

RULES FOR CLASSIFICATION OF STEEL SHIPS

(Development Review : External opinion inquiry)

Part 8 FIRE PROTECTION AND FIRE EXTINCTION

2019. 09.



Machinery Rule Development Team

– Main Amendments –

(1) Effective date : 1 Jan. 2020 (Date of which are constructed)

● Reflected amendments of IMO Res. MSC. 409(97), Res. MSC. 404(96), Res. MSC. 421(98)

(2) Effective date : 1 Jul. 2020 (Date of which are constructed)

● Added Application of requirements for tankers (Requirement of Guidance Ch. 1, Sec.1, 103. 48 has been moved.)

Present	Amendment	Reason
<p align="center">CHAPTER 1 GENERAL</p> <p align="center">Section 1 General</p> <p>101. Application [See Guidance]</p> <p>1. ~ 3. <omitted></p> <p>4. <newly added></p>	<p align="center">CHAPTER 1 GENERAL</p> <p align="center">Section 1 General</p> <p>101. Application [See Guidance]</p> <p>1. ~ 3. <omitted></p> <p>4. Application of requirements for tankers [See Guidance]</p> <p>(1) <u>Requirements for tankers in this chapter shall apply to tankers carrying crude oil or petroleum products having a flashpoint not exceeding 60 °C (closed cup test), as determined by an approved flashpoint apparatus, and a Reid vapour pressure which is below the atmospheric pressure or other liquid products having a similar fire hazard.</u></p> <p>(2) <u>Where liquid cargoes other than those referred to in (1) above or liquefied gases which introduce additional fire hazards are intended to be carried, additional safety measures shall be required, having due regard to the provisions of the International Bulk Chemical Code, the Bulk Chemical Code, the International Gas Carrier Code, and the Gas Carrier Code, as appropriate.</u></p> <p>(A) <u>A liquid cargo with a flashpoint of less than 60 degrees C for which a regular foam fire-fighting system complying with the Fire Safety Systems Code is not effective, is considered to be a cargo introducing additional fire hazards in this context. The following additional measures are required:</u></p> <p>(a) <u>the foam shall be of alcohol resistant type;</u></p> <p>(b) <u>the type of foam concentrates for use in chemical tankers shall be to the satisfaction of the Society taking into account the guidelines developed by the IMO; and</u></p> <p>(c) <u>the capacity and application rates of the foam extinguishing system shall comply with chapter 11 of the International Bulk Chemical Code, except that lower application rates may be accepted based on performance tests. For tankers fitted with inert gas systems, a quantity of foam concentrate sufficient for 20 min of foam generation may be accepted;</u></p> <p>(B) <u>For the purpose of this regulation, a liquid cargo with a vapour pressure greater than 1.013 bar absolute at 37.8 degrees C is considered to be a cargo introducing additional fire hazards. Ships carrying such substances shall comply with the requirements of the IBC Code. When ships operate in restricted areas and at restricted times, the Society concerned may agree to waive the requirements for refrigeration systems in accordance with requirements of the International Bulk Chemical Code.</u></p>	<p>(Newly added)</p> <p>- Requirement of Guidance Ch. 1, Sec.1, 103. 48 has been moved. This requirement is for application and should be moved.</p>

Present	Amendment	Reason
<p data-bbox="185 196 389 225"><Newly added></p> <p data-bbox="152 882 367 911">103. Definitions</p> <p data-bbox="185 930 286 959">1. ~ 47.</p> <p data-bbox="185 978 701 1102">48. Tanker is a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable nature. <u>[See Guidance]</u></p>	<p data-bbox="768 185 1715 799"> (3) <u>Liquid cargoes with a flashpoint exceeding 60 degrees C other than oil products or liquid cargoes subject to the requirements of the International Bulk Chemical Code are considered to constitute a low fire risk, not requiring the protection of a fixed foam extinguishing system.</u> (4) <u>Tankers carrying petroleum products with a flashpoint exceeding 60 degrees C (closed cup test), as determined by an approved flashpoint apparatus, shall comply with the requirements provided in regulations 10.2.1.4.4. and 10.10.2.3 and the requirements for cargo ships other than tankers, except that, in lieu of the fixed fire extinguishing system required in regulation 10.7, they shall be fitted with a fixed deck foam system which shall comply with the provisions of the Fire Safety Systems Code.</u> (5) <u>Combination carriers shall not carry cargoes other than oil unless all cargo spaces are empty of oil and gas-freed or unless the arrangements provided in each case have been approved by the Society taking into account the guidelines developed by the IMO.</u> (6) <u>Chemical tankers and gas carriers shall comply with the requirements for tankers, except where alternative and supplementary arrangements are provided to the satisfaction of the Society, having due regard to the provisions of the International Bulk Chemical Code and the International Gas Carrier Code, as appropriate.</u> </p> <p data-bbox="701 890 916 919">103. Definitions</p> <p data-bbox="734 938 835 967">1. ~ 47.</p> <p data-bbox="734 986 1715 1050">48. Tanker is a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable nature. (2020) –[See Guidance]–</p>	<p data-bbox="1715 185 2085 416">(Newly added) – Requirement of Guidance Ch. 1, Sec.1, 103. 48 has been moved. This requirement is for application and should be moved.</p> <p data-bbox="1715 954 2085 1145">(Amended) – Guidance Ch. 1, Sec.1, 103. 48 has been moved. This requirement is for application and should be moved.</p>

Present	Amendment	Reason
<p align="center">CHAPTER 8 FIRE FIGHTING</p> <p align="center">Section 4 Fire Extinguishing Arrangements In Machinery Spaces</p> <p>401. Machinery spaces containing oil-fired boilers or oil fuel units [See Guidance]</p> <p>1. <omitted></p> <p>2. Additional fire-extinguishing arrangements</p> <p>(1) <omitted></p> <p>(2) There shall be at least two portable foam extinguishers or equivalent in each firing space in each boiler room and in each space in which a part of the oil fuel installation is situated. There shall be not less than one approved foam-type extinguisher of at least 135 liters capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room. In the case of domestic boilers of less than 175 kW an approved foam-type extinguisher of at least 135 <u>liters</u> capacity is not required.</p>	<p align="center">CHAPTER 8 FIRE FIGHTING</p> <p align="center">Section 4 Fire Extinguishing Arrangements In Machinery Spaces</p> <p>401. Machinery spaces containing oil-fired boilers or oil fuel units [See Guidance]</p> <p>1. <omitted></p> <p>2. Additional fire-extinguishing arrangements</p> <p>(1) <omitted></p> <p>(2) There shall be at least two portable foam extinguishers or equivalent in each firing space in each boiler room and in each space in which a part of the oil fuel installation is situated. There shall be not less than one approved foam-type extinguisher of at least 135 l capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room. In the case of domestic boilers of less than 175 kW, <u>or boilers protected by fixed water-based local application fire-extinguishing systems as required by 406.</u>, an approved foam-type extinguisher of at least 135 l capacity is not required.</p>	<p>(Amended)</p> <p>- Reflected amendment of IMO Res.MSC.409(97)</p>
<p align="center">CHAPTER 11 HELICOPTER FACILITIES</p> <p align="center">Section 1 Application</p> <p>101. Application</p> <p>1. ~ 2. <omitted></p> <p>3. <newly added></p> <p>3. <u>Notwithstanding the requirements of 2 above, ro-ro passenger ships without helidecks shall comply with the relevant regulation of the Convention.</u></p>	<p align="center">CHAPTER 11 HELICOPTER FACILITIES</p> <p align="center">Section 1 Application</p> <p>101. Application</p> <p>1. ~ 2. <omitted></p> <p>3. <u>Notwithstanding the requirements of 2 above, having a helicopter landing area, shall be provided with foam fire-fighting appliances which comply with the relevant provisions of chapter 17 of the Fire Safety Systems Code.</u></p> <p>4. <u>Notwithstanding the requirements of 2 or 3 above, ro-ro passenger ships without helidecks shall comply with SOLAS III/28.</u></p>	<p>- Reflected amendment of IMO Res.MSC.404(96)</p>

Present	Amendment	Reason																								
<p style="text-align: center;">Section 4 Fire-fighting Appliances</p> <p>401. Fire-fighting appliances</p> <p>In close proximity to the helideck, the following fire-fighting appliances shall be provided and stored near the means of access to that helideck: [See Guidance]</p> <p>1. ~ 2. <omitted></p> <p>3. a suitable foam application system consisting of monitors or foam making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which helicopters can operate. The system shall be capable of delivering a discharge rate as required in table for at least five minutes;</p> <table border="1" data-bbox="197 667 911 917"> <thead> <tr> <th>Category</th> <th>Helicopter overall length</th> <th>Discharge rate foam solution(L/min)</th> </tr> </thead> <tbody> <tr> <td>H1</td> <td>up to but not including 15 m</td> <td>250</td> </tr> <tr> <td>H2</td> <td>from 15 m up to but not including 24 m</td> <td>500</td> </tr> <tr> <td>H3</td> <td>from 24 m up to but not including 35 m</td> <td>800</td> </tr> </tbody> </table> <p>3. <newly added></p> <p>4. the principal agent shall be suitable for use with salt water and conform to performance standards not inferior to those acceptable to the IMO Organization;</p> <p>5. at least two nozzles of an approved dual-purpose type (jet/spray) and hoses sufficient to reach any part of the helideck;</p> <p>6. ~ 7. <omitted></p>	Category	Helicopter overall length	Discharge rate foam solution(L/min)	H1	up to but not including 15 m	250	H2	from 15 m up to but not including 24 m	500	H3	from 24 m up to but not including 35 m	800	<p style="text-align: center;">Section 4 Fire-fighting Appliances</p> <p>401. Fire-fighting appliances</p> <p>In close proximity to the helideck, the following fire-fighting appliances shall be provided and stored near the means of access to that helideck: [See Guidance]</p> <p>1. ~ 2. <omitted></p> <p>3. a suitable foam application system consisting of monitors or foam making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which helicopters can operate. The system shall be capable of delivering a discharge rate as required in table for at least five minutes;—</p> <table border="1" data-bbox="978 667 1693 917"> <thead> <tr> <th>Category</th> <th>Helicopter overall length</th> <th>Discharge rate foam solution(L/min)</th> </tr> </thead> <tbody> <tr> <td>H1</td> <td>up to but not including 15 m</td> <td>250</td> </tr> <tr> <td>H2</td> <td>from 15 m up to but not including 24 m</td> <td>500</td> </tr> <tr> <td>H3</td> <td>from 24 m up to but not including 35 m</td> <td>800</td> </tr> </tbody> </table> <p>3. having a helideck, foam firefighting appliances which comply with the provisions of the Fire Safety Systems Code; (2020)</p> <p>4. the principal agent shall be suitable for use with salt water and conform to performance standards not inferior to those acceptable to the IMO Organization;—</p> <p>5. at least two nozzles of an approved dual-purpose type (jet/spray) and hoses sufficient to reach any part of the helideck;—</p> <p>4. ~ 5. <same as present></p>	Category	Helicopter overall length	Discharge rate foam solution(L/min)	H1	up to but not including 15 m	250	H2	from 15 m up to but not including 24 m	500	H3	from 24 m up to but not including 35 m	800	<p>(amended)</p> <p>– Reflected amendment of IMO Res.MSC.404(96))</p> <p>Renubering 6 ~ 7 --> 4 ~ 5</p>
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Present	Amendment	Reason
<p align="center">CHAPTER 13 PROTECTION OF VEHICLE, SPECIAL CATEGORY AND RO-RO SPACES</p> <p align="center">Section 1 General Requirements</p> <p>101. Application In addition, as appropriate, vehicle, special category and ro-ro spaces shall comply with the requirements of this regulation.</p>	<p align="center">CHAPTER 13 PROTECTION OF VEHICLE, SPECIAL CATEGORY AND RO-RO SPACES</p> <p align="center">Section 1 General Requirements</p> <p>101. Application</p> <p><u>1. In addition, as appropriate, vehicle, special category and ro-ro spaces shall comply with the requirements of this regulation.</u></p> <p><u>2. On all ships, vehicles with fuel in their tanks for their own propulsion may be carried in cargo spaces other than vehicle, special category or ro-ro spaces, provided that all the following conditions are met: (2020)</u></p> <p><u>(1) the vehicles do not use their own propulsion within the cargo spaces;</u></p> <p><u>(2) the cargo spaces are in compliance with the appropriate requirements of regulation 19; and</u></p> <p><u>(3) the vehicles are carried in accordance with the IMDG Code, as defined in SOLAS VII/1.1."</u></p>	<p>(amended)</p> <p>- Reflected amendment of IMO Res.MSC.421(98))</p>

GUIDANCE RELATING TO THE RULES FOR CLASSIFICATION OF STEEL SHIPS

Part 8 Fire Protection and Fire Extinction

2020. 01.



– Main Amendments –

(1) Effective date : 1 Jan. 2020 (Date of which are constructed)

- Reflected IACS UI SC288
- Withdrawal of IACS UI SC289

(2) Effective date : 1 Jul. 2020 (Date of which are constructed)

- Added Application of requirements for tankers (Requirement of Guidance Ch. 1, Sec.1, 103. 48 has been moved.)
- Reflected amendment of Res.MSC.365(93)(SOLAS II-2/Reg.16.3.3)
- Reflected IMO MSC.1/Circ.1616 (26 June 2019)

Present	Amendment	Reason
<p style="text-align: center;">CHAPTER 1 GENERAL</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application [See Rule] 1. ~ 2. <omitted> 3. <newly added></p> <p>103. Definitions 1. ~ 9. <omitted> <u>10. In applying 103. 48 of the Rules, the following requirements for tankers are to be applied.</u> (1) ~ (7) <omitted> 11. ~ 12. <omitted></p> <p style="text-align: center;">CHAPTER 2 PROBABILITY OF IGNITION</p> <p style="text-align: center;">Section 1 Arrangements for Oil Fuel, Lubrication Oil and Other Flammable Oils</p> <p>102. Arrangements for oil fuel 1. ~ 7. <omitted> 8. <newly added></p>	<p style="text-align: center;">CHAPTER 1 GENERAL</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application [See Rule] 1. ~ 2. <same as the present> <u>3. In addition to the requirements of the Rules, the following shall be complied with.</u> (1) <u>In applying 101. 4 (2) (B) of the Rules, “the guidelines developed by IMO“ means MSC.1/Circ.1312 and Corr.1. (2020)</u> (2) <u>In applying 101. 4 (2) (C) of the Rules, refer to the Information on flashpoint and recommended fire-fighting media for chemicals to which neither the IBC nor BCH Codes apply. (MSC/Circ.553)</u> (3) <u>In applying 101. 4 (5) of the Rules, “the guidelines developed by IMO“ means MSC/Circ.353 as amended by MSC/Circ.387.</u></p> <p>103. Definitions 1. ~ 9. <same as the present> <u>10. <deleted></u> (1) ~ (7) <omitted> <u>10. ~ 11. <omitted></u></p> <p style="text-align: center;">CHAPTER 2 PROBABILITY OF IGNITION</p> <p style="text-align: center;">Section 1 Arrangements for Oil Fuel, Lubrication Oil and Other Flammable Oils</p> <p>102. Arrangements for oil fuel 1. ~ 7. <same as the present> <u>8. In applying 102. 5 (2) of the Rules, high pressure means having pressures of 10 MPa or above.</u></p>	<p>(Amended) – 3. have been moved from 103. definition.</p> <p>(Amended) – Reflected IMO MSC.1/Circ.1321</p>

Present	Amendment	Remark
<p>CHAPTER 3 ~ CHAPTER 5 <omitted></p> <p>CHAPTER 6 CONTROL OF SMOKE SPEED</p> <p>Section 1 <omitted></p> <p>Section 3 Draft Stops</p> <p>301. Draft stops</p> <p>1. ~ 2. <omitted></p> <p><newly added></p> <p>CHAPTER 7 CONTAINMENT OF FIRE</p> <p>Section 1 Thermal and Structural Boundaries</p> <p>101. <omitted></p> <p>102. Passenger ships</p> <p>1. ~ 4. <omitted></p> <p><newly added></p> <p>Section 2 ~ Section 6 <omitted></p> <p>CHAPTER 8 ~ CHAPTER 13 <omitted></p>	<p>CHAPTER 3 ~ CHAPTER 5 <same as the present></p> <p>CHAPTER 6 CONTROL OF SMOKE SPEED</p> <p>Section 1 <same as the present></p> <p>Section 3 Draft Stops</p> <p>301. Draft stops</p> <p>1. ~ 2. <same as the present></p> <p>3. <u>“14 m apart“ means a distance in the direction of the length and breadth of the ship. (2020)</u></p> <p>CHAPTER 7 CONTAINMENT OF FIRE</p> <p>Section 1 Thermal and Structural Boundaries</p> <p>101. <same as the present></p> <p>102. Passenger ships</p> <p>1. ~ 4. <same as the present></p> <p>5. <u>Fire risk assessments for furniture and furnishings in external areas(e.g. evacuation stations and external escape routes, open deck space) in 102.3 (2) of the Rules may refer to MSC.1/Circ.1274(as amended). (2020)</u></p> <p>Section 2 ~ Section 6 <same as the present></p> <p>CHAPTER 8 ~ CHAPTER 13 <same as the present></p>	

Present	Amendment	Reason
<p>CHAPTER 7 CONTAINMENT OF FIRE Section 1 Thermal and Structural Boundaries 101. Thermal and structural boundaries</p> <p>1. ~ 2. <omitted> 3. <newly added></p> <p>Section 6 Ventilation Systems [See Rule] 605. Exhaust ducts from galley ranges (2017)</p> <p>1. <omitted> (1) ~ (3) <omitted> (4) With respect to fixed means for extinguishing a fire specified in 1 (3) & 3 (4) of the rules, reference is to be made to ISO 15371:2009.</p>	<p>CHAPTER 7 CONTAINMENT OF FIRE Section 1 Thermal and Structural Boundaries 101. Thermal and structural boundaries</p> <p>1. ~ 2. <same as the present></p> <p>3. In cases where urea or sodium hydroxide solution tanks for selective catalytic reduction (SCR) systems, exhaust gas recirculation (EGR) systems or exhaust gas cleaning systems (EGCS) are installed in a space separated from the engine-room, in determining fire integrity of divisions, the solution tank space should be considered as "similar spaces" in the definition of "machinery spaces" in Ch 1, 103. 30 of the Rules and should be categorized as:</p> <p>(1) for ships carrying more than 36 passengers; "⑩ Tanks, voids and auxiliary machinery spaces having little or no fire risk" in Ch 7, 102. 3 (2) (B) of the Rules, or (2) for ships carrying not more than 36 passengers and cargo ships: "⑦ Other machinery spaces" in Ch 7, 102. 4 (2) (B), Ch 7, 103. 3 (2) (B) and Ch 7, 104. 2 (2) (B) of the Rules.</p> <p><u>The division between the engine-room and the solution tank space should have a fire integrity of at least "A-0" class. (2020)</u></p> <p>Section 6 Ventilation Systems [See Rule] 605. Exhaust ducts from galley ranges (2017)</p> <p>1. <same as the present></p> <p>(1) ~ (3) <same as the present> (4) With respect to fixed means for extinguishing a fire specified in 1 (3) & 3 (4) of the rules, reference is to be made to ISO 15371:2009. <u>The reference to ISO 15371:2009 is given as an example of a suitable performance standard for pre-engineered galley duct fixed fire-extinguishing systems. CO2 fire-extinguishing systems, which are not pre-engineered fixed fire-extinguishing systems, should be designed according to the requirements set out in Ch 8, 503. 1 (1) of the Rules (spaces containing flammable liquids) or another suitable standard acceptable to the Society. (2020)</u></p>	<p>(amended) –Reflected IMO MSC.1/Circ.1616</p> <p>(amended) –Reflected IMO MSC.1/Circ.1616</p>

Present

Annex 8-1 Fire Protection Materials

1. Fire protection materials for Method IC (2017)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○						
3	Painted surface, veneer, fabric or foils			○	○	○	○	
4	Painted surface, veneer, fabric or foils			○	○	○	○	
5	<u>Decorative panel</u>				○		○ ⁽²⁾	
6	Painted surface, veneer, fabric or foils				○	○	○ ⁽²⁾	
7	Skirting board				○			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○						
11	Grounds and supports	○		○				
12	Lining	○						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽³⁾			○ ⁽³⁾	
15	Window box	○						
16	Window box surface			○ ⁽³⁾	○	○	○ ⁽³⁾	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) <same as the present Rules>
 - (2) Applicable to paints, varnishes and other finishes.
 - (3) Only in corridors and stairway enclosures.
 - Paints, varnishes and other finishes only applies to accommodation spaces, service spaces and control stations as well as stairway enclosures.
 - As far as window boxes construction is concerned, reference is also to be made MSC/Circ.917 and MSC/Circ.917 Add.1.
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

Amendment

Annex 8-1 Fire Protection Materials

1. Fire protection materials for Method IC (2020)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○						
3	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽²⁾	
4	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽²⁾	
5	<u>Decoration</u>				○			
6	Painted surface, veneer, fabric or foils				○	○	○ ⁽²⁾	
7	Skirting board				○			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○						
11	Grounds and supports	○		○				
12	Lining	○						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽³⁾			○	
15	Window box	○						
16	Window box surface			○	○	○	○	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) <same as the present Rules>
 - (2) Applicable to paints, varnishes and other finishes.
 - (3) Only in corridors and stairway enclosures.
 - Paints, varnishes and other finishes only applies to accommodation spaces, service spaces and control stations as well as stairway enclosures.
 - As far as window boxes construction is concerned, reference is also to be made MSC/Circ.917 and MSC/Circ.917 Add.1.
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

Present

2. Fire protection materials for Method IIC and IIIC (2017)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○ ⁽⁴⁾						
3	Painted surface, veneer, fabric or foils			○	○	○	○	
4	Painted surface, veneer, fabric or foils			○	○ ⁽³⁾	○ ⁽²⁾	○	
5	<u>Decorative panel</u>				○ ⁽³⁾		○ ⁽⁵⁾	
6	Painted surface, veneer, fabric or foils				○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
7	Skirting board				○ ⁽³⁾			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○ ⁽⁴⁾						
11	Grounds and supports	○ ⁽⁴⁾		○				
12	Lining	○ ⁽⁴⁾						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽⁶⁾			○ ⁽⁴⁾	
15	Window box	○ ⁽⁴⁾						
16	Window box surface			○ ⁽³⁾	○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁴⁾	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○ ⁽⁴⁾						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) ~ (2) <same as the present Rules>
 - (3) To be applied to those accommodation and service spaces bounded by non-combustible bulkheads, ceiling and linings.
 - (4) Only in corridors and stairway enclosures serving accommodation and service spaces and control stations.
 - (5) Applicable to paints, varnishes and other finishes.
 - (6) <same as the present Rules>
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**) 15

Amendment

2. Fire protection materials for Method IIC and IIIC (2020)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○ ⁽³⁾			
2	Panel	○ ⁽⁴⁾						
3	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽⁵⁾	
4	Painted surface, veneer, fabric or foils			○	○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
5	<u>Decoration</u>				○ ⁽³⁾		○	
6	Painted surface, veneer, fabric or foils				○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
7	Skirting board				○ ⁽³⁾			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○ ⁽⁴⁾						
11	Grounds and supports	○ ⁽⁴⁾		○				
12	Lining	○ ⁽⁴⁾						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽⁶⁾			○	
15	Window box	○ ⁽⁴⁾						
16	Window box surface			○ ⁽³⁾	○ ⁽³⁾	○ ⁽²⁾	○	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○ ⁽⁴⁾						

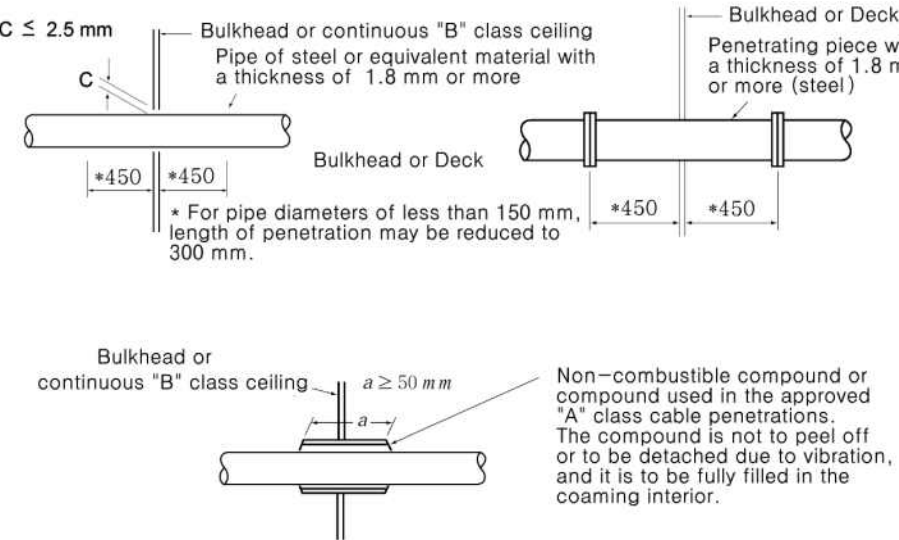
NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) ~ (2) <same as the present Rules>
 - (3) To be applied to those accommodation and service spaces bounded by non-combustible bulkheads, ceiling and linings.
 - (4) Only in corridors and stairway enclosures serving accommodation and service spaces and control stations.
 - (5) Applicable to paints, varnishes and other finishes.
 - (6) <same as the present Rules>
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

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	Penetrations of ventilation ducts
"A" class division	<same as the present Rules>
"B" class division	 <p>$C \leq 2.5 \text{ mm}$</p> <p>Bulkhead or continuous "B" class ceiling Pipe of steel or equivalent material with a thickness of 1.8 mm or more</p> <p>Bulkhead or Deck</p> <p>Bulkhead or Deck</p> <p>Penetrating piece with a thickness of 1.8 mm or more (steel)</p> <p>* For pipe diameters of less than 150 mm, length of penetration may be reduced to 300 mm.</p> <p>Bulkhead or continuous "B" class ceiling</p> <p>$a \geq 50 \text{ mm}$</p> <p>Non-combustible compound or compound used in the approved "A" class cable penetrations. The compound is not to peel off or to be detached due to vibration, and it is to be fully filled in the coaming interior.</p>
Prevention of heat transmission	<same as the present Rules>
<p>Note)</p> <p><same as the present Rules></p>	

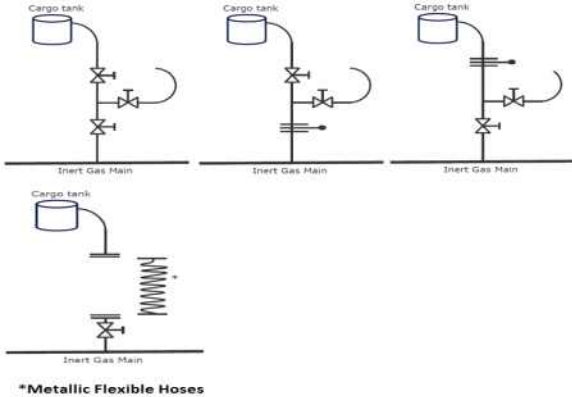
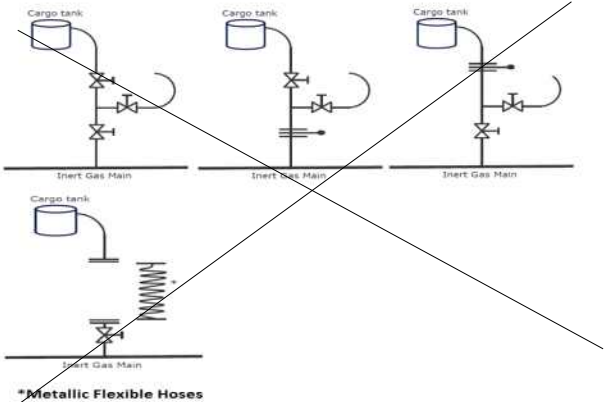
Amendment

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) (2020)

Division	Penetrations of ventilation ducts
"A" class division	<same as the present Rules>
"B" class division	<div style="text-align: center;"> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$C \leq 2.5 \text{ mm}$</p> <p>Pipe of steel or equivalent material with a thickness of 1.8 mm or more</p> </div> <div style="text-align: center;"> <p>$C > 2.5 \text{ mm}$</p> <p>Steel sleeve with a thickness of 1.8 mm or more</p> <p>Non-combustible compound or compound used in the approved "A" class cable penetrations. The compound is not to peel off or to be detached due to vibration, and it is to be fully filled in the coaming interior.</p> </div> </div> <p style="text-align: center;">"B" class division bulkhead or deck: "B" class panel or steel</p>
Prevention of heat transmission	<same as the present Rules>
Note)	<same as the present Rules>

Present	Amendment	Reason
<p align="center">Annex 8-5 Inert Gas Systems</p> <p>2. General requirements</p> <p>(1) ~ (9) <omitted></p> <p>(10) Inert gas lines</p> <p>(A)~ (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. The following is considered as an equivalent arrangement. (See also Fig 8-5.1 of the Guidance) (2019)</u></p> <p>(i) <u>Two shut off valves in series with an arrangement to vent the space between the valves in a safe manner; or</u></p> <p>(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>(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>  <p align="center">Fig 8-5.1</p>	<p align="center">Annex 8-5 Inert Gas Systems</p> <p>2. General requirements</p> <p>(1) ~ (9) <omitted></p> <p>(10) Inert gas lines</p> <p>(A)~ (C) <same as the present></p> <p>(a) ~ (b) <same as the present></p> <p>(c) <u>equivalent arrangements to the satisfaction of the Administration, providing at least the same level of protection. The following is considered as an equivalent arrangement. (See also Fig 8-5.1 of the Guidance) (2019)</u></p> <p>(i) <u>Two shut off valves in series with an arrangement to vent the space between the valves in a safe manner; or</u></p> <p>(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>(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>  <p align="center">Fig 8-5.1</p>	<p>(amended)</p> <p>- Reflected withdrawal of IACS UI SC 289</p>

Present	Amendment	Reason
<p>Annex 8-6 Other Operation Requirements, etc.</p> <p>1. ~ 20. <omitted></p> <p>21. For Tankers, the fire safety operational booklet referred to in 1 shall include provisions for preventing fire spread to the cargo area due to ignition of flammable vapours and include procedures of cargo tank gas-purging and/or gas-freeing taking into account the provisions as follows, Procedures for cargo tank purging and/or gas-freeing</p> <p>(1) When the ship is provided with an inert gas system, the cargo tanks shall first be purged in accordance with Ch 2, 406. of the Rules until the concentration of hydrocarbon vapours in the cargo tanks has been reduced to less than 2 % by volume. Thereafter, gas-freeing may take place at the cargo tank deck level.</p> <p>(2) When the ship is not provided with an inert gas system, the operation shall be such that the flammable vapour is discharged initially through:</p> <p>(A) the vent outlets as specified in Ch 2, 403. 4 of the Rules;</p> <p>(B) outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 30 m/s maintained during the gas-freeing operation; or</p> <p>(C) outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 20 m/s and which are protected by suitable devices to prevent the passage of flame.</p> <p>(3) The above outlets shall be located not less than 10 m measured horizontally from the nearest air intakes and openings to enclosed spaces containing a source of ignition and from deck machinery, which may include anchor windlass and chain locker openings, and equipment which may constitute an ignition hazard.</p> <p>(4) When the flammable vapour concentration at the outlet has been reduced to 30% of the lower flammable limit, gas-freeing may e continued at cargo tank deck level.</p>	<p>Annex 8-6 Other Operation Requirements, etc.</p> <p>1. ~ 20. <omitted></p> <p>21. Additional requirements for tankers (2020)</p> <p>(1) The fire safety operational booklet referred to in 17 shall include provisions for preventing fire spread to the cargo area due to ignition of flammable vapours and include procedures of cargo tank gas-purging and/or gas-freeing taking into account the provisions as follows, Procedures for cargo tank purging and/or gas-freeing</p> <p>(2) Procedures for cargo tank purging and/or gas-freeing</p> <p>(A) When the ship is provided with an inert gas system, the cargo tanks shall first be purged in accordance with Ch 2, 406. of the Rules until the concentration of hydrocarbon vapours in the cargo tanks has been reduced to less than 2 % by volume. Thereafter, gas-freeing may take place at the cargo tank deck level.</p> <p>(B) When the ship is not provided with an inert gas system, the operation shall be such that the flammable vapour is discharged initially through:</p> <p>(a) the vent outlets as specified in Ch 2, 403. 4 of the Rules;</p> <p>(b) outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 30 m/s maintained during the gas-freeing operation; or</p> <p>(c) outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 20 m/s and which are protected by suitable devices to prevent the passage of flame.</p> <p>(C) The above outlets shall be located not less than 10 m measured horizontally from the nearest air intakes and openings to enclosed spaces containing a source of ignition and from deck machinery, which may include anchor windlass and chain locker openings, and equipment which may constitute an ignition hazard.</p> <p>(C) When the flammable vapour concentration at the outlet has been reduced to 30% of the lower flammable limit, gas-freeing may e continued at cargo tank deck level.</p>	<p>(amended)</p> <p>- Reflected amendment of IMO Res.MSC.421(98))</p>

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



Hull Rule Development Team

- Main Amendments -

(1) Effective Date : 1 July 2020

● Reflection of request for establish/revision of classification technical rules

Addition of distance measuring method of draft stops in Ch 6 Sec 3.

Addition of requirement for evaluation of fire risk of external areas on passenger ships in Ch 7 Sec 1.

Revision of requirements in Annex 8-1 and 8-2

Present	Amendment	Remark
<p>CHAPTER 1 ~ CHAPTER 5 <omitted></p> <p>CHAPTER 6 CONTROL OF SMOKE SPEED</p> <p>Section 1 <omitted></p> <p>Section 3 Draft Stops</p> <p>301. Draft stops</p> <p>1. ~ 2. <omitted></p> <p><newly added></p> <p>CHAPTER 7 CONTAINMENT OF FIRE</p> <p>Section 1 Thermal and Structural Boundaries</p> <p>101. <omitted></p> <p>102. Passenger ships</p> <p>1. ~ 4. <omitted></p> <p><newly added></p> <p>Section 2 ~ Section 6 <omitted></p> <p>CHAPTER 8 ~ CHAPTER 13 <omitted></p>	<p>CHAPTER 1 ~ CHAPTER 5 <same as the present></p> <p>CHAPTER 6 CONTROL OF SMOKE SPEED</p> <p>Section 1 <same as the present></p> <p>Section 3 Draft Stops</p> <p>301. Draft stops</p> <p>1. ~ 2. <same as the present></p> <p>3. <u>“14 m apart“ means a distance in the direction of the length and breadth of the ship. (2020)</u></p> <p>CHAPTER 7 CONTAINMENT OF FIRE</p> <p>Section 1 Thermal and Structural Boundaries</p> <p>101. <same as the present></p> <p>102. Passenger ships</p> <p>1. ~ 4. <same as the present></p> <p>5. <u>Fire risk assessments for furniture and furnishings in external areas(e.g. evacuation stations and external escape routes, open deck space) in 102.3 (2) of the Rules may refer to MSC.1/Circ.1274(as amended). (2020)</u></p> <p>Section 2 ~ Section 6 <same as the present></p> <p>CHAPTER 8 ~ CHAPTER 13 <same as the present></p>	

Present

Annex 8-1 Fire Protection Materials

1. Fire protection materials for Method IC (2017)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○						
3	Painted surface, veneer, fabric or foils			○	○	○	○	
4	Painted surface, veneer, fabric or foils			○	○	○	○	
5	<u>Decorative panel</u>				○		○ ⁽²⁾	
6	Painted surface, veneer, fabric or foils				○	○	○ ⁽²⁾	
7	Skirting board				○			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○						
11	Grounds and supports	○		○				
12	Lining	○						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽³⁾			○ ⁽³⁾	
15	Window box	○						
16	Window box surface			○ ⁽³⁾	○	○	○ ⁽³⁾	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) <same as the present Rules>
 - (2) Applicable to paints, varnishes and other finishes.
 - (3) Only in corridors and stairway enclosures.
 - Paints, varnishes and other finishes only applies to accommodation spaces, service spaces and control stations as well as stairway enclosures.
 - As far as window boxes construction is concerned, reference is also to be made MSC/Circ.917 and MSC/Circ.917 Add.1.
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

Amendment

Annex 8-1 Fire Protection Materials

1. Fire protection materials for Method IC (2020)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○						
3	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽²⁾	
4	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽²⁾	
5	<u>Decoration</u>				○			
6	Painted surface, veneer, fabric or foils				○	○	○ ⁽²⁾	
7	Skirting board				○			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○						
11	Grounds and supports	○		○				
12	Lining	○						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽³⁾			○	
15	Window box	○						
16	Window box surface			○	○	○	○	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) <same as the present Rules>
 - (2) Applicable to paints, varnishes and other finishes.
 - (3) Only in corridors and stairway enclosures.
 - Paints, varnishes and other finishes only applies to accommodation spaces, service spaces and control stations as well as stairway enclosures.
 - As far as window boxes construction is concerned, reference is also to be made MSC/Circ.917 and MSC/Circ.917 Add.1.
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

Present

2. Fire protection materials for Method IIC and IIIC (2017)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○			
2	Panel	○ ⁽⁴⁾						
3	Painted surface, veneer, fabric or foils			○	○	○	○	
4	Painted surface, veneer, fabric or foils			○	○ ⁽³⁾	○ ⁽²⁾	○	
5	<u>Decorative panel</u>				○ ⁽³⁾		○ ⁽⁵⁾	
6	Painted surface, veneer, fabric or foils				○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
7	Skirting board				○ ⁽³⁾			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○ ⁽⁴⁾						
11	Grounds and supports	○ ⁽⁴⁾		○				
12	Lining	○ ⁽⁴⁾						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽⁶⁾			○ ⁽⁴⁾	
15	Window box	○ ⁽⁴⁾						
16	Window box surface			○ ⁽³⁾	○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁴⁾	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○ ⁽⁴⁾						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) ~ (2) <same as the present Rules>
 - (3) To be applied to those accommodation and service spaces bounded by non-combustible bulkheads, ceiling and linings.
 - (4) Only in corridors and stairway enclosures serving accommodation and service spaces and control stations.
 - (5) Applicable to paints, varnishes and other finishes.
 - (6) <same as the present Rules>
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

Amendment

2. Fire protection materials for Method IIC and IIIC (2020)

Requirements for components Ch 3/Ch 4 of the Rules		Noncombustible material	Noncombustible material	Low flame spread	Equivalent volume	Calorific value	Smoke production	Not readily ignite
		Ch 3 201. 2.	Ch 3 201. 1.	Ch 3 202. 4.	Ch 3 202. 3. (1)	Ch 3 202. 2.	Ch 4 Sec 1	Ch 4 Sec 2
Kinds of Components								
1	Moulding				○ ⁽³⁾			
2	Panel	○ ⁽⁴⁾						
3	Painted surface, veneer, fabric or foils			○	○	○	○ ⁽⁵⁾	
4	Painted surface, veneer, fabric or foils			○	○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
5	<u>Decoration</u>				○ ⁽³⁾		○	
6	Painted surface, veneer, fabric or foils				○ ⁽³⁾	○ ⁽²⁾	○ ⁽⁵⁾	
7	Skirting board				○ ⁽³⁾			
8	Insulation		○ ⁽¹⁾					
9	Surfaces and paints in concealed or inaccessible spaces			○				
10	Draught stop	○ ⁽⁴⁾						
11	Grounds and supports	○ ⁽⁴⁾		○				
12	Lining	○ ⁽⁴⁾						
13	Primary deck covering 1st layer						○	○
14	Floor finishing			○ ⁽⁶⁾			○	
15	Window box	○ ⁽⁴⁾						
16	Window box surface			○ ⁽³⁾	○ ⁽³⁾	○ ⁽²⁾	○	
17	Window box surface in concealed or inaccessible spaces			○				
18	Ceiling panel	○ ⁽⁴⁾						

NOTES:

1. Wherever “○” appears it means that the requirements are applicable.
2. The superscripts to “○” are as follows:
 - (1) ~ (2) <same as the present Rules>
 - (3) To be applied to those accommodation and service spaces bounded by non-combustible bulkheads, ceiling and linings.
 - (4) Only in corridors and stairway enclosures serving accommodation and service spaces and control stations.
 - (5) Applicable to paints, varnishes and other finishes.
 - (6) <same as the present Rules>
3. The number of components is referred to the following drawing. (see **Fig Annex 8-1**)

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	Penetrations of ventilation ducts
"A" class division	<same as the present Rules>
"B" class division	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>$C \leq 2.5 \text{ mm}$</p> <p>Bulkhead or Deck</p> <p>* For pipe diameters of less than 150 mm, length of penetration may be reduced to 300 mm.</p> </div> <div style="text-align: center;"> <p>Bulkhead or Deck</p> </div> </div> <div style="margin-top: 20px; text-align: center;"> <p>Non-combustible compound or compound used in the approved "A" class cable penetrations. The compound is not to peel off or to be detached due to vibration, and it is to be fully filled in the coaming interior.</p> </div>
Prevention of heat transmission	<same as the present Rules>
<p>Note)</p> <p style="text-align: center;"><same as the present Rules></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) *(2020)*

Division	Penetrations of ventilation ducts
"A" class division	<same as the present Rules>
"B" class division	<div style="text-align: center;"> </div> <p style="text-align: center;">"B" class division bulkhead or deck: "B" class panel or steel</p>
Prevention of heat transmission	<same as the present Rules>
Note)	<same as the present Rules>