width between handrails

where stairways are wider than 900 millimetres shall be 1,800 millimetres. The total number of persons to be evacuated by such stairways shall be assumed to be two thirds of the crew and the total number of passengers in the areas served by such stairways. The width of the stairways shall conform to standards not inferior to those set out in IMO resolution A757(18);

- (bb) all stairways sized for more than 90 persons shall be aligned fore and aft;
- (cc) doorways and corridors and intermediate landings included in means of escape shall be sized in the same manner as stairways;
- (dd) stairways shall not exceed 3.5 metres in vertical rise without the provision of a landing and shall not have an angle of inclination greater than 45°;
- (ee) landings at each deck shall be not less than 2 square metres in area and shall increase by 1 square metre for every 10 persons provided for in excess of 20 persons but need not exceed 16 square metres, except for those landings servicing public spaces having direct access onto the stairway enclosure;
- (d) satisfactory protection of access from the stairway enclosures to the lifeboat and liferaft embarkation areas shall be provided;
- (e) lifts shall not be considered as forming one of the required means of escape;
- (f) stairways serving only a space and a balcony in that space shall not be considered as forming one of the required means of escape;
- (g) if a radio office has no direct access to a weather deck, two means of escape shall be provided from the office; the Secretary of State may permit one of these escapes to be an opening type window or sidescuttle of sufficient size;
- (h) dead-end corridors shall not be permitted to exceed 7 metres in ships carrying not more than 36 passengers and 13 metres in ships carrying more than 36 passengers; and in ships constructed on or after 1st October 1994 they shall be prohibited. For the purpose of this sub-paragraph a dead-end corridor is a corridor, or part of a corridor from which there is only one escape route;
- (i) in special category spaces and ro-ro cargo spaces the number and disposition of the means of escape both below and above the bulkhead deck shall be adequate, and, in general, the safety of access to the lifeboat and liferaft embarkation decks shall be at least equivalent to that required by sub-paragraphs (a), (b), (c), (d) and (e).

(3) In every ship the means of escape from any public room which may be used for the purpose of concerts, cinema shows and similar forms of entertainment shall be adequate, having regard to the number of persons who may be in the audience, and the seating shall be arranged in rows to ensure free access to the exits. When in any such public room subdued lighting is used, the exits shall be clearly marked with illuminated signs and any doors shall be constructed to open outwards.

(4) In every ship suitable signs shall be displayed in passageways and stairways indicating the direction of escape to passenger assembly stations. Such signs shall be continuously illuminated and shall be adequate in number and distribution. They shall be capable of being illuminated by the ship's emergency lighting system.

(5) In the machinery spaces in every ship there shall be provided from each machinery space two means of escape in compliance with the following provisions—

- (a) where the space is below the bulkhead deck the two means of escape shall consist of either—
 - (i) 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 appropriate lifeboat and liferaft embarkation decks; one of these ladders shall

- be provided with continuous fire shelter from the lower part of the space to a safe position outside the space; or
- (ii) one steel ladder leading to a door in the upper part of the space from which access is provided to such embarkation deck 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 a safe escape route to the lifeboat and liferaft embarkation deck;
- (b) where the space is above the bulkhead deck, the two means of escape shall be as widely separated as possible and the doors leading from such means of escape shall be in a position from which access is provided to the appropriate lifeboat and liferaft embarkation decks; where such escapes require the use of ladders these shall be of steel;
 - (c) in a ship of less than 1,000 tons the Secretary of State may permit one of the means of escape required by this paragraph to be dispensed with having regard to the width and disposition of the upper part of the machinery space; in a ship of 1,000 tons or over one of the means of escape required by this paragraph may be dispensed with provided that either a door or a steel ladder provides a safe escape route to the embarkation deck having regard to the nature and location of the space and whether persons are normally employed in that space; and
 - (d) in the case of ships constructed on or after 1st October 1994, two means of escape shall be provided from a machinery control room located within a machinery space, at least one of which will provide continuous fire shelter to a safe position outside the machinery space.
- (6) In every ship one of the means of escape from the machinery spaces where the crew is normally employed shall avoid access to any special category space or ro-ro cargo spaces.
- (7) In the case of ships constructed on or after 1st October 1994, and from 1st October 1997 in ships constructed before 1st October 1994 carrying more than 36 passengers—
- (a) the means of escape including stairways and exits shall be marked, at all points of the escape route including angles and intersections, by lighting or photoluminescent strip indicators placed not more than 0.3 metres above the deck. The marking must enable passengers to identify all routes of escape and readily identify the escape exits;
 - (b) if electric illumination is used, it shall be supplied by the emergency source of power and it shall be so arranged that the failure of any single light, or cut in a lighting strip, will not result in the marking being ineffective;
 - (c) additionally, all escape route signs and fire equipment location markings shall be of photoluminescent material or marked by lighting;
 - (d) such lighting and photoluminescent material shall comply with guidelines set out in IMO Resolution A752(18);
 - (e) the requirements of these sub-paragraphs are in addition to the emergency lighting required by regulation 48 of the Merchant Shipping (Passenger Ship Construction and Survey) Regulations 1984; and