

ANNEX

Annex I to Directive 2009/45/EC is amended as follows:

(1) in Chapter II-1:

(a) Regulation II-1/A-1/4 is added.

4 Protection against noise

CLASS B, C AND D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018

.1 Ships of 1 600 gross tonnage and above shall be constructed to reduce on-board noise and to protect personnel from the noise in accordance with the IMO Code on noise levels on-board ships, adopted by the Maritime Safety Committee by resolution MSC.337(91), as may be amended by the IMO.;

(b) Regulation II-1/C/6.2.2.2 is replaced by the following:

.2.2 capable of putting the rudder over from 35° on one side to 35° on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and, under the same conditions from 35° on either side to 30° on the other side in not more than 28 seconds. Where it is impractical to demonstrate compliance with this requirement during sea trials with the ship at its deepest seagoing draught and running ahead at the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch, ships, regardless of their date of construction, may demonstrate compliance with this requirement by one of the following methods:

.1 during sea trials the ship is at even keel and the rudder fully submerged whilst running ahead at the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch; or

.2 where full rudder immersion during sea trials cannot be achieved, an appropriate ahead speed shall be calculated using the submerged rudder blade area in the proposed sea trial loading condition. The calculated ahead speed shall result in a force and torque applied to the main steering gear which is at least as great as if it was being tested with the ship at its deepest seagoing draught and running ahead at the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch; or

.3 the rudder force and torque at the sea trial loading condition have been reliably predicted and extrapolated to the full load condition. The speed of the ship shall correspond to the number of maximum continuous revolutions of the main engine and maximum design pitch of the propeller;

(c) Regulation II-1/C/6.3.2 is replaced by the following:

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- .2 capable of putting the rudder over from 15° on one side to 15° on the other side in not more than 60 seconds with the ship at its deepest seagoing draught and running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater. Where it is impractical to demonstrate compliance with this requirement during sea trials with the ship at its deepest seagoing draught and running ahead at one half of the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch or 7 knots, whichever is greater, ships regardless of their date of construction may demonstrate compliance with this requirement by one of the following methods:
 - .1 during sea trials the ship is at even keel and the rudder fully submerged whilst running ahead at one half of the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch or 7 knots, whichever is greater; or
 - .2 where full rudder immersion during sea trials cannot be achieved, an appropriate ahead speed shall be calculated using the submerged rudder blade area in the proposed sea trial loading condition. The calculated ahead speed shall result in a force and torque applied to the auxiliary steering gear which is at least as great as if it was being tested with the ship at its deepest seagoing draught and running ahead at one half of the speed corresponding to the number of maximum continuous revolutions of the main engine and maximum design pitch or 7 knots, whichever is greater; or
 - .3 the rudder force and torque at the sea trial loading condition have been reliably predicted and extrapolated to the full load condition;;
- (d) In Regulation II-1/C/15, the subtitle is replaced by the following:
NEW CLASS B, C AND D SHIPS NOT COVERED UNDER REGULATION II-1/A-1/4;
- (2) in Chapter II-2:
 - (a) the following Regulations II-2/A/2.28 and II-2/A/2.29 are added:
 - .28 Fire damper means, for the purpose of implementing Regulation II-2/B/9a, a device installed in a ventilation duct which under normal conditions remains open allowing flow in the duct and is closed during a fire, preventing the flow in the duct to restrict the passage of fire. In using the above definition, the following terms may be associated:
 - .1 automatic fire damper means a fire damper that closes independently in response to exposure to fire products;
 - .2 manual fire damper means a fire damper that is intended to be opened or closed by the crew by hand at the damper itself; and
 - .3 remotely operated fire damper means a fire damper that is closed by the crew through a control located at a distance away from the controlled damper.

- .29 Smoke damper means, for the purpose of implementing Regulation II-2/B/9a, a device installed in a ventilation duct which under normal conditions remains open allowing flow in the duct and is closed during a fire, preventing the flow in the duct to restrict the passage of smoke and hot gases. A smoke damper is not expected to contribute to the integrity of a fire rated division penetrated by a ventilation duct. In using the above definition the following terms may be associated:
- .1 automatic smoke damper means a smoke damper that closes independently in response to exposure to smoke or hot gases;
 - .2 manual smoke damper means a smoke damper intended to be opened or closed by the crew by hand at the damper itself; and
 - .3 remotely operated smoke damper means a smoke damper that is closed by the crew through a control located at a distance away from the controlled damper.;
- (b) Regulation II-2/A/6.8.2.1 is replaced by the following:
- .1 the fire hazard portions of internal combustion machinery used for the ship's main propulsion and power generation, and for ships built on or after 1 January 2018, the fire hazard portions of all internal combustion machinery,;
- (c) the introductory wording of Regulation II-2/A/11.1 is replaced by the following:
- .1 For ships constructed before 1 July 2019, a firefighter's outfit shall consist of:;
- (d) the following Regulations II-2/A/11.1.1.3 and II-2/A/11.1a are added:
- .1.3 Self-contained compressed air breathing apparatus of fire-fighter's outfits shall by 1 July 2019 comply with paragraph 2.1.2.2 of chapter 3 of the Fire Safety Systems Code.
 - .1a For ships constructed on or after 1 July 2019, the fire-fighter's outfits shall comply with the Fire Safety Systems Code;;
- (e) the following Regulation II-2/A/11.4a is inserted:
- .4a Fire-fighter's communication:
For ships required to carry on board at least one fire-fighter outfit and constructed on or after 1 January 2018, a minimum of two two-way portable radiotelephone apparatus for each fire party for fire-fighter's communication shall be carried on board. For LNG fuelled ships or Ro-Ro passenger ships with closed Ro-Ro spaces or special category spaces, those two-way portable radiotelephone apparatus shall be of an explosion-proof type or intrinsically safe. Ships constructed before 1 January 2018 shall comply with the requirements of this Regulation not later than the first survey after 1 July 2019.;
- (f) the following Regulation II-2/A/15.2.6 is added:

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- .6 In ships subject to Regulation II-2/A/11, breathing apparatus cylinders used during drills shall be refilled or replaced before departure.;
- (g) Regulation II-2/B/5.1 is replaced by the following:

- .1 In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this part, the minimum fire integrity of bulkheads and decks shall be as prescribed in tables 5.1 or 5.1(a), and 5.2 or 5.2(a), as appropriate.

When approving structural precautions for fire protection in new ships, account shall be taken of the risk of heat transfer between heat bridges at intersection points and of where the thermal barring devices terminate.;

- (h) the following table 5.1(a) is inserted after Table 5.1 in Regulation II-2/B/5.4:

The following table shall apply to ALL CLASS B, C and D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018:

TABLE 5.1(A)

Fire integrity of bulkheads separating adjacent spaces

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations	A-0 ^c	A-0	60	A-0	A-15	A-60	A-15	A-60	A-60	*	A-60
Corridors		C ^c	B-0 ^e	A-0 ^e B-0 ^e	B-0 ^c	A-60	A-15	A-60	A-15	A-0 ^d	A-30
Accommodation spaces			C ^c	A-0 ^e B-0 ^e	B-0 ^c	A-60	A-0	A-0	A-15	A-0 ^d	A-30 A-0 ^d
Stairways				A-0 ^e B-0 ^e	A-0 ^e B-0 ^e	A-60	A-0	A-0	A-15	A-0 ^d	A-30
Service spaces (low risk)					C ^c	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces of category A						*	A-0	A-0	A-60	*	A-60
Other machinery spaces							A-0 ^b	A-0	A-0	*	A-0
Cargo spaces								*	A-0	*	A-0
Service spaces									A-0 ^b	*	A-30

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(high risk)												
Open (10) decks												A-0
Special (11) category and Ro-Ro spaces												A-30

(i) the following table 5.2(a) is inserted after Table 5.2 in Regulation II-2/B/5.4:

The following table shall apply to ALL CLASS B, C and D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018:

TABLE 5.2(A)

Fire integrity of decks separating adjacent spaces

Spaces Below ↓ Above	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-60
Corridors	A-0	*	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30
Accommodation spaces	A-0	A-0	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30 A-0 ^d
Stairways	A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	A-0	*	A-30
Service spaces (low risk)	A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces of category A	A-60	A-60	A-60	A-60	A-60	*	A-60 ^f	A-30	A-60	*	A-60
Other machinery spaces	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*	A-0
Cargo spaces	A-60	A-0	A-0	A-0	A-0	A-0	A-0	*	A-0	*	A-0
Service spaces (high risk)	A-60	A-30 A-0 ^d	A-30 A-0 ^d	A-30 A-0 ^d	A-0	A-60	A-0	A-0	A-0	*	A-30

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Open decks	(10)	*	*	*	*	*	*	*	*	*	—	A-0
Special category and Ro-Ro spaces	(11)	A-60	A-30	A-30 A-0 ^d	A-30	A-0	A-60	A-0	A-0	A-30	A-0	A-30

Notes to be applied to tables 5.1, 5.1(a), 5.2 and 5.2(a), as appropriate:

- (a) For clarification as to which applies, see Regulations II-2/B/3 and 8.
- (b) Where spaces are of the same numerical category and superscript b appears, a bulkhead or deck of the rating shown in the tables is only required when the adjacent spaces are for a different purpose, e.g. in category (9). A galley next to a galley does not require a bulkhead but a galley next to a paint room requires an “A-0” bulkhead.
- (c) Bulkheads separating the wheelhouse and chartroom from each other may be “B-0” rating.
- (d) See paragraph .2.3 and .2.4 of this Regulation.
- (e) For the application of Regulation 2.1.2, “B-0” and “C”, where appearing in table 5.1 and 5.1a, shall be read as “A-0”.
- (f) Fire insulation need not be fitted if the machinery space in category (7) has little or no fire risk.
- (*) Where an asterisk appears in the tables, the division is required to be of steel or other equivalent material but is not required to be of “A” class standard. In ships, which are constructed on or after 1 January 2003, however, where a deck, except in a category (10) space, is penetrated for the passage of electric cables, pipes and ventilation ducts, such penetration shall be made tight to prevent the passage of flame and smoke. Divisions between control stations (emergency generators) and open decks may have air intake openings without means for closure, unless a fixed gas fire-fighting system is fitted. For the application of Regulation II-2/B/2.1.2. an asterisk, where appearing in table 5.2 and 5.2(a), except for categories (8) and (10), shall be read as “A-0”;
- (j) the following Regulation II-2/B/6.3.4 is added:
CLASS B, C AND D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018
- .3.4 Two means of escape shall be provided from the main workshop within a machinery space. At least one of those escape routes shall provide a continuous fire shelter to a safe position outside the machinery space.;
- (k) the title of Regulation II-2/B/9 is replaced by the following:

9 Ventilation systems for ships built before the 1 January 2018 (R 32);

- (l) the following Regulation II-2/B/9a is inserted:

9a Ventilation systems in ships

CLASS B, C AND D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018

.1 General

- .1 Ventilation ducts, including single and double wall ducts, shall be of steel or an equivalent material, except for flexible bellows of short length not exceeding 600 mm used for connecting fans to the ducting in air-conditioning rooms. Unless expressly provided otherwise in paragraph .1.6, any other material used in the construction of ducts, including insulation, shall also be non-combustible. However, short ducts, not exceeding 2 m in length and with a free cross-sectional area (The term free cross-sectional area means, even in the case of a pre-insulated duct, the area calculated on the basis of the inner dimensions of the duct itself and not the insulation) not exceeding 0,02 m², need not be of steel or equivalent material, subject to the following conditions:
- .1 the ducts shall be made of non-combustible material which may be faced internally and externally with membranes having low flame-spread characteristics and, in each case, a calorific value not exceeding 45 MJ/m² of their surface area for the thickness used. The calorific value shall be calculated in accordance with the recommendations published by the International Organization for Standardization, in particular publication ISO 1716:2002, "Reaction to the fire tests for building products — Determination of the heat of combustion".;
- .2 the ducts are only used at the end of the ventilation device; and
- .3 the ducts are not situated less than 600 mm, measured along the duct, from an opening in an "A" or "B" class division, including continuous "B" class ceiling.
- .2 The following arrangements shall be tested in accordance with the Fire Test Procedures Code:
- .1 fire dampers, including their relevant means of operation, although the testing is not required for dampers located at the lower end of the duct in exhaust ducts for galley ranges, which must be of steel and capable of stopping the draught in the duct; and
- .2 duct penetrations through "A" class divisions, although the testing is not required where steel sleeves are directly joined to ventilation ducts by means of riveted or screwed connections or by welding.
- .3 Fire dampers shall be easily accessible. Where they are placed behind ceilings or linings, those ceilings or linings shall be provided with an inspection hatch on which the identification number of the fire damper is marked. The fire damper

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identification number shall also be marked on any remote controls provided.

- .4 Ventilation ducts shall be provided with hatches for inspection and cleaning. The hatches shall be located near the fire dampers.
- .5 The main inlets and outlets of ventilation systems shall be capable of being closed from outside the spaces being ventilated. The means of closing shall be easily accessible as well as prominently and permanently marked and shall indicate the operating position of the closing device.
- .6 Combustible gaskets in flanged ventilation duct connections are not permitted within 600 mm of openings in “A” or “B” class divisions and in ducts required to be of “A” class construction.
- .7 Ventilation openings or air balance ducts between two enclosed spaces shall not be provided except as permitted by Regulation II-2/B/7.7.

.2 *Arrangement of ducts*

- .1 The ventilation systems for machinery spaces of category A, vehicle spaces, Ro-Ro spaces, galleys, special category spaces and cargo spaces shall be separated from each other and from the ventilation systems serving other spaces. However, the galley ventilation systems in passenger ships carrying not more than 36 passengers need not be completely separated from other ventilation systems, but may be served by separate ducts from a ventilation unit serving other spaces. In such a case, an automatic fire damper shall be fitted in the galley ventilation duct near the ventilation unit.
- .2 Ducts provided for the ventilation of machinery spaces of category A, galleys, vehicle spaces, Ro-Ro spaces or special category spaces shall not pass through accommodation spaces, service spaces, or control stations unless they comply with paragraph .2.4.
- .3 Ducts provided for the ventilation of accommodation spaces, service spaces or control stations shall not pass through machinery spaces of category A, galleys, vehicle spaces, Ro-Ro spaces or special category spaces unless they comply with paragraph .2.4.
- .4 As permitted by paragraphs .2.2 and .2.3 ducts shall be either:
 - .1.1 constructed of steel having a thickness of at least 3 mm for ducts with a free cross-sectional area of less than 0,075 m², at least 4 mm for ducts with a free cross-sectional area of between 0,075 m² and 0,45 m², and at least 5 mm for ducts with a free cross-sectional area of over 0,45 m²;
 - .1.2 suitably supported and stiffened;
 - .1.3 fitted with automatic fire dampers close to the boundaries penetrated; and

- .1.4 insulated to “A-60” class standard from the boundaries of the spaces they serve to a point at least 5 m beyond each fire damper;
- or
- .2.1 constructed of steel in accordance with paragraphs .2.4.1.1 and .2.4.1.2; and
- .2.2 insulated to “A-60” class standard throughout the spaces they pass through, except for ducts that pass through spaces of category (9) or (10) as defined in Regulation II-2/B/4.2.2.
- .5 For the purposes of paragraphs .2.4.1.4 and .2.4.2.2, ducts shall be insulated over their entire cross-sectional external surface. Ducts that are outside but adjacent to the specified space, and share one or more surfaces with it, shall be considered to pass through the specified space and shall be insulated over the surface they share with the space for a distance of 450 mm past the duct (Sketches of such arrangements are contained in the Unified Interpretations of SOLAS chapter II-2 (MSC.1/Circ.1276)).
- .6 Where it is necessary that a ventilation duct passes through a main vertical zone division, an automatic fire damper shall be fitted adjacent to the division. The damper shall also be capable of being manually closed from each side of the division. The control location shall be readily accessible and be clearly and prominently marked. The duct between the division and the damper shall be constructed of steel in accordance with paragraphs .2.4.1.1 and .2.4.1.2 and insulated to at least the same fire integrity as the division penetrated. The damper shall be fitted on at least one side of the division with a visible indicator showing the operating position of the damper.
- .3 *Details of fire dampers and duct penetrations*
 - .1 Ducts passing through “A” class divisions shall meet the following requirements:
 - .1 where a thin plated duct with a free cross sectional area equal to, or less than, 0,02 m² passes through “A” class divisions, the opening shall be fitted with a steel sheet sleeve having a thickness of at least 3 mm and a length of at least 200 mm, divided preferably into 100 mm on each side of a bulkhead or, in the case of a deck, wholly laid on the lower side of the decks penetrated;
 - .2 where ventilation ducts with a free cross-sectional area exceeding 0,02 m², but not more than 0,075 m², pass through “A” class divisions, the openings shall be lined with steel sheet sleeves. The ducts and sleeves shall have a thickness of at least 3 mm and a length of at least 900 mm. When passing through bulkheads, this length shall be divided preferably into 450 mm on each side of the bulkhead. These ducts, or sleeves lining such ducts, shall be provided with fire insulation. The insulation shall have at least the same fire integrity as the division through which the duct passes; and

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- .3 automatic fire dampers shall be fitted in all ducts with a free cross-sectional area exceeding 0,075 m² that pass through “A” class divisions. Each damper shall be fitted close to the division penetrated and the duct between the damper and the division penetrated shall be constructed of steel in accordance with paragraphs .2.4.2.1 and .2.4.2.2. The fire damper shall operate automatically, but shall also be capable of being closed manually from both sides of the division. The damper shall be fitted with a visible indicator which shows the operating position of the damper. Fire dampers are not required, however, where ducts pass through spaces surrounded by “A” class divisions, without serving those spaces, provided those ducts have the same fire integrity as the divisions which they penetrate. A duct of cross-sectional area exceeding 0,075 m² shall not be divided into smaller ducts at the penetration of an “A” class division and then recombined into the original duct once through the division to avoid installing the damper required by this provision.
- .2 Ventilation ducts with a free cross-sectional area exceeding 0,02 m² passing through “B” class bulkheads shall be lined with steel sheet sleeves of 900 mm in length, divided preferably into 450 mm on each side of the bulkheads unless the duct is of steel for this length.
- .3 All fire dampers shall be capable of manual operation. The dampers shall have a direct mechanical means of release or, alternatively, be closed by electrical, hydraulic, or pneumatic operation. All dampers shall be manually operable from both sides of the division. Automatic fire dampers, including those capable of remote operation, shall have a failsafe mechanism that will close the damper in a fire even upon loss of electrical power or hydraulic or pneumatic pressure loss. Remotely operated fire dampers shall be capable of being reopened manually at the damper.
- .4 *Ventilation systems for passenger ships carrying more than 36 passengers*
 - .1 In addition to the requirements in sections .1, .2 and .3, the ventilation system of a passenger ship carrying more than 36 passengers shall also meet the following requirements:
 - .1 In general, the ventilation fans shall be so arranged that the ducts reaching the various spaces remain within a main vertical zone.
 - .2 Stairway enclosures shall be served by an independent ventilation fan and duct system (exhaust and supply) which shall not serve any other spaces in the ventilation systems.
 - .3 A duct, irrespective of its cross-section, serving more than one “tween-deck” accommodation space, service space or control station, shall be fitted, near the penetration of each deck of such spaces, with an automatic smoke damper that shall also be capable of being closed manually from the protected deck above the damper. Where a fan serves more than one “tween-deck” space

through separate ducts within a main vertical zone, whereby each one is dedicated to a single “tween-deck” space, each duct shall be provided with a manually operated smoke damper fitted close to the fan.

.4 Vertical ducts shall, where necessary, be insulated as required by tables 4.1 and 4.2. Ducts shall be insulated as required for decks between the space they serve and the space being considered, as applicable.

.5 *Exhaust ducts from galley ranges*

.1 Requirements for passenger ships carrying more than 36 passengers

.1 In addition to the requirements in sections .1, .2 and .3, exhaust ducts from galley ranges shall be constructed in accordance with paragraphs .2.4.2.1 and .2.4.2.2 and insulated to “A-60” class standard throughout accommodation spaces, service spaces, or control stations they pass through. They shall also be fitted with:

.1 a grease trap readily removable for cleaning unless an alternative approved grease removal system is fitted;

.2 a fire damper located in the lower end of the duct at the junction between the duct and the galley range hood which is automatically and remotely operated and, in addition, a remotely operated fire damper located in the upper end of the duct close to the outlet of the duct;

.3 a fixed means for extinguishing a fire within the duct. The fire extinguishing systems shall comply with the recommendations published by the International Organization for Standardization, in particular publication ISO 15371:2009 “Ships and marine technology — Fire-extinguishing systems for protection of galley cooking equipment”;

.4 remote-control arrangements for shutting off the exhaust fans and supply fans, for operating the fire dampers mentioned in paragraph .5.1.1.2 and for operating the fire-extinguishing system, which shall be placed in a position outside the galley close to the entrance to the galley. Where a multi-branch system is installed, a remote means located with the above controls shall be provided to close all branches exhausting through the same main duct before an extinguishing medium is released into the system; and

.5 suitably located hatches for inspection and cleaning, including one provided close to the exhaust fan and one fitted in the lower end where grease accumulates.

.2 Exhaust ducts from ranges for cooking equipment installed on open decks shall conform to paragraph .5.1.1, as applicable, when passing through accommodation spaces or spaces containing combustible materials.

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.2 Requirements for passenger ships carrying not more than 36 passengers

When passing through accommodation spaces or spaces containing combustible materials, the exhaust ducts from galley ranges shall be constructed in accordance with paragraphs .2.4.1.1 and .2.4.1.2. Each exhaust duct shall be fitted with:

- .1 a grease trap readily removable for cleaning;
- .2 an automatically and remotely operated fire damper located in the lower end of the duct at the junction between the duct and the galley range hood and, in addition, a remotely operated fire damper in the upper end of the duct close to the outlet of the duct;
- .3 arrangements, operable from within the galley, for shutting off the exhaust and supply fans; and
- .4 fixed means for extinguishing a fire within the duct.
- .6 *Ventilation rooms serving machinery spaces of category A containing internal combustion machinery*

.1 Where a ventilation room serves only such an adjacent machinery space and there is no fire division between the ventilation room and the machinery space, the means for closing the ventilation duct or ducts serving the machinery space shall be located outside of the ventilation room and machinery space.

.2 Where a ventilation room serves such a machinery space as well as other spaces and is separated from the machinery space by a “A-0” class division, including penetrations, the means for closing the ventilation duct or ducts for the machinery space can be located in the ventilation room.

.7 *Ventilation systems for laundries in passenger ships carrying more than 36 passengers*

Exhaust ducts from laundries and drying rooms of category (13) spaces as defined in Regulation II-2/B//.2.2 shall be fitted with:

- .1 filters readily removable for cleaning purposes;
- .2 a fire damper located in the lower end of the duct which is automatically and remotely operated;
- .3 remote-control arrangements for shutting off the exhaust fans and supply fans from within the space and for operating the fire damper mentioned in paragraph .7.2; and
- .4 suitably located hatches for inspection and cleaning.;

(m) the following Regulations II-2/B/13.4, II-2/B/13.5 and II-2/B/13.6 are added:

CLASS B, C AND D SHIPS CONSTRUCTED ON OR AFTER 1 JANUARY 2018

- .4 A fixed fire detection and fire alarm system of an approved type, in accordance with the relevant provisions of Regulation II-2/A/9, shall be installed in machinery spaces where:
 - .4.1 the installation of automatic and remote control systems and equipment has been approved in lieu of continuous manning of the space; and
 - .4.2 the main propulsion and associated machinery including sources of main source of electrical power are provided with various degrees of automatic or remote control and are under continuous manned supervision from a control room.
- .5 A fixed fire detection and fire alarm system of an approved type, in accordance with the relevant provisions of Regulation II-2/A/9, shall be installed in enclosed spaces containing incinerators.
- .6 With regard to the fixed fire detection and fire alarm system required by Regulations II-2/B/13.4 and 13.5, the following shall apply:

The fire detection system shall be so designed and the detectors so positioned as to detect rapidly the onset of fire in any part of those spaces and under any normal conditions of operation of the machinery and variations of ventilation as required by the possible range of ambient temperatures. Except in spaces of restricted height and where their use is especially appropriate, detection systems using only thermal detectors shall not be permitted. The detection system shall initiate audible and visual alarms distinct in both respects from the alarms of any other system not indicating fire, in sufficient places to ensure that the alarms are heard and observed on the navigating bridge and by a responsible engineer officer.

When the navigating bridge is unmanned, the alarm shall sound in a place where a responsible member of the crew is on duty.

After installation, the system shall be tested under varying conditions of engine operation and ventilation.;

 - (n) Regulation II-2/B/14.1.1.2 is replaced by the following:
 - .2 The requirements of Regulations II-2/A/12, II-2/B/7, II-2/B/9 and II-2/B/9a for maintaining the integrity of vertical zones shall be applied equally to decks and bulkheads forming the boundaries separating horizontal zones from each other and from the remainder of the ship.;
 - (o) Regulation II-2/B/14.1.2.2 is replaced by the following:
 - .2 In new ships built before 1 January 2018 carrying not more than 36 passengers and existing class B ships carrying more than 36 passengers, the boundary bulkheads of special category spaces shall be insulated as required for category (11) spaces in table 5.1 of Regulation II-2/B/5 and the horizontal boundaries as required for category (11) in table 5.2 of Regulation II-2/B/5. In ships built on or after 1 January 2018 carrying not more than 36 passengers, the

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boundary bulkheads of special category spaces shall be insulated as required for category (11) spaces in table 5.1a of Regulation II-2/B/5 and the horizontal boundaries as required for category (11) in table 5.2a of Regulation II-2/B/5.;

(3) in Chapter III:

(a) the table in Regulation III/2.6 is replaced by the following:

‘Spaces Number of persons (N)Number of passengers (P) Survival craft capacity ^{abcd} :	B		C		D	
	> 250	≤ 250	> 250	≤ 250	> 250	≤ 250
— existing ships	1,10 N	1,10 N	1,10 N	1,10 N	1,10 N	1,10 N
— new ships	1,25 N	1,25 N	1,25 N	1,25 N	1,25 N	1,25 N
Rescue boats ^{de}	1	1	1	1	1	1
Lifebuoys ^f	8	8	8	4	8	4
Life jackets ^{hikl}	1,05 N	1,05 N	1,05 N	1,05 N	1,05 N	1,05 N
Child life jackets ^{il}	0,10 P	0,10 P	0,10 P	0,10 P	0,10 P	0,10 P
Infant life jackets ^{il}	0,025 P	0,025 P	0,025 P	0,025 P	0,025 P	0,025 P
Distress flares ^g	12	12	12	12	6	6
Line- throwing appliances ^m	1	1	1	1	—	—
Radar transponders	1	1	1	1	1	1
Two- way VHF	3	3	3	3	3	2

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radiotelephone						
apparatus						

-
- a** Survival craft may be lifeboats or life rafts or a combination of them in compliance with the provisions in Regulation III/2.2. When justified by the sheltered nature of the voyages and/or the favourable climatic conditions of the area of operation, having regard to the recommendations in IMO MSC/Circ.1046, the Administration of the flag State may accept, if this is not rejected by the host Member State:
- (a) open reversible inflatable life-rafts not complying with the section 4.2 or 4.3 of the LSA Code provided that such life-rafts entirely comply with the requirements in Annex 10 of 1994 High Speed Craft Code and for ships constructed on or after 1 January 2012, Annex 11 of the 2000 High Speed Craft Code.
 - (b) life-rafts not complying with the requirements of paragraphs 4.2.2.2.1 and 4.2.2.2.2 of the LSA Code on the insulation against cold of the floor of the life-raft.
- Survival craft for existing B, C and D ships shall comply with the relevant Regulations of SOLAS 74 for existing ships as amended on 17 March 1998. Ro-ro passenger ships shall comply with the requirements in Regulation III/5-1 as applicable.
- A marine evacuation system or systems complying with section 6.2 of the LSA Code may be substituted for the equivalent capacity of life-rafts required by the table, including its launching appliances where applicable.
-
- b** Survival craft shall, as far as practicable, be equally distributed on each side of the ship.
-
- c** The total/aggregated capacity of survival craft, including additional life rafts, shall be in accordance with the requirements in the table above, i.e. $1,10 N = 110 \%$ and $1,25 N = 125 \%$ of the total number of persons (N) the ship is certified to carry. Sufficient number of survival craft has to be carried in order to ensure that any one survival craft being lost or rendered unserviceable, the remaining survival craft can accommodate the total number of persons the ship is certified to carry. If the stowage requirement for life rafts, in Regulation III/7.5 not is complied with, additional life rafts can be required.
-
- d** The number of lifeboats and/or rescue boats, shall be sufficient to ensure that in providing for abandonment by the total number of persons the ship is certified to carry, no more than nine life-rafts need to be marshalled by each lifeboat or rescue boat.
-
- e** Launching appliances for rescue boats shall comply with the requirements of Regulation III/10. If a rescue boat complies with the requirements section 4.5 or 4.6 of the LSA Code it may be included in the capacity of the survival craft specified in the table above.
- A lifeboat may be accepted as a rescue boat provided that it and its launching and recovery arrangements also comply with the requirements of a rescue boat.
- At least one of the rescue boats, if such a boat is required to be carried, on ro-ro passenger ships shall be a fast rescue boat complying with the requirements of Regulation III/5-1.3.
- When the Administration of the flag State considers that the installation, of a rescue boat or a fast rescue boat, on board of a ship is physically impossible, such ship may be exempted from carrying a rescue boat, provided the ship meets all of the following requirements:
- (a) the ship is arranged to allow a helpless person to be recovered from the water;
 - (b) recovery of the helpless person can be observed from the navigating bridge; and
 - (c) the ship is sufficiently manoeuvrable to close and recover persons in the worst intended conditions.
-
- f** At least one lifebuoy on each side shall be equipped with a buoyant lifeline equal in length to not less than twice the height at which it is stowed above the waterline in the lightest seagoing condition or 30 metres, whichever is the greater.
- Two lifebuoys shall be equipped with a self-activating smoke signal and a self-activating light; they shall be capable of quick release from the navigation bridge. The remainder of the lifebuoys shall be equipped with self-igniting lights, in compliance with the provisions of paragraph 2.1.2 of the LSA Code.
-
- g** Distress flares, complying with the requirements of section 3.1 of the LSA Code, shall be stowed on the navigation bridge or steering position.
-
- h** An inflatable life jacket shall be provided for each person that has to carry out work on board in exposed areas. These inflatable life jackets may be included in the total number of life jackets required by this Directive.
-
- i** A number of lifejackets suitable for children equal to at least 10 % of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each child.
-
- j** A number of lifejackets suitable for infant equal to at least 2,5 % of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejacket for each infant.
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k If the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1 750 mm, a sufficient number of suitable accessories shall be available on board to allow them to be secured to such persons.

l On all passenger ships, each life jacket shall be fitted with light complying with the requirements of paragraph 2.2.3 of the LSA Code. All ro-ro passenger ships shall comply with the provisions in Regulation III/5.5.2.

m Ships with less than 24 m in length are not required to carry on-board line-throwing appliances.⁷

⁽¹¹⁾ All ships shall carry a sufficient number of lifejackets for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station. Not later than the first periodical survey after 1 January 2012 all passenger ships shall comply with the provisions in footnote 12 and 13.

(b) the following Regulation III/9/2a is inserted:

.2a Not later than the first scheduled dry-docking after 1 January 2018, but not later than 1 July 2019, lifeboat on-load release mechanisms not complying with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code shall be replaced with equipment that complies with the Code⁽¹⁾;

(c) the following Regulation III/10a is inserted:

10a Recovery of persons from the water

CLASS B, C AND D SHIPS BUILT ON OR AFTER 1 JANUARY 2018

.1 All ships shall have ship-specific plans and procedures for recovery of persons from the water, taking into account the guidelines developed by the IMO⁽²⁾. The plans and procedures shall identify the equipment intended to be used for recovery purposes and measures to be taken to minimize the risk to shipboard personnel involved in recovery operations. Ships constructed before 1 January 2018 shall comply with this requirement by the first periodical or renewal safety equipment survey.

.2 Ro-Ro passenger ships which comply with Regulation III/5-1.4 shall be deemed to comply with this regulation.;

(d) the following Regulation III/13.9 is inserted:

.9 Crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space entry and rescue drill to be held on board of the ship with an interval to be established by the Administration, but not less than once a year:

.1 Enclosed space entry and rescue drills

.1 Enclosed space entry and rescue drills should be planned and conducted in a safe manner, taking into account, as appropriate, the guidance provided in the recommendations developed by the IMO⁽³⁾.

.2 Each enclosed space entry and rescue drill shall include:

.1 checking and use of personal protective equipment required for entry;

- .2 checking and use of communication equipment and procedures;
 - .3 checking and use of instruments for measuring the atmosphere in enclosed spaces;
 - .4 checking and use of rescue equipment and procedures; and
 - .5 instructions in first aid and resuscitation techniques.;
- (e) the following Regulation III/14 is inserted:

‘14 Records (R 19.5)

NEW AND EXISTING CLASS B, C AND D SHIPS:

- .1 The date when musters are held, details of abandon ship drills and fire drills, enclosed space entry and rescue drills, drills of other life-saving appliances and on board training shall be recorded in such log-book as may be prescribed by the Administration. If a full muster, drill or training session is not held at the appointed time, an entry shall be made in the log-book stating the circumstances and the extent of the muster, drill or training session held.’

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- (1) Refer to the Guidelines for evaluation and replacement of lifeboat release and retrieval systems (MSC.1/Circ.1392).’;
- (2) Guidelines for the development of plans and procedures for recovery of persons from the water (MSC.1/Circ.1447).’;
- (3) Refer to the Revised Recommendations for entering enclosed spaces aboard ships, adopted by the IMO by resolution A.1050(27).’;