

Amended Rules for the Classification of Steel Ships

Part 7 Ships of Special Service

2021. 9.



Machinery Rule Development Team

– Main Amendments –

(1) Effective date : 1 Jul. 2022 (Date of which contracts for construction are signed)

● Reflected IACS UR M76 (ENP4500–1236–2021)

● Reflected IACS UR F15

Present	Amendment	Remark
<p align="center">CHAPTER 1 OIL TANKERS</p> <p>Section 10 Piping Systems and Venting Systems for Oil Tankers</p> <p>1002. Cargo oil pumps and piping systems</p> <p>1. to 2. <omitted></p> <p>3. Alternative use of tanks</p> <p>Where cargo oil tanks are so designed that they can also be used as ballast tanks <u>or fuel oil tanks</u>, the tanks are to be provided with devices which the Society requires, and approved drawings or documents having descriptions on a detailed operating manual for the alternative use are to be provided on board the ship. [See Guidance]</p> <p>4. (1) to (6) <omitted></p> <p>(7) <Newly added></p> <p>(8) <Newly added></p> <p>5. to 12. <omitted></p> <p>1003. to 1006. <omitted></p> <p>1007. <Newly added></p> <p align="center"><omitted></p>	<p align="center">CHAPTER 1 OIL TANKERS</p> <p>Section 10 Piping Systems and Venting Systems for Oil Tankers</p> <p>1002. Cargo oil pumps and piping systems</p> <p>1. to 2. <same as present></p> <p>3. Alternative use of tanks</p> <p>Where cargo oil tanks are so designed that they can also be used as ballast tanks <u>or fuel oil tanks</u>, the tanks are to be provided with devices which the Society requires, and approved drawings or documents having descriptions on a detailed operating manual for the alternative use are to be provided on board the ship. [See Guidance]</p> <p>4. (1) to (6) <same as present></p> <p>(7) Connection between cargo piping and ballast piping referred to above is not permitted except for emergency discharge as specified in the Unified Interpretation to Regulation 1.18 of MARPOL Annex I as amended by IMO resolutions up to MEPC.314(74).</p> <p>(8) In spite of the (7), provision may be made for emergency discharge of the segregated ballast by means of a connection to a cargo pump through a portable spool piece. In this case non-return valves should be fitted on the segregated ballast connections to prevent the passage of oil to the ballast tanks. The portable spool piece should be mounted in a conspicuous position in the pump room and a permanent notice restricting its use should be prominently displayed adjacent to it. Shut-off valves shall be provided to shut off the cargo and ballast lines before the spool piece is removed.</p> <p>5. to 12. <same as present></p> <p>1003. to 1006. <same as present></p> <p>1007. Installation location of ballast pump</p> <p>The ballast pump is to be located in the cargo pump room, or a similar space within the cargo area not containing any source of ignition.</p> <p align="center">– 3 – <same as present></p>	<p>(Amendment)</p> <p>– Reflected IACS UR M76 (ENP4500-1236-2021)</p>

GUIDANCE RELATING TO THE RULES FOR CLASSIFICATION OF STEEL SHIPS

Part 7 Ships of Special Service

2021. 9.



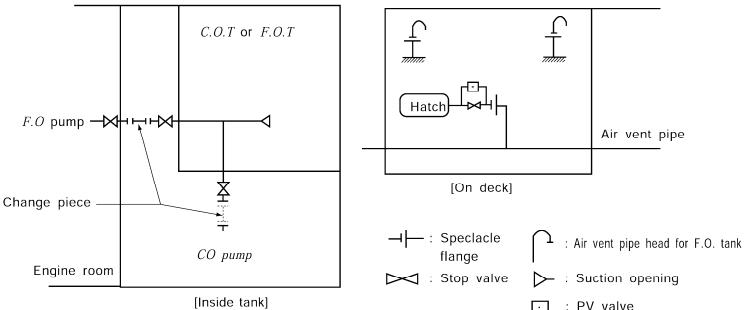
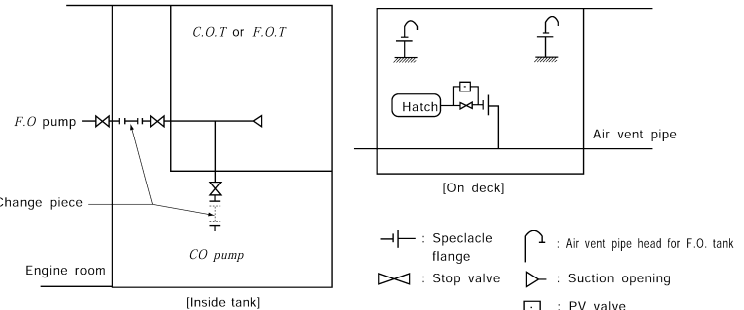
Machinery Rule Development Team

– Main Amendments –

(1) Effective date : 1 Jul. 2022 (Date of which contracts for construction are signed

● Reflected IACS UR M76 (ENP4500–1236–2021)

● Reflected IACS UI SC179, 180

Present	Amendment	Remark
<p style="text-align: center;">CHAPTER 1 OIL TANKERS</p> <p style="text-align: center;">Section 10 Piping Systems and Venting Systems for Oil Tankers</p> <p>1002. Cargo oil pumps and cargo oil piping systems, pipings in cargo oil tank, etc.</p> <ol style="list-style-type: none"> In case of maintaining the gastight using by the oil lubricated device specified in 1002. 1 (1) (b) of the Rules, apply to Ch. 6, 303. 6. [See Rule] In the provision 1002. 3 of the Rules, the changable device which the Society requires means the following device. [See Rule] <ol style="list-style-type: none"> (1) <Omitted> (2) <u>Cargo oil tanks also used as fuel oil tanks</u> <u>In case where a tank is used both as a cargo oil tank and a fuel oil tank alternatively the cargo oil pipes, fuel oil pipes and vent pipes are to be arranged changeable so as to serve respective cases by giving reference to the example shown in Fig 7.1.32. Further, for other piping systems, the requirements for the piping systems in cargo oil tanks are to be complied with.</u> 	<p style="text-align: center;">CHAPTER 1 OIL TANKERS</p> <p style="text-align: center;">Section 10 Piping Systems and Venting Systems for Oil Tankers</p> <p>1002. Cargo oil pumps and cargo oil piping systems, pipings in cargo oil tank, etc.</p> <ol style="list-style-type: none"> In case of maintaining the gastight using by the oil lubricated device specified in 1002. 1 (1) (b) of the Rules, apply to Ch. 6, 303. 6. [See Rule] In the provision 1002. 3 of the Rules, the changable device which the Society requires means the following device. [See Rule] <ol style="list-style-type: none"> (1) <Same as present> (2) <u>Cargo oil tanks also used as fuel oil tanks</u> <u>In case where a tank is used both as a cargo oil tank and a fuel oil tank alternatively the cargo oil pipes, fuel oil pipes and vent pipes are to be arranged changeable so as to serve respective cases by giving reference to the example shown in Fig 7.1.32. Further, for other piping systems, the requirements for the piping systems in cargo oil tanks are to be complied with.</u> 	<p>(Amendment)</p> <p>– Reflected IACS UR M76 (ENP4500-1236-202 1)</p> <p><same as present></p>
<p>Fig 7.1.32 Example of piping arrangement for a tank used as cargo oil tank and fuel oil tank in alternative use</p> <p style="text-align: center;"><u><Omitted></u></p>	<p>Fig 7.1.32 Example of piping arrangement for a tank used as cargo oil tank and fuel oil tank in alternative use</p> <p style="text-align: center;"><same as present></p>	

Present	Amendment	Remark
<p>Annex 7-6 Water Level Detection & Alarms and Drainage & Pumping Systems for Bulk Carriers and Single Hold Cargo Ships</p> <p>I. Water level detection & alarms</p> <p>1. to 4. <Omitted></p> <p>5. Functional requirements</p> <p>(1) <Omitted></p> <p>(2) Functional requirements</p> <p>(A) to (C) <Omitted></p> <p>(D) The part of the system which has circuitry in the cargo area, is to be certified intrinsically safe type and at least a IIB T3 in accordance with (KS C) IEC publication 60079. Where a ship is designed only for the carriage of cargoes that cannot create a combustible or explosive atmosphere then the requirement for intrinsically safe circuitry is not to be insisted upon, provided the operational instructions included in the Manual specifically exclude the carriage of cargoes that could produce a potential explosive atmosphere. Any exclusion of cargoes is to be consistent with the ship's cargo book and any certification relating to the carriage of specifically identified cargoes.</p> <p>The maximum surface temperature of equipment installed within cargo spaces is to be appropriate for the combustible dusts and explosive gasses likely to be encountered. Where the characteristics of the dust and gases are unknown, the maximum surface temperature of equipment is not to exceed 85 deg. C.</p> <p>Where detector systems include intrinsically safe circuits, plans of the arrangements are to be submitted and approved.</p> <p><Omitted></p> <p>II. Drainage and pumping system</p> <p>1. General</p> <p>3. Requirements for installation</p> <p>(1) to (7) <Omitted></p> <p>(8) The enclosures of electrical equipment for the dewatering system installed in any of the forward dry spaces are to provide protection to IPX8 standard as defined in Pt 6, Ch 1, 201. 1 (2) (A) (b) of the Guidance, Table 6.1.3 and (KS C) IEC Publication 60529 for a water head equal to the height of the space in which the electrical equipment is installed for a time duration of at least 24 hours.</p> <p><Omitted></p>	<p>Annex 7-6 Water Level Detection & Alarms and Drainage & Pumping Systems for Bulk Carriers and Single Hold Cargo Ships</p> <p>I. Water level detection & alarms</p> <p>1. to 4. <same as present></p> <p>5. Functional requirements</p> <p>(1) <same as present></p> <p>(2) Functional requirements</p> <p>(A) to (C) <same as present></p> <p>(D) The part of the system which has circuitry in the cargo area, is to be certified intrinsically safe type and at least a IIB T3 in accordance with IEC 60079-11:2011. Where a ship is designed only for the carriage of cargoes that cannot create a combustible or explosive atmosphere then the requirement for intrinsically safe circuitry is not to be insisted upon, provided the operational instructions included in the Manual specifically exclude the carriage of cargoes that could produce a potential explosive atmosphere. Any exclusion of cargoes is to be consistent with the ship's cargo book and any certification relating to the carriage of specifically identified cargoes.</p> <p>The maximum surface temperature of equipment installed within cargo spaces is to be appropriate for the combustible dusts and explosive gasses likely to be encountered. Where the characteristics of the dust and gases are unknown, the maximum surface temperature of equipment is not to exceed 85 deg. C.</p> <p>Where detector systems include intrinsically safe circuits, plans of the arrangements are to be submitted and approved. (2022)</p> <p><same as present></p> <p>II. Drainage and pumping system</p> <p>1. General</p> <p>3. Requirements for installation</p> <p>(1) to (7) <same as present></p> <p>(8) The enclosures of electrical equipment for the dewatering system installed in any of the forward dry spaces are to provide protection to IPX8 standard as defined in Pt 6, Ch 1, 201. 1 (2) (A) (b) of the Guidance, Table 6.1.3 and IEC 60529:1989/AMD2:2013/CORI:2019 for a water head equal to the height of the space in which the electrical equipment is installed for a time duration of at least 24 hours. (2022)</p> <p><same as present></p>	<p>(Amendment)</p> <p>– Reflected IACS UI SC 179, 180</p>

Amendments of the Rules / Guidance

(External Opinion Inquiry)

Pt. 7 Ship Structure



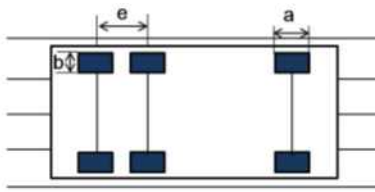
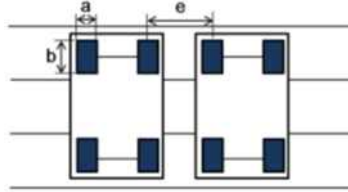
2022. 1

Hull Rule Development Team

Present	Amendment	Note
<p style="text-align: center; color: blue;">〈Guidance〉</p> <h2 style="text-align: center;">CHAPTER 7 CAR FERRIES AND ROLL-ON/ROLL-OFF SHIPS</h2> <h3 style="text-align: center;">Section 3 Deck Structure</h3> <p>301. Application</p> <p>1. Thickness of vehicle deck</p> <p>The thickness of vehicle deck is to be less than that obtained from the following (1) and (2). However, the thickness of plating of weather decks is to be 1 mm thicker than obtained from those formulae.</p> <p>(1) Where the distance between centres of wheel prints in a panel is not less than $2S+a$ (See Fig 7.7.1)</p> $t = C\sqrt{\frac{(2S-b')}{(2S+a)}} \times \frac{P}{9.81} + 0.5 \quad (\text{mm})$	<p style="text-align: center; color: blue;">〈Guidance〉</p> <h2 style="text-align: center;">CHAPTER 7 CAR FERRIES AND ROLL-ON/ROLL-OFF SHIPS</h2> <h3 style="text-align: center;">Section 3 Deck Structure</h3> <p>301. Application</p> <p>1. Thickness of vehicle deck</p> <p>The thickness of vehicle deck is to be less than that obtained from the following (1) and (2). However, the thickness of plating of weather decks is to be 1 mm thicker than obtained from those formulae.</p> <p>(1) Where the distance between centres of wheel prints in a panel is not less than $2S+a$ (See Fig 7.7.1)</p> $t = C\sqrt{\frac{(2S-b')}{(2S+a)}} \times \frac{P}{9.81} + 0.5 \quad (\text{mm}), \quad \underline{t_{\min} = 5.0 \quad (\text{mm})}$	

Present				Amendment				Note
Table 7.7.1 Coefficient C				Table 7.7.1 Coefficient C				
Frames \ Vehicles		Vehicles used for cargo handling	Other vehicles	Frames \ Vehicles		Vehicles used for cargo handling	Other vehicles	
Midship part of strength deck	Longitudinal framing	$4.6\sqrt{K}$	$\frac{3.64\sqrt{K}}{\sqrt{1-0.64f_DK}}$	Longitudinal strength member	Longitudinal framing	$4.6\sqrt{K}$	$\frac{17.83\sqrt{K}}{\sqrt{24-K\alpha}}$ but, in no case is it to be less than 5.2	
	Transverse framing	$4.9\sqrt{K}$	$\frac{5.15\sqrt{K}}{\sqrt{1-0.41(f_DK)^2}}$		Transverse framing	$4.9\sqrt{K}$	$\frac{123.6\sqrt{K}}{\sqrt{576-K^2\alpha^2}}$ but, in no case is it to be less than 5.2	
Elsewhere		$4.6\sqrt{K}$	$5.2\sqrt{K}$		Fore and aft end part		$4.6\sqrt{K}$	$5.2\sqrt{K}$
f_D = as specified in Pt 3, Ch 1, 124 of the Rules. In longitudinal framing system, it is to be $0.79/K$ or more.				Elsewhere		$4.6\sqrt{K}$	$5.2\sqrt{K}$	
<p>α : either α_1 or α_2 according to value of y. However, value of α is not to be less than β</p> $\alpha_1 = 15.36 f_D \left(\frac{y - y_B}{Y'} \right) \qquad y_B \leq y$ $\alpha_2 = 15.36 f_B \left(\frac{y_B - y}{y_B} \right) \qquad y_B > y$ <p>β : coefficient determined according to values of L as specified below: $\beta = 6/a$ when L is 230 m and under $\beta = 10.5/a$ when L is 400 m and above</p> <p>y : distance(m) from the top of keel to the lower edge of plating when the platings under consideration are under y_B and to the upper edge of plating when the platings under consideration are above y_B, respectively.</p> <p>Y' : the greater of the value specified in Pt 3, Ch 3, 203., (5) (a) or (b)</p> <p>a : \sqrt{K} when high tensile steels are used for not less than 80 % of side shell plating at the transverse section amidship and 1.0 for other parts.</p> <p>y_B : vertical distance from the top of keel at midship to the horizontal neutral axis of the athwartship section of hull (m).</p> <p>f_D, f_B : as specified in Pt 3, Ch 1, 124 of the Rules. In longitudinal framing system of Midship part of strength deck, it is to be $0.79/K$ or more.</p> <p>* : In deck plating having intermediate value of distance from fore end, C is to be determined by linear interpolation.</p>								

Present			Amendment			Note
Table 7.7.2 Wheel print length a and b			Table 7.7.2 Wheel print length a and b			
<div>Direction Wheel</div>	Wheel print length parallel to axle In Fig 7.7.2 , a in Case (I), b in Case (II)	Wheel print length right angle to axle In Fig 7.7.2 , a in Case (I), b in Case (II)	<div>Direction Wheel</div>	Wheel print length parallel to axle In Fig 7.7.2 , a in Case (I), b in Case (II) (*)	Wheel print length right angle to axle In Fig 7.7.2 , a in Case (I), b in Case (II) (*)	
Single tire	Tire width	$\frac{1}{20} \sqrt{P}$	Single tire	$\frac{20 \sqrt{P}}{P_0}$	$\frac{1}{20} \sqrt{P}$	
Double tire	2×tire width. Interval between tires, if any, may be added	$\frac{9}{250} \sqrt{P}$	Double tire	$\frac{250 \sqrt{P}}{9P_0}$	$\frac{9}{250} \sqrt{P}$	
P = as specified in Par 301. 1 (1)			P = as specified in Par 301. 1 (1) P_0 = maximum tire pressure in kN/m ² . Where the maximum tire pressure is not defined, it is as given by the following formula. $P_0 = C_P \sqrt{P} \quad (\text{kN/m}^2)$ $C_P = 120, \quad (P < 10 \text{ kN})$ $C_P = 250P^{-0.3}, \quad (P \geq 10 \text{ kN})$ For special vehicle, actual wheel print lengths are to be applied.			

Present	Amendment	Note
<p>(2) Where the distance between centres of wheel prints in a panel is less than $2S + a$ (See Fig 7.7.1)</p> $t = C \sqrt{\frac{2S - b'}{(2S + a + e)} \times \frac{nP}{9.81}} + 0.5 \quad (\text{mm})$ <p>e = sum of distances between centres of wheel prints in case where wheels are placed side by side at a spacing less than $2S + a$ (m) (See Fig 7.7.1)</p> <p>n = number of wheel loads in the range of e</p> <p>C, S, a, b' and P = as specified in (1)</p>	<p>(2) Where the distance between centres of wheel prints in a panel is less than $2S + a$ (See Fig 7.7.1)</p> $t = C \sqrt{\frac{2S - b'}{(2S + a + e)} \times \frac{nP}{9.81}} + 0.5, \quad t_{\min} = 5.0 \quad (\text{mm})$ <p>e = sum of distances between centres of wheel prints in case where wheels are placed side by side at a spacing less than $2S + a$ (m) (See Fig 7.7.1). <u>Where distance between centres of wheel prints is not defined, it is as given by the following formula.</u></p> <p>1) Wheel loads are applied as Fig 7.7.3</p> <p><u>For vehicles with two axles adjacent to each other, such as an extra-long axle cargo truck or dump truck, distance between centres of wheel prints is as given by the following formula.</u></p> $e = 1.0 \quad (\text{m})$ <p>2) Wheel loads are applied as Fig 7.7.4</p> <p><u>Distance between centres of wheel prints is as given by the following formula.</u></p> <p>e = wheel print length + distance between vehicles (m)</p> <p>n = number of wheel loads in the range of e</p> <p>C, S, a, b' and P = as specified in (1)</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Fig 7.7.3</p> </div> <div style="text-align: center;">  <p>Fig 7.7.4</p> </div> </div>	

Present	Amendment	Note																							
<p>2. Section modulus of vehicle deck beams</p> <p>Table 7.7.3 Coefficient C_2</p> <table border="1"> <tr> <th data-bbox="98 325 353 432"> <div>Vehicles</div> <div>Members</div> </th><th data-bbox="353 325 705 432">Vehicles exclusively used for cargo handling</th><th data-bbox="705 325 981 432">Other vehicles</th></tr> <tr> <td data-bbox="98 432 353 539">Longitudinal beams of strength decks in midship region</td><td data-bbox="353 432 705 539">$\frac{3.6K}{1-0.34f_DK}$</td><td data-bbox="705 432 981 539">$\frac{4.6K}{1-0.64f_DK}$</td></tr> <tr> <td data-bbox="98 539 353 587">Elsewhere</td><td data-bbox="353 539 705 587">$3.6K$</td><td data-bbox="705 539 981 587">$4.6K$</td></tr> <tr> <td colspan="3" data-bbox="98 587 981 662">f_D = as specified in Pt 3, Ch 1, 124. of the Rules. But, it is to be less than $0.79/K$</td></tr> </table>	<div>Vehicles</div> <div>Members</div>	Vehicles exclusively used for cargo handling	Other vehicles	Longitudinal beams of strength decks in midship region	$\frac{3.6K}{1-0.34f_DK}$	$\frac{4.6K}{1-0.64f_DK}$	Elsewhere	$3.6K$	$4.6K$	f_D = as specified in Pt 3, Ch 1, 124. of the Rules. But, it is to be less than $0.79/K$			<p>2. Section modulus of vehicle deck beams</p> <p>Table 7.7.3 Coefficient C_2</p> <table border="1"> <tr> <th data-bbox="1016 325 1335 432"> <div>Vehicles</div> <div>Members</div> </th><th data-bbox="1335 325 1617 432">Vehicles exclusively used for cargo handling</th><th data-bbox="1617 325 1877 432">Other vehicles</th></tr> <tr> <td data-bbox="1016 432 1335 612" rowspan="2">Longitudinal beam</td><td data-bbox="1335 432 1617 549">Midship part of strength deck (0.4L) <u>but, in no case is it to be less than 3.6</u></td><td data-bbox="1617 432 1877 549">$\frac{110.4K}{24-K\alpha}$ <u>but, in no case is it to be less than 4.6</u></td></tr> <tr> <td data-bbox="1335 549 1617 612">Fore and aft end part</td><td data-bbox="1617 549 1877 612">$4.6K$</td></tr> <tr> <td colspan="2" data-bbox="1016 612 1335 683">Elsewhere</td><td data-bbox="1617 612 1877 683">$4.6K$</td></tr> </table> <p>α : either α_1 or α_2 according to value of y. However, value of α is not to be less than β</p> $\alpha_1 = 15.36 f_D \left(\frac{y - y_B}{Y'} \right) \quad y_B \leq y$ $\alpha_2 = 15.36 f_B \left(\frac{y_B - y}{y_B} \right) \quad y_B > y$ <p>β : coefficient determined according to values of L as specified below:</p> <p>$\beta = 6/a$ when L is 230 m and under</p> <p>$\beta = 10.5/a$ when L is 400 m and above</p> <p>y : distance(m) from the top of keel to the lower edge of plating when the platings under consideration are under y_B and to the upper edge of plating when the platings under consideration are above y_B, respectively.</p> <p>Y' : the greater of the value specified in Pt 3, Ch 3, 203., (5) (a) or (b)</p> <p>a : \sqrt{K} when high tensile steels are used for not less than 80 % of side shell plating at the transverse section amidship and 1.0 for other parts.</p> <p>y_B : vertical distance from the top of keel at midship to the horizontal neutral axis of the athwartship section of hull (m).</p> <p>f_D, f_B : as specified in Pt 3, Ch 1, 124 of the Rules. In longitudinal framing system of Midship part of strength deck, it is to be $0.79/K$ or more.</p> <p>* : In deck plating having intermediate value of distance from fore end, C is to be determined by linear interpolation.</p>	<div>Vehicles</div> <div>Members</div>	Vehicles exclusively used for cargo handling	Other vehicles	Longitudinal beam	Midship part of strength deck (0.4L) <u>but, in no case is it to be less than 3.6</u>	$\frac{110.4K}{24-K\alpha}$ <u>but, in no case is it to be less than 4.6</u>	Fore and aft end part	$4.6K$	Elsewhere		$4.6K$	
<div>Vehicles</div> <div>Members</div>	Vehicles exclusively used for cargo handling	Other vehicles																							
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GUIDANCE RELATING TO RULES FOR CLASSIFICATION OF STEEL SHIPS

(Development Review : External Opinion Inquiry)

Part 1 Classification and Survey

2022. 01.



Machinery Rule Development Team

– Main Amendments –

(1) Reflecting Request for Revision of Classification Technical Rules

- ULS4800–434–2021 : to add notation(Reliance and GCU) for ships fitted with LPG dual fuel diesel engine
- ENP4800–4688–2021 :to add notation(DFDE) for ships fitted with LPG dual fuel diesel engine

Present	Amendment	Reason																
<p style="text-align: center;">〈ANNEX〉</p> <p style="text-align: center;">Annex 1-1 Character of Classification</p> <p>1. Class Notation</p> <p>1.1 Ship Type and Special Feature Notations</p> <table><tr><th>Additional Special Feature Notations</th><th>Relevant Requirements</th></tr><tr><td colspan="2" style="text-align: center;"><newly added></td></tr><tr><td>LNG Ready D</td><td>to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 2</u> of the Guidance for LNG Fuel Ready Ships.</td></tr><tr><td>LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)</td><td>to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships</td></tr></table>	Additional Special Feature Notations	Relevant Requirements	<newly added>		LNG Ready D	to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 2</u> of the Guidance for LNG Fuel Ready Ships.	LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)	to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships	<p style="text-align: center;">〈ANNEX〉</p> <p style="text-align: center;">Annex 1-1 Character of Classification</p> <p>1. Class Notation</p> <p>1.1 Ship Type and Special Feature Notations</p> <table><tr><th>Additional Special Feature Notations</th><th>Relevant Requirements</th></tr><tr><td><u>LNG Ready D(A)</u></td><td><u>to ships for which the concept Design is prepared in accordance with Ch 2, Sec 2 of the Guidance for LNG Fuel Ready Ships.</u></td></tr><tr><td>LNG Ready D</td><td>to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships.</td></tr><tr><td>LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)</td><td>to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 4</u> of the Guidance for LNG Fuel Ready Ships</td></tr></table>	Additional Special Feature Notations	Relevant Requirements	<u>LNG Ready D(A)</u>	<u>to ships for which the concept Design is prepared in accordance with Ch 2, Sec 2 of the Guidance for LNG Fuel Ready Ships.</u>	LNG Ready D	to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships.	LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)	to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 4</u> of the Guidance for LNG Fuel Ready Ships	<p>— to newly add ‘LNG Ready D(A)’ for ships preparing LNG fueled ship concept design of AIP level.</p>
Additional Special Feature Notations	Relevant Requirements																	
<newly added>																		
LNG Ready D	to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 2</u> of the Guidance for LNG Fuel Ready Ships.																	
LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)	to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships																	
Additional Special Feature Notations	Relevant Requirements																	
<u>LNG Ready D(A)</u>	<u>to ships for which the concept Design is prepared in accordance with Ch 2, Sec 2 of the Guidance for LNG Fuel Ready Ships.</u>																	
LNG Ready D	to ships for which the generic Design is prepared in accordance with Ch 2, <u>Sec 3</u> of the Guidance for LNG Fuel Ready Ships.																	
LNG Ready I (SR, FT, TV, FS, BS, ME, AE, B, ME-C, AE-C, B-C) (2017)	to ships for which parts of the systems are installed with the detailed design in accordance with Ch 2, <u>Sec 4</u> of the Guidance for LNG Fuel Ready Ships																	

Present	Amendment	Reason																
<div>〈ANNEX〉</div> <div>Annex 1–1 Character of Classification</div> <div>1. Class Notation</div> <div>1.1 <omitted></div> <div>1.2 Additional Installations Notations</div> <div>The following Additional Installations Notations may be appended to ships complying with the relevant requirements.</div> <table><tr><th>Additional Installations Notations</th><th>Relevant Requirements</th></tr><tr><td rowspan="5">Machinery Items</td><td><omitted></td></tr><tr><td>GCU to <u>liquefied natural gas carriers</u> where the Gas Combustion Unit for disposal of <u>boil-off gas</u> specified in Pt 7, Ch 5, 701. 1 of the Guidance is provided onboard.</td></tr><tr><td>Reliquefaction to <u>liquefied natural gas carriers</u> where the Reliquefaction Plant of methane specified in Pt 7, Ch 5, 703. 2 of the Guidance is provided onboard.</td></tr><tr><td>DFDE to <u>liquefied natural gas carriers</u> where the Dual-fuel Diesel Engine <u>utilizing methane gas</u> specified in Pt 7, Ch 5, 1607. of the Guidance is provided onboard.</td></tr><tr><td><omitted></td></tr></table>	Additional Installations Notations	Relevant Requirements	Machinery Items	<omitted>	GCU to <u>liquefied natural gas carriers</u> where the Gas Combustion Unit for disposal of <u>boil-off gas</u> specified in Pt 7, Ch 5, 701. 1 of the Guidance is provided onboard.	Reliquefaction to <u>liquefied natural gas carriers</u> where the Reliquefaction Plant of methane specified in Pt 7, Ch 5, 703. 2 of the Guidance is provided onboard.	DFDE to <u>liquefied natural gas carriers</u> where the Dual-fuel Diesel Engine <u>utilizing methane gas</u> specified in Pt 7, Ch 5, 1607. of the Guidance is provided onboard.	<omitted>	<div>〈ANNEX〉</div> <div>Annex 1–1 Character of Classification</div> <div>1. Class Notation</div> <div>1.1 <same as the present Guidance></div> <div>1.2 Additional Installations Notations</div> <div>The following Additional Installations Notations may be appended to ships complying with the relevant requirements.</div> <table><tr><th>Additional Installations Notations</th><th>Relevant Requirements</th></tr><tr><td rowspan="5">Machinery Items</td><td><same as the present Guidance></td></tr><tr><td>GCU to <u>ships carrying liquified gas in bulk</u> where the Gas Combustion Unit for disposal of <u>cargo vapour</u> specified in Pt 7, Ch 5, 701. 1 of the Guidance is provided onboard.</td></tr><tr><td>Reliquefaction to <u>ships carrying liquified gas in bulk</u> where the Reliquefaction Plant of <u>cargo vapour</u> specified in Pt 7, Ch 5, 703. 2 of the Guidance is provided onboard.</td></tr><tr><td>DFDE (LNG, LPG) (2021) to <u>ships carrying liquified gas in bulk</u> where the Dual-fuel Diesel Engine <u>utilizing methane gas</u> specified in Pt 7, Ch 5, 1607. or Annex 7A–5, 207. 4 of the Guidance is provided onboard.</td></tr><tr><td><same as the present Guidance></td></tr></table>	Additional Installations Notations	Relevant Requirements	Machinery Items	<same as the present Guidance>	GCU to <u>ships carrying liquified gas in bulk</u> where the Gas Combustion Unit for disposal of <u>cargo vapour</u> specified in Pt 7, Ch 5, 701. 1 of the Guidance is provided onboard.	Reliquefaction to <u>ships carrying liquified gas in bulk</u> where the Reliquefaction Plant of <u>cargo vapour</u> specified in Pt 7, Ch 5, 703. 2 of the Guidance is provided onboard.	DFDE (LNG, LPG) (2021) to <u>ships carrying liquified gas in bulk</u> where the Dual-fuel Diesel Engine <u>utilizing methane gas</u> specified in Pt 7, Ch 5, 1607. or Annex 7A–5, 207. 4 of the Guidance is provided onboard.	<same as the present Guidance>	<div>to added GCU, Reliquefaction and DFDE notations for LPG carrier</div>
Additional Installations Notations	Relevant Requirements																	
Machinery Items	<omitted>																	
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	<same as the present Guidance>																	

Amendments of the Guidance

Pt.7 Ships of Special Services



2021. 04

Hull Rule Development Team

Pt.7 Ships of Special Service -1

Present	Amendment	Note
<p style="text-align: center;">〈Guidance〉</p> <p style="text-align: center;">Annex 7-2 Guidance for the Container Securing Arrangements</p> <p>1. ~ 7. 〈omit〉</p> <p>8. Determination and application of forces</p> <p>(1) ~ (4) 〈omit〉</p> <p>(5) Resultant forces in an lashed condition</p> <p>(A) 〈omit〉</p> <p>(B) The resultant forces in the containers are not to exceed the allowable values given in (6). ~ 〈omit〉</p> <p style="text-align: center;">δv_{\max} : <u>vertical separation</u> of twistlock between corner castings, generally 20 mm.</p> <p>Note 1 In case of fully automatic twistlocks, a functional test report should be submitted to the Society. Where the <u>vertical separation</u> on the test report exceeds 20 mm, the actual value should be applied.</p> <p style="text-align: center;">〈omit〉</p> <p>9. 〈omit〉</p>	<p style="text-align: center;">〈Guidance〉</p> <p style="text-align: center;">Annex 7-2 Guidance for the Container Securing Arrangements</p> <p>1. ~ 7. 〈same as current〉</p> <p>8. Determination and application of forces</p> <p>(1) ~ (4) 〈same as current〉</p> <p>(5) Resultant forces in an lashed condition</p> <p>(A) 〈same as current〉</p> <p>(B) 〈same as current〉</p> <p style="text-align: center;">δv_{\max} : <u>vertical clearance</u> of twistlock between corner castings, generally 20 mm. For a ship with HHS(High Holding Securing) or HHT(High Holding Twistlock) of additional special feature notation, it should be satisfied with the requirements(δv_{\max} =15mm) of Ch 3, 2504 or 2505 of 「Guidance for Approval of Manufacturing Process and Type Approval, etc.」 Also this can be applied to <u>calculation.</u> (2021)</p> <p>Note 1 In case of ~ <u>vertical clearance</u> on the ~</p> <p style="text-align: center;">〈same as current〉</p> <p style="text-align: center;">〈same as current〉</p> <p>9. 〈same as current〉</p>	

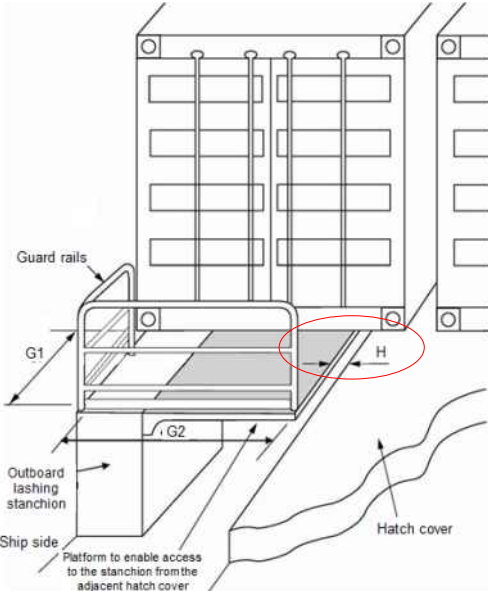
Present	Amendment	Note
<p style="text-align: center;">〈Guidance〉 Pt 7</p> <p style="text-align: center;">Ch 10 DOUBLE HULL TANKER</p> <p style="text-align: center;">Section 1 General</p> <p>102. Location and separation of spaces 【See Rule】</p> <p>1. <u>The size and arrangement of cargo oil tanks segregated ballast tanks are to comply with the requirements of MARPOL 1973/78 Annex 1 Reg. 19.</u></p>	<p style="text-align: center;">〈Guidance〉 Pt 7</p> <p style="text-align: center;">Ch 10 DOUBLE HULL TANKER</p> <p style="text-align: center;">Section 1 General</p> <p>102. Location and separation of spaces 【See Rule】</p> <p>1.</p> <p>(1) <u>The size and arrangement of cargo oil tanks and segregated ballast tanks are to comply with the requirements of MARPOL 1973/78 Annex 1 Reg. 18, 23, 24, 25, 26, 29, 31, 32.</u></p> <p>(2) <u>The arrangements of double sides hulls and double bottoms are to comply with the requirements of MARPOL 1973/78 Annex 1 Reg. 19.</u></p>	

Present	Amendment	Note
<p style="text-align: center;">〈Rules〉 – Pt 7</p> <p style="text-align: center;">Ch.1 OIL TANKERS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>1. The requirements in this Chapter apply to oil tankers which were contracted for construction after 1 April 2006, excluding the vessels which should be applied Pt 13 (Common Structural Rules for Bulk Carriers and Oil Tankers) and Ch 10 (Double Hull Tanker). ~</p> <p style="text-align: center;">CHAPTER 3 BULK CARRIERS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>2. The requirements in this Chapter <u>are not applied</u> to bulk carriers which were contracted for construction after 1 April 2006 <u>according to Pt 13</u> (Common Structural Rules for Bulk Carriers and Oil Tankers). ~</p> <p style="text-align: center;">CHAPTER 10 DOUBLE HULL TANKER</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>1. The requirements in this Chapter apply to double hull oil tankers which were contracted for construction after 1 April 2006, excluding the vessels which should be applied Pt 13 (Common Structural Rules for Bulk Carriers and Oil Tankers).</p>	<p style="text-align: center;">〈Rules〉 – Pt 7</p> <p style="text-align: center;">Ch.1 OIL TANKERS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>1. The requirements in this Chapter apply to oil tankers which were contracted for construction <u>on or</u> after 1 April 2006, excluding the vessels which should be applied Pt 13 (Common Structural Rules for Bulk Carriers and Oil Tankers) and Ch 10 (Double Hull Tanker). ~</p> <p style="text-align: center;">CHAPTER 3 BULK CARRIERS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>2. The requirements in this Chapter <u>apply</u> to bulk carriers which were contracted for construction <u>on or</u> after 1 April 2006, <u>excluding the vessels which should be applied</u> Pt 13 (Common Structural Rules for Bulk Carriers and Oil Tankers). ~</p> <p style="text-align: center;">CHAPTER 10 DOUBLE HULL TANKER</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>1. The requirements in this Chapter apply to double hull oil tankers which were contracted for construction <u>on or</u> after 1 April 2006, excluding the vessels which should be applied Pt 13 (Common Structural Rules for Bulk Carriers and Oil Tankers).</p>	

Present	Amendment	Note
<p style="text-align: center;">CHAPTER 4 CONTAINER SHIPS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>6. For container ships contracted for construction on or after July 1, 2018, <u>the requirements in Pt 14 Structural Rules for Container Ships are applied.</u> (2021)</p>	<p style="text-align: center;">CHAPTER 4 CONTAINER SHIPS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Guidance】</p> <p>6. <u>The requirements in this Chapter apply to container ships which were</u> contracted for construction on or after 1 July 2018, <u>excluding the vessels which should be applied</u> Pt 14 Structural Rules for Container Ships. (2022)</p>	

Present	Amendment	Note
<p style="text-align: center;">〈Guidance〉 – Pt 7</p> <p style="text-align: center;">CHAPTER 4 CONTAINER SHIPS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Rule】</p> <p>In application to 101. 4 of the Rules, the term "discretion of the Society" means to comply with the direct strength calculation specified in Pt 3, Ch 1, 206. of the Rules, or to accept in accordance with Pt 1, Ch 1, 104. of the Guidance.</p>	<p style="text-align: center;">〈Guidance〉 – Pt 7</p> <p style="text-align: center;">CHAPTER 4 CONTAINER SHIPS</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application 【See Rule】</p> <p>1. In application to 101. 4 of the Rules, the term "discretion of the Society" means to comply with the direct strength calculation specified in Pt 3, Ch 1, 206. of the Rules, or to accept in accordance with Pt 1, Ch 1, 104. of the Guidance.</p> <p>2. <u>In application to 101. 6 of the Rules, the requirements in this Chapter may be applied to a vessel recognized as a sister-ship or where the Society specifically recognizes them. (2022)</u></p>	<p>-HUC4100-1821 -2021</p>

Present		Note
<p style="text-align: center;">Annex 7-11 Guidance on Providing Safe Working Conditions for Securing of Containers on Deck (2019)</p> <p>1. ~ 2. <omission></p> <p>3. Design requirements</p> <p>(1) ~ (2) <omission></p> <p>(3) Working area (A) ~ (D) <omission> (E) Platforms should be provided on the end of hatches and outboard lashing positions. Platforms on the end of hatches and outboard lashing positions should preferably be at the same level as the top of the hatch covers. The gap between such platforms and adjacent hatch covers should not exceed 90 mm. (F) ~ (H) <omission></p> <p>(4) Fencing design (A) ~ (D) <omission> (E) At positions where movable fencings are arranged due to stowage of containers, e.g., lashing platform above outboard stanchions at 20' container gap end, see Fig 3 for illustration, <u>an alternative arrangement of the lower two courses may be accepted by the Society, as necessary, taking position of container securing device into consideration.</u></p> <p>(5) Access openings (A) Access openings in working area with a potential should be either protected by fencing in accordance with (4)(D) or possible to be closed by access covers. (2020) (B) <u>Access openings in transit area with a potential fall of 2.0 m or more should be avoided, unless they are protected by fencing in accordance with (4)(D).</u> (C) ~ (D) <omission></p>	<p style="text-align: center;">Annex 7-11 Guidance on Providing Safe Working Conditions for Securing of Containers on Deck (2022)</p> <p>1. ~ 2. <omission></p> <p>3. Design requirements</p> <p>(1) ~ (2) <omission></p> <p>(3) Working area (A) ~ (D) <omission> (E) Platforms should be provided on the end of hatches and outboard lashing positions. Platforms on the end of hatches and outboard lashing positions should preferably be at the same level as the top of the hatch covers. (2022)</p> <p>(F) ~ (H) <omission></p> <p>(4) Fencing design (A) ~ (D) <omission> (E) <u>An alternative arrangement of the lower two courses may be accepted by the Society, as necessary, taking position of container securing device into consideration. (2022)</u></p> <p>(5) Access openings (A) Access openings in working area with a potential should be either protected by fencing in accordance with (4)(D) or possible to be closed by access covers. (2020) (B) <u>Openings that are necessary for the operation of the ship, which are not protected by fencing, should be closed during cargo securing work. Any necessarily unprotected openings in work platforms (i.e. those with a potential fall of less than 2 m), and gaps and apertures on deck should be properly highlighted. (2022)</u> (C) ~ (D) <omission></p>	

Present		Note
<p>(6) Ladders</p> <p>(A) Where a fixed ladder gives access to the outside boundary of a working area, the stringers should be connected at their extremities to the guardrails of the working area, irrespective of whether the ladder is sloping or vertical. The stringers of shell also be opened above the working area level to give a <u>minimum clear width of 700 mm</u> to enable a person to pass through the stringers.</p> <p>(B) ~ (G) <omission></p> <p>(7) ~ (9) <omission></p> <p style="text-align: right;">↓</p>	<p>(6) Ladders</p> <p>(A) Where a fixed ladder gives access to the outside boundary of a working area, the stringers should be connected at their extremities to the guardrails of the working area, irrespective of whether the ladder is sloping or vertical. The stringers of shell also be opened above the working area level to give a <u>clear width of 700 ~ 750 mm</u> to enable a person to pass through the stringers. (2022)</p> <p>(B) ~ (G) <omission></p> <p>(7) ~ (9) <omission></p> <p style="text-align: right;">↓</p> <p>fig. 3 modify (K/E) 'H' delete 'G1, G2' → 'GL, GT'</p>  <p style="text-align: center;">그림 3 Lashing platforms on outboard stanchions</p>	