

Amendments for Rules for the Classification of Steel Ships

(Part 8 Fire Protection and Fire Extinction)



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Present	Amendment
<p>CHAPTER 10 ESCAPE</p> <p>Section 2 Means of escape</p> <p>201. <same as the present Rules></p> <p>202. Means of escape from control stations, accommodation and service spaces</p> <p>1. <same as the present Rules></p> <p>2. Means of escape in passenger ships</p> <p style="padding-left: 20px;">(1) ~ (6) <same as the present Rules></p> <p style="padding-left: 20px;">(7) <newly added></p> <p><hereafter, same as the present Rules></p>	<p>CHAPTER 10 ESCAPE</p> <p>Section 2 Means of escape</p> <p>201. <same as the present Rules></p> <p>202. Means of escape from control stations, accommodation and service spaces</p> <p>1. <same as the present Rules></p> <p>2. Means of escape in passenger ships</p> <p style="padding-left: 20px;">(1) ~ (6) <same as the present Rules></p> <p style="padding-left: 20px;">(7) <u>Evacuation analysis for passenger ships (2019)</u></p> <p style="padding-left: 40px;">(A) <u>Escape routes shall be evaluated by an evacuation analysis early in the design process. This analysis shall apply to:</u></p> <p style="padding-left: 60px;">(a) <u>ro-ro passenger ships constructed on or after 1 July 1999;</u></p> <p style="padding-left: 60px;">and</p> <p style="padding-left: 60px;">(b) <u>other passenger ships constructed on or after 1 January 2020 carrying more than 36 passengers.</u></p> <p style="padding-left: 40px;">(B) <u>The analysis shall be used to identify and eliminate, as far as practicable, congestion which may develop during an abandonment, due to normal movement of passengers and crew along escape routes, including the possibility that crew may need to move along these routes in a direction opposite to the movement of passengers. In addition, the analysis shall be used to demonstrate that escape arrangements are sufficiently flexible to provide for the possibility that certain escape routes, assembly stations, embarkation stations or survival craft may not be available as a result of a casualty.</u></p> <p><hereafter, same as the present Rules></p>

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Present	Amendment
<p>206. Additional requirements from ro-ro passenger ships</p> <p>1. ~ 3. <same as the present Rules></p> <p>4. Evacuation analysis</p> <p>—Escape routes shall be evaluated by an evacuation analysis early in the design process. The analysis shall be used to identify and eliminate, as far as practicable, congestion which may develop during an abandonment, due to normal movement of passengers and crew along escape routes, including the possibility that crew may need to move along these routes in a direction opposite the movement of passengers. In addition, the analysis shall be used to demonstrate that escape arrangements are sufficiently flexible to provide for the possibility that certain escape routes, assembly stations, embarkation stations or survival craft may not be available as a result of a casualty.</p> <p>↓</p> <p><hereafter, same as the present Rules></p>	<p>206. Additional requirements from ro-ro passenger ships</p> <p>1. ~ 3. <same as the present Rules></p> <p><hereafter, same as the present Rules></p>

Amended Guidance Relating to the Rules for the Classification of Steel Ships (Part 8 Fire Protection and Fire Extinction)



- 1 -

Present	Amendment
<p style="text-align: center;">CHAPTER 2 PROBABILITY OF IGNITION</p> <p style="text-align: center;">Section 4 Cargo Areas of Tankers</p> <p>401. Separation of cargo oil tanks</p> <p>1. ~ 6. <omitted></p> <p>7. Arrangement of fuel tanks in cargo area on oil and chemical tankers is to comply with the following requirements: <i>(2017)</i></p> <p>(1) Fuel tanks located with a common boundary to cargo tanks are not be situated within the cargo tank block. however, be situated at the forward and aft ends of the cargo tank block <u>instead of cofferdams</u>. Cargo tank block is the part of the ship extending from the aft bulkhead of the aftmost cargo or slop tank to the forward bulkhead of the forward most cargo or slop tank, extending to the full depth and beam of the ship, but not including the area above the deck of the cargo or slop tank shown in Fig 8.2.6.</p> <p>(2) Fuel tanks are to be extend neither fully nor partly into cargo or slop tanks. They may however be accepted when located as independent tanks on open deck in the cargo area subject to spill and fire safety considerations.</p> <p>(3) Fuel tanks are not permitted to extend into the protective area of cargo tanks required by MARPOL Annex I and the IBC code. For chemical tankers due attention has to be paid to restrictions on cargoes that can be located adjacent to fuel tanks.</p> <p>(4) The arrangement of independent fuel tanks and associated fuel piping systems, including the pumps, can be as for fuel tanks and associated fuel piping systems located in the machinery spaces. For electrical equipment, requirements to hazardous area classification must however be taken into account.</p> <p>(4) <newly added></p> <p><u>Fig.8.2.6 <omitted></u></p>	<p style="text-align: center;">CHAPTER 2 PROBABILITY OF IGNITION</p> <p style="text-align: center;">Section 4 Cargo Areas of Tankers</p> <p>401. Separation of cargo oil tanks</p> <p>1. ~ 6. <same as the present></p> <p>7. Arrangement of fuel tanks in cargo area on oil and chemical tankers, <u>carrying liquid cargoes having a flashpoint not exceeding 60°C and/or toxic liquid cargoes</u> is to comply with the following requirements: <i>(2019)</i></p> <p>(1) Fuel tanks located with a common boundary to cargo or slop tanks are not be situated within <u>nor extend partly into</u> the cargo tank block. <u>Such tanks may, however, be situated aft and/or forward of the cargo tank block instead of cofferdams</u>. Cargo tank block is the part of the ship extending from the aft bulkhead of the aftmost cargo or slop tank to the forward bulkhead of the forward most cargo or slop tank, extending to the full depth and beam of the ship, but not including the area above the deck of the cargo or slop tank shown in Fig 8.2.6.</p> <p>(2) Fuel tanks are to be extend neither fully nor partly into cargo or slop tanks. They may however be accepted when located as independent tanks on open deck in the cargo area subject to spill and fire safety considerations.</p> <p>(3) Fuel tanks are not permitted to extend into the protective area of cargo tanks required by MARPOL Annex I and the IBC code. For chemical tankers due attention has to be paid to restrictions on cargoes that can be located adjacent to fuel tanks.</p> <p>(3) The arrangement of independent fuel tanks and associated fuel piping systems, including the pumps, can be as for fuel tanks and associated fuel piping systems located in the machinery spaces. For electrical equipment, requirements to hazardous area classification must however be met.</p> <p>(4) For the purpose of this regulation, toxic liquid cargoes include those for which toxic vapour detection is specified in cloumn "k" of the table of Pt 7 Annex 7B-1.</p> <p><u>Fig.8.2.6 <same as the present></u></p>

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Present	Amendment
<p>402. Restriction on boundary openings</p> <p>1. <same as the present Rules></p> <p>2. In applying 402. 2 of the Rules, the boundaries of spaces, where application of "A-60" class insulation is required, are to be insulated as exemplified in Fig 8.2.7 of the Guidance. The ceilings and floors of spaces with asterisk are also to be applied with "A-60" class insulation. Incidentally, remote-controlled type foam tanks may be provided in these spaces.</p> <p>And wheelhouse doors and wheelhouse windows which can be made rapidly and efficiently gas and vapour tight are to be such doors and windows that are provided with packing and clamping fittings, and are to be tested for gas tightness. Where hose tests are adopted instead of gas tightness, the following hose tests are to be carried out.</p> <p>(1) Nozzle diameter is to be minimum 12 mm. (2) Water pressure just before the nozzle is to be not less than 2 bar. (3) Distance between the nozzle and the doors or windows is to be maximum 1.5 m.</p> <p><hereafter, same as the present Rules></p>	<p>402. Restriction on boundary openings</p> <p>1. <same as the present Rules></p> <p>2. In applying 402. 2 of the Rules, the boundaries of spaces, where application of "A-60" class insulation is required, are to be insulated as exemplified in Fig 8.2.7 of the Guidance. The ceilings and floors of spaces with asterisk are also to be applied with "A-60" class insulation. Incidentally, foam liquid tanks for the deck foam systems may be provided in these spaces. (2019)</p> <p><u>With respect to 402. 2 of the Rules, an access to a deck foam system room (including the foam tank and the control station) may be permitted within the limits mentioned in 402. 2 of the Rules, provided that the conditions specified in 402. 1 of the Rules are satisfied and that door is located flush with the bulkhead. (2019)</u></p> <p>And wheelhouse doors and wheelhouse windows which can be made rapidly and efficiently gas and vapour tight are to be such doors and windows that are provided with packing and clamping fittings, and are to be tested for gas tightness. Where hose tests are adopted instead of gas tightness, the following hose tests are to be carried out.</p> <p>(1) Nozzle diameter is to be minimum 12 mm. (2) Water pressure just before the nozzle is to be not less than 2 bar. (3) Distance between the nozzle and the doors or windows is to be maximum 1.5 m.</p> <p><hereafter, same as the present Rules></p>

Present	Amendment
<p>407. Gas measurement and detection</p> <p>1. <omitted></p> <p>2. <newly added></p> <p>2. ~ 3. <omitted></p>	<p>407. Gas measurement and detection</p> <p>1. <same as the present></p> <p>2. In applying 407. 1 of the Rules, "suitable means are to be provided for the calibration of all such instruments" refers to portable atmosphere testing instruments being calibrated on board or ashore in accordance with the manufacturer's instructions. For the avoidance of any doubt, the above clarification refers to the calibration of portable atmosphere testing instruments, as required by SOLAS regulation XI-1/7, and not to any pre-operational accuracy tests as recommended by the manufacturer. (2019)</p> <p>3. ~ 4. <same as the present></p>

Present

CHAPTER 7 CONTAINMENT OF FIRE

Section 1 Thermal and Structural Boundaries

101. Thermal and structural boundaries

Table 8.7.1 Categories of spaces of fire integrity

Control stations	<u>Motor-generator rooms or inverter rooms for navigational or radio apparatus, storage rooms for fixed gas fire extinguishing system (where the system is stored outside the space to be protected)</u>
Service spaces (low risk)	Shore connection box rooms, accommodation ladder winch machinery rooms, spaces where distribution panels and starters are located, ballast control rooms, main cargo control rooms
Other machinery spaces	Storage rooms for hydraulic units for deck machinery and cargo gears, steering gear room (see Note (1) below) <u>foam tank rooms (those not capable of being remotely-controlled are regarded as the control stations)</u> , inert gas fan rooms
Service spaces (high risk)	<u>Oxygen or acetylene bottle storage rooms (see Note (2) below)</u> , provision store rooms (see Note (3) below), jumper lockers (see Note (4) below)
Others	<ol style="list-style-type: none"> 1. Passages under decks of container ships are to be regarded as void spaces. However, in case where they serve as escape route, they are to be regarded as corridors. 2. In this case, locker rooms, store rooms, lavatories for control stations, etc., in which someone may occupy temporarily, having no entrance to corridors but only entrance therefrom may be regarded as an integral part of such spaces. If a space is divided into two (or more) smaller spaces so that these new spaces form enclosed spaces (e.g. a cabinet built in a mess-room, a store room built in a mess-room), these new enclosed spaces are to be surrounded by fire-resistant bulkheads and decks in accordance with Rules. 3. Weather decks used to cargo stowage are to be considered as cargo spaces except for cargoes which constitute a low fire risk. 4. Ventilating fan rooms within refrigerated cargo spaces and cargo handling gear locker which can be accessible only from ro/ro spaces or vehicle spaces may be regarded as a part of Cargo spaces, ro-ro and vehicle spaces respectively. 5. Cable trunks are to apply to the requirements of <u>the Rules 103. 4</u> for lift trunks
<p>Notes:</p> <p>(1) In case where an emergency fire pump is installed in the steering gear room or spaces which are only accessible directly therefrom, the fire integrity of boundaries between the space where the main fire pump is installed and the steering gear room is to be in accordance with Fig 8.8.2 of the Guidance.</p> <p>(2) In case where one side or more of the walls are open to exposed deck, such storage rooms may be regarded as those on open deck.</p> <p>(3) Refrigerated provision chambers are to be service spaces (high risk) if thermally insulated with combustible materials, or service spaces (low risk) if thermally insulated with non-combustible material. Provision chambers having areas of less than 4 m² may be considered as a service space with low risk of fire.</p> <p>(4) In case where jumper lockers are used as Oil skin lockers, they are regarded as high risk service spaces, except for Oil skin lockers, they are regarded as accommodation spaces.</p>	

<hereafter, same as the present Rules>

Amendment

CHAPTER 7 CONTAINMENT OF FIRE

Section 1 Thermal and Structural Boundaries

101. Thermal and structural boundaries

Table 8.7.1 Categories of spaces of fire integrity (2019)

Control stations	<u>Spaces containing navigational apparatus (steering stand, compass and radar equipment)</u> Electric rooms (where charging/discharging panels or battery charges are located), battery rooms, generator rooms (or inverter rooms) for <u>navigational apparatus and radio</u> <u>Spaces containing control systems and storage rooms of fire-extinguishing medium for fixed fire extinguishing systems (see Note (5) below)</u> <u>Navigation locker (see Note (6) below)</u>
Service spaces (low risk)	Shore connection box rooms, accommodation ladder winch machinery rooms, spaces where distribution panels and starters are located, ballast control rooms, main cargo control rooms <u>Electric rooms (where transformers, switchboards (see Note (7) below), motor-generators, etc. of less than 50 kVA (kW) are located and having area s of less than 4 m²)</u>
Other machinery spaces	Storage rooms for hydraulic units for deck machinery and cargo gears, steering gear room (see Note (1) below), <u>Spaces containing deck foam systems (See Note (8) below)</u> , inert gas fan rooms <u>Electric rooms (except those categorized as control stations or service spaces with low risk of fire), Propulsion motor rooms, Propulsion motor control rooms</u> <u>Emergency fire pump rooms (See Note (9) below)</u> , Spaces other than machinery spaces of category A where fuel oil piping lines are located
Service spaces (high risk)	<u>Oxygen or acetylene bottle storage rooms (see Note (2) below)</u> , provision store rooms (see Note (3) below), jumper lockers (see Note (4) below), <u>Storage rooms for gaseous fuel (See Note (10) below)</u>
Others	<ol style="list-style-type: none"> 1. Passages under decks of container ships <u>with self-closing gas-tight doors separating the spaces from cargo spaces effectively</u> are to be regarded as void spaces. However, in case where they serve as escape route, they are to be regarded as corridors. 2. In this case, locker rooms, store rooms, lavatories for control stations, etc., in which someone may occupy temporarily, having no entrance to corridors but only entrance therefrom may be regarded as an integral part of such spaces. If a space is divided into two (or more) smaller spaces so that these new spaces form enclosed spaces (e.g. a cabinet built in a mess-room, a store room built in a mess-room), these new enclosed spaces are to be surrounded by fire-resistant bulkheads and decks in accordance with Rules. 3. Weather decks used to cargo stowage are to be considered as cargo spaces except for cargoes which constitute a low fire risk. 4. Ventilating fan rooms within refrigerated cargo spaces and cargo handling gear locker which can be accessible only from ro/ro spaces or vehicle spaces may be regarded as a part of Cargo spaces, ro-ro and vehicle spaces respectively. 5. <u>Duct spaces and cable</u> trunks are to apply to the requirements of <u>103. 4 of the Rules</u> for lift trunks

Amendment

Table 8.7.1 Categories of spaces of fire integrity (continued)

Notes:

- (1) In case where an emergency fire pump is installed in the steering gear room or spaces which are only accessible directly therefrom, the fire integrity of boundaries between the space where the main fire pump is installed and the steering gear room is to be in accordance with **Fig 8.8.2** of the Guidance.
- (2) In case where one side or more of the walls are open to exposed deck, such storage rooms may be regarded as those on open deck.
- (3) Refrigerated provision chambers are to be service spaces(high risk) if thermally insulated with combustible materials, or service spaces(low risk) if thermally insulated with non-combustible material. Provision chambers having areas of less than 4 m² may be considered as a service space with low risk of fire.
- (4) In case where jumper lockers are used as Oil skin lockers, they are regarded as high risk service spaces, except for Oil skin lockers, they are regarded as accommodation spaces.
- (5) Except where permitted to be stored in the space protected by that fixed fire-extinguishing system according to the type of the system.
- (6) A navigation locker that can only be accessed from the wheelhouse should be considered as a control station, and the bulkhead separating the wheelhouse and such a locker should have fire integrity of at least "B-0" class.
- (7) Small distribution boards may be located behind panels/linings within accommodation spaces including stairway enclosures, provided no provision is made for storage. Such location need not to be considered as a separate space nor categorized as a service space with low risk of fire.
- (8) Attention is paid to the provisions of **Ch 2, 402. 2** of the Guidance.
- (9) The fire integrity of boundaries separating from the space where the main fire pump is installed is to be in accordance with **Ch 8, 102. 3 (2) (A)** of the Rules.
- (10) The provisions of **Ch 2, 201.** of the Rules are to apply. In case where a portion of open deck, recessed into deck structure, machinery casing, deck house, etc., utilized for the exclusive storage of gas bottles in accordance with the provisions of **Ch 2, 201.** of the Guidance, such a location may be regarded as open decks.

<hereafter, same as the present Rules>

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Present	Amendment
CHAPTER 8 FIRE FIGHTING	CHAPTER 8 FIRE FIGHTING
Section 4 Fire Extinguishing Arrangements In Machinery Spaces	Section 4 Fire Extinguishing Arrangements In Machinery Spaces
<p>401. ~ 405. <omitted></p> <p>406. Fixed local application fire-fighting systems</p> <p style="margin-left: 20px;">2. ~ 3. <omitted></p> <p style="margin-left: 20px;">3. <newly added></p> <p>1. The protected spaces are to apply as follows, (See also Fig 8.8.7 of the Guidance)</p> <p style="margin-left: 20px;">(1) <u>The protected hazards means the risk parts as defined in 406. 3 of the Rules.</u></p> <p style="margin-left: 20px;">(2) <u>The protected spaces means the spaces which the protected hazards are located.</u></p> <p style="margin-left: 20px;">(3) <u>The protected areas means the effective areas of the system which is fitted to suppress the fire in the protected hazards. These areas are not to be less than the protected hazards in any case.</u></p> <p style="margin-left: 20px;">(4) <u>The adjacent areas means areas other than protected areas exposed to direct spray and areas other than those defined above where water may extend.</u></p> <p style="margin-left: 20px;">(5) <u>Boiler fronts should be interpreted as the boiler burner location irrespective of the boiler design.</u></p> <p>4. <omitted></p>	<p>401. ~ 405. <omitted></p> <p>406. Fixed local application fire-fighting systems</p> <p style="margin-left: 20px;">1. ~ 2. <same as the present></p> <p style="margin-left: 20px;">3. Installation of electrical and electronic equipment in engine rooms protected by fixed water-based local application fire-fighting systems (FWBLAFFS)</p> <p style="margin-left: 20px;">(1) <u>The protected spaces are to apply as follows, (See also Fig 8.8.7 of the Guidance)</u></p> <p style="margin-left: 20px;">(1) <u>The protected hazards means the risk parts as defined in 406. 3 of the Rules:</u></p> <p style="margin-left: 40px;">(A) <u>The protected spaces means a machinery space where a local application fire-fighting system is installed.</u></p> <p style="margin-left: 40px;">(B) <u>The protected areas means an area within a protected space which is required to be protected by local application fire-fighting system.</u></p> <p style="margin-left: 40px;">(C) <u>The adjacent areas means areas other than protected areas exposed to direct spray and areas other than those defined above where water may extend.</u></p> <p style="margin-left: 20px;">(5) <u>Boiler fronts should be interpreted as the boiler burner location irrespective of the boiler design.</u></p> <p style="margin-left: 20px;">(2) <same as the present></p>

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Present	Amendment
<p style="text-align: center;">Section 6 Fire-extinguishing Arrangements In Cargo Spaces</p> <p>1. ~ 2. <omitted></p> <p>3. In applying 601. 4 of the Rule, “cargoes which constitute a low fire risk” means that all cargoes listed in appendix 1, entry for coal of the IMSBC Code and the lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted of for which a fixed gas fire-extinguishing system is in effective(MSC.1/Circ.1395/Rev.2).</p> <p>602. Fixed gas fire-extinguishing systems for dangerous goods [See Rule]</p> <p>In applying 601. 4 of the Rules, all cargo ships, engaged in the carriage of dangerous goods, of 500 tons gross tonnage and above, shall be applied the requirement. And water supplies defined in Ch 12, 201. 1 (2) of the Rules are considered as acceptable protection for cargoes listed in Table 2 of MSC/Circ.671.</p>	<p style="text-align: center;">Section 6 Fire-extinguishing Arrangements In Cargo Spaces</p> <p>1. ~ 2. <omitted></p> <p>3. In applying 601. 4 of the Rule, “cargoes which constitute a low fire risk” means that all cargoes listed in appendix 1, entry for coal of the IMSBC Code and the lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted of for which a fixed gas fire-extinguishing system is in effective(MSC.1/Circ.1395/Rev.3).</p> <p>602. Fixed gas fire-extinguishing systems for dangerous goods [See Rule]</p> <p>In applying 601. 4 of the Rules, all cargo ships, engaged in the carriage of dangerous goods, of 500 tons gross tonnage and above, shall be applied the requirement. And water supplies defined in Ch 12, 201. 1 (2) of the Rules are considered as acceptable protection for cargoes listed in Table 2 of MSC.1/Circ.1395/Rev.3.</p>

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Present	Amendment
<p style="text-align: center;">CHAPTER 10 ESCAPE</p> <p style="text-align: center;">Section 2 Means of escape</p> <p>201. <same as the present Rules></p> <p>202. Means of escape from control stations, accommodation and service spaces</p> <p>1. ~ 6. <same as the present Rules></p> <p>7. In applying 202. 3 of the Rules, the means of escape is, in principle, to be comply with as follows :</p> <p style="padding-left: 20px;"><same as the present Rules></p> <p>8. ~ 12. <same as the present Rules></p> <p style="padding-left: 20px;"><hereafter, same as the present Rules></p> <p>203. Means of escape from machinery spaces</p> <p>1. In applying 203. 1 and 2 of the Rules, the means of escape to the open deck from machinery spaces of category A shall satisfy the following requirements. [See Rules]</p> <p>(1) ~ (5) <same as the present Rules></p> <p>(6) In case where machinery spaces of category A are recessed in toward the stern, one set of escape routes from the machinery space of category A, in addition to those required, is to be provided aft of the recess. However, in case where the length of the recessed part (portion with asterisk in this Fig 8.10.2 of the Guidance) is 7 m or less, this escape route is not required. (see Fig 8.10.2 of the Guidance).</p> <p style="text-align: center;">Fig 8.10.2 Escape of recessed category A</p>	<p style="text-align: center;">CHAPTER 10 ESCAPE</p> <p style="text-align: center;">Section 2 Means of escape</p> <p>201. <same as the present Rules></p> <p>202. Means of escape from control stations, accommodation and service spaces</p> <p>1. ~ 6. <same as the present Rules></p> <p>7. In applying 202. 2 (7) of the Rules, evacuation analysis for passenger ships refers to MSC.1/Circ. 1533. (2019)</p> <p>8. In applying 202. 3 of the Rules, the means of escape is, in principle, to be comply with as follows :</p> <p style="padding-left: 20px;"><same as the present Rules></p> <p>9. ~ 13. <same as the present Rules></p> <p style="padding-left: 20px;"><hereafter, same as the present Rules></p> <p>203. Means of escape from machinery spaces</p> <p>1. In applying 203. 1 and 2 of the Rules, the means of escape to the open deck from machinery spaces of category A shall satisfy the following requirements. [See Rules]</p> <p>(1) ~ (5) <same as the present Rules></p> <p>(6) In case where machinery spaces of category A are recessed in toward the stern, one set of escape routes from the machinery space of category A, in addition to those required, is to be provided aft of the recess. However, in case where the length of the recessed part (portion with asterisk in this Fig 8.10.2 of the Guidance) is 7 m or less, this escape route is not required. (see Fig 8.10.2 of the Guidance).</p> <p style="text-align: center;">Fig 8.10.2 Escape of recessed category A</p>

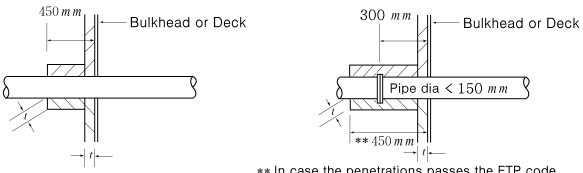
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Present

Annex 8-2 Penetrations through Divisions

1. Penetrations of Pipes or Trunks

1.1 Penetrations through "A" and "B" class divisions (steel or equivalent material)

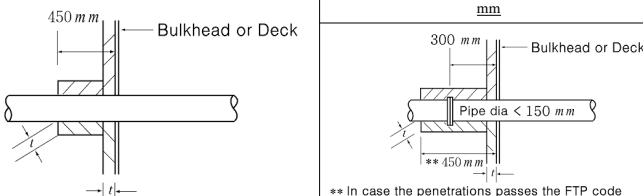
Division	Details of penetrations
"A" class division	<same as the present Rules>
"B" class division	<same as the present Rules>
Prevention of heat transmission	 <p>** In case the penetrations passes the FTP code test (In case of having the equal fire integrity with 450 mm) or In case penetration piece and duct connection part have a structure that heat can not be transferred, 300 mm is admitted.</p>

Amendment

Annex 8-2 Penetrations through Divisions

1. Penetrations of Pipes or Trunks

1.1 Penetrations through "A" and "B" class divisions (steel or equivalent material)

Division	Details of penetrations
"A" class division	<same as the present Rules>
"B" class division	<same as the present Rules>
Prevention of heat transmission (2019)	<p><u>Applicable only to the penetration of "B" class divisions with a pipe diameter of less than 150 mm</u></p>  <p>** In case the penetrations passes the FTP code test (In case of having the equal fire integrity with 450 mm) or In case penetration piece and duct connection part have a structure that heat can not be transferred, 300 mm is admitted.</p>

Present	Amendment
Annex 8-5 Inert Gas Systems	Annex 8-5 Inert Gas Systems
<p>1. <omitted></p> <p>2. General requirements</p> <p>(1) ~ (7) <omitted></p> <p>(8) Safety measures</p> <p>(A) <omitted></p> <p>(B) Automatic shutdown of the inert gas system and its components parts shall be arranged on predetermined limits being reached, taking into account the provisions of (11), 3 (7) and 4 (5).</p> <p><hereafter, omitted></p>	<p>1. <omitted></p> <p>2. General requirements</p> <p>(1) ~ (7) <omitted></p> <p>(8) Safety measures</p> <p>(A) <omitted></p> <p>(B) Automatic shutdown of the inert gas system and its components parts shall be arranged on predetermined limits being reached, taking into account the provisions of (11), 3 (7) and 4 (5). <u>The automatic shut-down of the inert gas system and its components shall involve the following: (2019)</u></p> <p>(a) <u>Shut-down of fans and closing of regulating valve for the following:</u></p> <p style="padding-left: 20px;">(i) <u>High water level in scrubber (not applicable for N2)</u></p> <p style="padding-left: 20px;">(ii) <u>Low pressure/flow to scrubber (not applicable for N2)</u></p> <p style="padding-left: 20px;">(iii) <u>High-high temperature of inert gas supply</u></p> <p>(b) <u>Closing of regulating valve in the event of:</u></p> <p style="padding-left: 20px;">(i) <u>High oxygen content (in excess of 5% by volume)</u></p> <p style="padding-left: 20px;">(ii) <u>Failure of blowers/fans or N2 compressors</u></p> <p>(c) <u>Activation of double-block and bleed arrangement upon (for ships with double block and bleed replacing water seal):</u></p> <p style="padding-left: 20px;">(i) <u>Loss of inert gas supply</u></p> <p style="padding-left: 20px;">(ii) <u>Loss of power</u></p> <p><hereafter, same as the present></p>

Present	Amendment
<p>(10) Inert gas lines</p> <p>(A) <omitted></p> <p>(B) The inert gas supply main shall be fitted with branch piping leading to each cargo tank. Branch piping for inert gas shall be fitted with either stop valves or equivalent means of control for isolating each tank. Where stop valves are fitted, they shall be provided with locking arrangements, which shall be under the control of a responsible ship's officer. The control system operated shall provide unambiguous information of the operational status of such valves to at least the control panel required in (11).</p> <p>(C) <omitted></p> <p>(a) ~ (b) <omitted></p> <p>(c) <u>equivalent arrangements to the satisfaction of the Administration, providing at least the same level of protection.</u></p> <p style="padding-left: 20px;">(i) ~ (iii) <newly added></p>	<p>(10) Inert gas lines</p> <p>(A) <same as the present></p> <p>(B) The inert gas supply main shall be fitted with branch piping leading to each cargo tank. Branch piping for inert gas shall be fitted with either stop valves or equivalent means of control for isolating each tank. Where stop valves are fitted, they shall be provided with locking arrangements, which shall be under the control of a responsible ship's officer. The control system operated shall provide unambiguous information of the operational status of such valves to at least the control panel required in (11). <u>Unambiguous information regarding the operational status of stop valves in branch piping leading from the inert gas main to cargo tanks means position indicators providing open/intermediate/closed status information in the control panel required in (11). Limit switches are to be used to positively indicate both open and closed position. Intermediate position status is to be indicated when the valve is in neither open nor closed position. (2019)</u></p> <p>(C) <omitted></p> <p>(a) ~ (b) <omitted></p> <p>(c) equivalent arrangements to the satisfaction of the Administration, providing at least the same level of protection. <u>The following is considered as an equivalent arrangement. (See also Fig 8-5.1 of the Guidance)</u></p> <p style="padding-left: 20px;">(i) <u>Two shut off valves in series with an arrangement to vent the space between the valves in a safe manner;</u></p> <p style="padding-left: 40px;">or</p> <p style="padding-left: 20px;">(ii) <u>A shut-off valve and a spectacle flange with an arrangement to vent the space between the valve and the spectacle flange in a safe manner; or</u></p> <p style="padding-left: 20px;">(iii) <u>The use of metallic flexible hoses is considered as equivalent to a spool piece referred to in (a), but in both cases a valve on the inert gas main side and a valve or a blank flange on the cargo tank side are to be fitted.</u></p>

Amendment

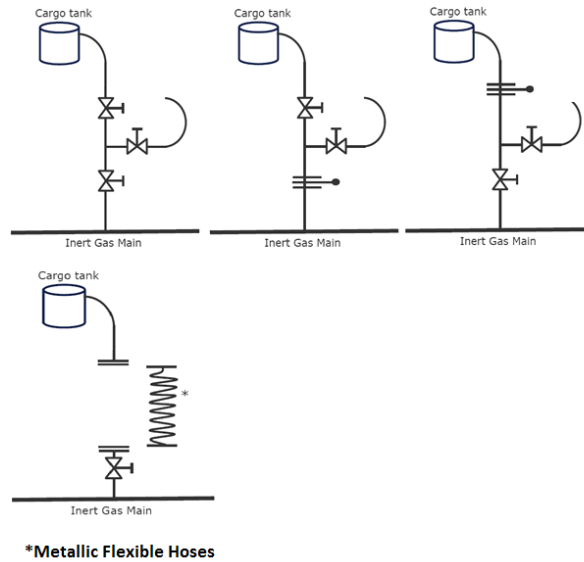


Fig 8-5.1

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Present	Amendment
<p>(G) If ~ blanks.(see Fig Annex 8-5) (H) The valve separating ~ Fig Annex 8-5. Fig Annex 8-5 <omitted> (I) ~ (J) <omitted> (K) <newly added></p> <p>(11) Indicators and alarms (A) The operation status of the inert gas system shall be indicated in a control panel.</p> <p>(B) ~ (D) (E) Audible and visual alarms (a) ~ (b) <omitted> (c) An audible alarm system independent of that required in (12) (E) (a) (iii) or automatic shutdown of cargo pumps shall be provided to operate on predetermined limits of low pressure in the inert gas main being reached.</p>	<p>(G) If ~ blanks.(see Fig Annex 8-5.2) (H) The valve separating ~ Fig Annex 8-5.2. Fig Annex 8-5.2 <same as the present> (I) ~ (J) <same as the present> (K) <u>Piping of inert gas system shall have electrical continuity over their entire lengths including couplings and flanges (except shore connections) and be so designed as to minimize the risk of ignition from the generation of static electricity by itself.</u></p> <p>(11) Indicators and alarms (A) The operation status of the inert gas system shall be indicated in a control panel. <u>The operational status of the inert gas system is to be based on indication that inert gas is being supplied downstream of the gas regulating valve and on the pressure or flow of the inert gas mains downstream of the non-return devices. However, the operational status of the IG system is not to be considered to require additional indicators and alarms other than those specified in the 2 (11) and 3 (7) or 4 (9), as appropriate. (2019)</u> (B) ~ (D) (E) Audible and visual alarms (a) ~ (b) <omitted> (c) An audible alarm system independent of that required in (12) (E) (a) (iii) or automatic shutdown of cargo pumps shall be provided to operate on predetermined limits of low pressure in the inert gas main being reached. <u>The term "independent alarm system" means that a second pressure sensor, independent of the sensor serving the alarms for low pressure, high pressure and pressure indication/recorder is to be provided. Notwithstanding the above, a common programmable logic controller (PLC) is, however, accepted for the alarms in the control system. The independent sensor is not required if the system is arranged for the shutdown of cargo pumps. If a system for shutdown of cargo pumps is arranged, an automatic system shutting down all cargo pumps is to be provided. The shutdown is to be alarmed at the control station. The shutdown shall not prevent the operation of ballast pumps or pumps used for bilge drainage of a cargo pump room.</u></p>

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