Corrigenda for 2024 Classification Technical Rules

* Please note that this corrigenda is for the printed version of the 2024 Classification Technical Rules, and the PDF files posted on the website have been corrected.

Present	Amendment	Error

〈Notation Guide〉

2-1 SHIP TYPE - SPECIAL FEATURE NOTATIONS

2-1. Liquefied Gas Carrier

Ship Type Notations	Special Feature Notations				
	Type of Ship	Type of Tank	Transportation Mode		
Liquefied Gas Carrier	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C 1NV	(R) (P) (RP)		
	LPG				

NOTATIONS (Special Feature Notations - Type of Tank)

2I
3M
3S
1A
1B
1C
1NV

1NV : Independent tank Novel Configuration

〈Notation Guide〉

2-1 SHIP TYPE - SPECIAL FEATURE NOTATIONS

2-1. Liquefied Gas Carrier

Ship Type Notations	Special Feature Notations				
	Type of Ship	Type of Tank	Transportation Mode		
Liquefied Gas Carrier	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C NV	(R) (P) (RP)		
	LPG				

NOTATIONS (Special Feature Notations - Type of Tank)

2I
3M
3S
1A
1B
1C
NV

NV : Independent tank Novel Configuration

Present	Amendment	Error

REQUIREMENTS / RULE REFERENCES

Notations	Design	Survey
2I	Pt 7 Ch 5 Ch 4	-
3M	Pt 7 Ch 5 Ch 4	-
3S	Pt 7 Ch 5 Ch 4	-
1A	Pt 7 Ch 5 Ch 4	-
1B	Pt 7 Ch 5 Ch 4	-
1C	Pt 7 Ch 5 Ch 4	-
1NV	Pt 7 Ch 5 Ch 4, Annex 7A-7	-

8.3 Oil/Liquefied Gas Carrier

Ship Type Notations	Special Feature Notations					
		Liquefied Gas Carrier				
Oil/Liquefied Gas Carrier 'ESP' (Double Hull) (Double Hull)(EXP) (FAC) (FAO) (FBC) (CSR)		A	B	(C)		
		1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C NV	(R) (P) (RP)		

REQUIREMENTS / RULE REFERENCES

Notations	Design	Survey
2I	Pt 7 Ch 5 Ch 4	-
3M	Pt 7 Ch 5 Ch 4	-
3S	Pt 7 Ch 5 Ch 4	-
1A	Pt 7 Ch 5 Ch 4	-
1B	Pt 7 Ch 5 Ch 4	-
1C	Pt 7 Ch 5 Ch 4	-
NV	Pt 7 Ch 5 Ch 4, Annex 7A-7	-

8.3 Oil/Liquefied Gas Carrier

Ship Type Notations	Special Feature Notations					
		Liquefied Gas Carrier				
Oil/Liquefied Gas Carrier 'ESP' (Double Hull) (Double Hull)(EXP) (FAC) (FAO) (FBC) (CSR)		A	B	(C)		
		1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C NV	(R) (P) (RP)		

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NOTATIONS (Special Feature Notations – Type of Tank)

2I
3M
3S
1A
1B
1C
1NV

1NV : Independent tank Novel Configuration

REQUIREMENTS / RULE REFERENCES

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<tr><th>Notations</th><th>Design</th><th>Survey</th></tr>
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<tr><td>3S</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1A</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1B</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1C</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1NV</td><td>Pt 7 Ch 5 Ch 4, Annex 7A-7</td><td>–</td></tr>
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NOTATIONS (Special Feature Notations – Type of Tank)

2I
3M
3S
1A
1B
1C
NV

NV : Independent tank Novel Configuration

REQUIREMENTS / RULE REFERENCES

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<tr><th>Notations</th><th>Design</th><th>Survey</th></tr>
<tr><td>2I</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
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<tr><td>3S</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1A</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1B</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>1C</td><td>Pt 7 Ch 5 Sec 4</td><td>–</td></tr>
<tr><td>NV</td><td>Pt 7 Ch 5 Ch 4, Annex 7A-7</td><td>–</td></tr>
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</td>
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Present

2-2 Remarks of SHIP TYPE - SPECIAL FEATURE NOTATIONS

2-1. Liquefied Gas Carrier

Ship Types (3-1)	Special Feature Notations A	B	(C)	D and/or P		Remarks
2-1. Liquefied Gas Carrier *(2017)*	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C 1NV	(R) (P) (RP)	Maximum Vapour Pressure, Minimum Temperature and Specific Gravity (SG)		
				Name of Liquefied Gas primarily carried		

Annex 1 Written Examples of Class Notations

2. Written Examples of Ship Types

2.2 Liquefied Gas Carrier

B

means type of tank to be determined by "cargo containment" specified in P Rules.

Tank Type	Symbol	Contents
Independent Tank Type Novel Configuration	1NV	(1) (2)
(NOTES)		

Amendment

2-2 Remarks of SHIP TYPE - SPECIAL FEATURE NOTATIONS

2-1. Liquefied Gas Carrier

Ship Types (3-1)	Special Feature Notations A	B	(C)	D and/or P		Remarks
2-1. Liquefied Gas Carrier *(2017)*	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C NV	(R) (P) (RP)	Maximum Vapour Pressure, Minimum Temperature and Specific Gravity (SG)		
				Name of Liquefied Gas primarily carried		

Annex 1 Written Examples of Class Notations

2. Written Examples of Ship Types

2.2 Liquefied Gas Carrier

B

means type of tank to be determined by "cargo containment" specified in P Rules.

Tank Type	Symbol	Contents
Independent Tank Type Novel Configuration	NV	(1) (2)
(NOTES)		

Error

PART 1

Present	Amendments	Reason
⟨Guidance Part 1⟩ **Annex 1-12 Hull Survey for Classification Survey during Construction** **Table 1 Hull Surveyable Items Activities Table** **< Supplement of Table 1 >** – Prior to commencement of survey for any newbuilding project, the Society is to discuss with the shipbuilder at a kick off meeting the items listed in **Table 1**. The purpose of the meeting is to review and agree how the list of specific activities shown in **Table 1** is to be addressed. The meeting is to take into account the shipbuilder's construction facilities and ship type including the list of proposed subcontractors. <omitted> – In the event of series ship production*, the requirement for a kick off meeting may be waived for the second and subsequent ships provided that no changes to the specific activities agreed in the kick off meeting for the first ship are introduced. If any changes are introduced, these are to be agreed in a new dedicated meeting and documented in a record of such meeting. * Series Ship: See **Pt 1, Ch 1,** 309. of the Rules.	⟨Guidance Part 1⟩ **Annex 1-12 Hull Survey for Classification Survey during Construction** **Table 1 Hull Surveyable Items Activities Table** **< Supplement of Table 1 >** – Prior to commencement of survey for any newbuilding project, the Society is to discuss with the shipbuilder at a kick off meeting the items listed in **Table 1**. The purpose of the meeting is to review and agree how the list of specific activities shown in **Table 1** is to be addressed. The meeting is to take into account the shipbuilder's construction facilities and ship type including the list of proposed subcontractors. <same as the current Guidance> – In the event of series ship production*, the requirement for a kick off meeting may be waived for the second and subsequent ships provided that no changes to the specific activities agreed in the kick off meeting for the first ship are introduced. If any changes are introduced, these are to be agreed in a new dedicated meeting and documented in a record of such meeting. * Series Ship: See **Pt 1, Ch 1,** 101. 5. ~~309.~~ of the Rules.	-At the request of the Survey Team's letter(SUR3000-582-2024) on April 24 2024.

Present	Amendment	Note
〈Rules〉 Pt 1	〈Rules〉 Pt 1	
CHAPTER 3 HULL SURVEYS OF SHIPS ~	**CHAPTER 3 HULL SURVEYS OF SHIPS ~**	
Section 2 Bulk Carries	**Section 2 Bulk Carries**	
202. Annual Survey	**202. Annual Survey**	
3. Examination of weather decks, hatch covers and coamings	**3. Examination of weather decks, hatch covers and coamings**	
(4) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Society. Where hatch covers or coamings undergo substantial repairs, the strength of securing devices should be upgraded to comply with Rules **Pt 7, Ch 3, Sec 9, 905.** "Securing arrangements". *(2019)*	(4) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Society. Where hatch covers or coamings undergo substantial repairs, the strength of securing devices should be upgraded to comply with Rules Pt 4, Ch 2, Sec 5. *(2019)*	
Section 6 Double Skin Bulk Carriers	**Section 6 Double Skin Bulk Carriers**	
602. Annual Survey	**602. Annual Survey**	
3. Examination of weather deck, hatch covers and coamings	**3. Examination of weather deck, hatch covers and coamings**	
(4) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Society. Where hatch covers or coamings undergo substantial repairs, the strength of securing devices should be upgraded to comply with Rules **Pt 7, Ch 3, Sec 9, 905.** "Securing arrangements". *(2019)*	(4) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Society. Where hatch covers or coamings undergo substantial repairs, the strength of securing devices should be upgraded to comply with Rules Pt 4, Ch 2, Sec 5.. *(2019)*	

Present	Amendment	Note
〈Guidance〉 Pt 1 **Annex 1-5 Thickness Measurement Method for Hull Structural Members** **2. Wear Limit** (3) Wear limit of hold hatch cover of bulk carriers which are contracted for construction after 1st July 1998 and before 1st January 2004 and designed by the Rules **Pt 7, Ch 3, Sec 9** is to be determined in accordance with the following requirements. (4) Wear limit of hold hatch cover and hatch coatings of all bulk carriers, ore carriers and combination carriers which are contracted for construction on or after 1st January 2004 and designed by the Rules **Pt 7, Ch 3, Sec 9** is to be determined in accordance with the following requirements.	〈Guidance〉 Pt 1 **Annex 1-5 Thickness Measurement Method for Hull Structural Members** **2. Wear Limit** (3) Wear limit of hold hatch cover of bulk carriers which are contracted for construction after 1st July 1998 and before 1st January 2004 and designed by the Rules Pt 4, Ch 2 is to be determined in accordance with the following requirements. (4) Wear limit of hold hatch cover and hatch coatings of all bulk carriers, ore carriers and combination carriers which are contracted for construction on or after 1st January 2004 and designed by the Rules Pt 4, Ch 2 is to be determined in accordance with the following requirements.	

Present	Amendments	Reason
〈GUIDANCE PART 1〉 **CHAPTER 2 PERIODICAL AND OTHER SURVEYS** **Section 1 General** **112. Thickness measurements Acceptance Criteria *(2019)*** The acceptance criteria for thickness measurements are according to **Annex 1-5, Table 1** and/or specific IACS URs depending on ship's age and structural elements concerned, e.g. UR S21A(UR S21A applies for ships contracted for construction on or after 1 July 2012, Rev.1 of UR S21A applies for ships contracted for construction on or after 1 July 2016.) for all cargo hatch covers and coamings on exposed decks **Section 6 Docking Survey** **604. In-water Survey** **3.** Where an In-water Survey in lieu of the intermediate docking between Special Surveys is desired, the survey procedures are as follows: (8) For a ship with IWS of additional special feature notation, the following requirements are to be complied with, in addition to the requirements specified in preceding (1) to (7). *(2023)* (a) The plans and documents specified in (1) and (b) to (d) below are to be submitted to the Society for approval, and are to be kept on board.	**〈GUIDANCE PART 1〉** **CHAPTER 2 PERIODICAL AND OTHER SURVEYS** **Section 1 General** **112. Thickness measurements Acceptance Criteria *(2024)*** The acceptance criteria for thickness measurements are according to **Annex 1-5, Table 1** and/or specific IACS URs depending on ship's age and structural elements concerned, e.g. UR S21(UR S21 Rev.6 applies for ships contracted for construction on or after 1 July 2024) or UR S21A(UR S21A applies for ships contracted for construction on or after 1 July 2012, Rev.1 of UR S21A applies for ships contracted for construction on or after 1 July 2016. UR S21A was withdrawn from 1 July 2024 and replaced by UR S21 Rev.6) for all cargo hatch covers and coamings on exposed decks **Section 6 Docking Survey** **604. In-water Survey** **3.** Where an In-water Survey in lieu of the intermediate docking between Special Surveys is desired, the survey procedures are as follows: (8) For a ship with IWS of additional special feature notation, the following requirements are to be complied with, in addition to the requirements specified in preceding (1) to (7). *(2023)* (a) The plans and documents specified in (1) and (b) to (c) ~~(d)~~ below are to be submitted to the Society for approval, and are to be kept on board.	- Reflection to IACS UR Z7 (Rev.29 Corr. 1 May 2024) & UR Z7.1 (Rev.15 Corr. 1 May 2024) - Typo : 화물선팀에서 메일로 식별해옴 on 3rd June 2024.

Present	Amendments	Reason
CHAPTER 3 HULL SURVEYS OF SHIPS SUBJECT TO THE ENHANCED SURVEY PROGRAMME **Section 6 Double Skin Bulk Carriers** **602. Annual Survey** **7. Examination of double-side skin void spaces for bulk carriers exceeding 20 years of age and of 150 m in length and upwards *(2024)*** Examination of double-side skin void spaces, for bulk carriers exceeding 20 years of age and of 150 m in length and upwards, are to be carried out when required as a consequence of the results of the Special Survey (as required by **604. 2.** (4)) and Intermediate Survey (as required by **603. 1.** (4) (a)). When considered necessary by the Administration, or when extensive corrosion exists, thickness measurements should be carried out.	**CHAPTER 3 HULL SURVEYS OF SHIPS SUBJECT TO THE ENHANCED SURVEY PROGRAMME** **Section 6 Double Skin Bulk Carriers** **602. Annual Survey** **7. Examination of double-side skin void spaces for bulk carriers exceeding 20 years of age and of 150 m in length and upwards *(2024)*** Examination of double-side skin void spaces, for bulk carriers exceeding 20 years of age and of 150 m in length and upwards, are to be carried out when required as a consequence of the results of the Special Survey (as required by **604. 2.** (4)) and Intermediate Survey (as required by **603. 1.** (4) (a)). When considered necessary by the Surveyor ~~Administration~~, or when extensive corrosion exists, thickness measurements should be carried out.	- Typo : KR Survey Panel Member와 협의됨 (English only)

Present	Amendments	Reason
# 〈Guidance Pt.1〉 ## Annex 1-17 Laid-up and recommissioning of ships *(2018)* ### Section 2 Surveys **203. Issue of Laid-up attestation** **1.** Where issue of Laid-up attestation is requested by the Owner in accordance with of **Ch 2, 105. 5** of Rules, Laid-up attestation may be issued provided that the laid up condition is in satisfactory after laid-up survey. At the laid-up survey, it is to verify that the safety conditions, preservation measures, laid-up site and mooring arrangements are in accordance with the program approved by the Society in accordance with of **Sec 3**. ### Section 3 Laid-up Maintenance Program **301. General** This Section provides detail contents for the laid-up maintenance program required in **Ch 2, 105. 2** of the Rules.	# 〈Guidance Pt.1〉 ## Annex 1-17 Laid-up and recommissioning of ships *(2018)* ### Section 2 Surveys **203. Issue of Laid-up attestation** **1.** Where issue of Laid-up attestation is requested by the Owner in accordance with of **Ch 2, 106. 5** of Rules, Laid-up attestation may be issued provided that the laid up condition is in satisfactory after laid-up survey. At the laid-up survey, it is to verify that the safety conditions, preservation measures, laid-up site and mooring arrangements are in accordance with the program approved by the Society in accordance with of **Sec 3**. ### Section 3 Laid-up Maintenance Program **301. General** This Section provides detail contents for the laid-up maintenance program required in **Ch 2, 106. 5** of the Rules.	-At the request of the Domestic Business Development Team by phone on 27 Sep 2024. : typo : 105. → 106. : 105. 2 → 106. 5

Present	Amendments	Reason
⟨RULE PART 1⟩ CHAPTER 1 CLASSIFICATION Section 9 Suspension/Withdrawal of Class and Reclassification **901. Suspension/Reinstatement of class** **7.** When a vessel is intended for a single voyage from laid-up position to repair yard with any periodical survey overdue, the vessel's class suspension may be held in abeyance and consideration may be given to allow the vessel to proceed on a single direct ballast voyage from the site of lay up to the repair yard, provided the Society finds the vessel in satisfactory condition after surveys, the extent of which are to be based on surveys overdue and duration of lay-up. A Conditional Certificate of Classification with conditions for the intended voyage may be issued. This is not applicable to vessels whose class was already suspended prior to being laid-up. *(2020)*	⟨RULE PART 1⟩ CHAPTER 1 CLASSIFICATION Section 9 Suspension/Withdrawal of Class and Reclassification **901. Suspension/Reinstatement of class** **7.** When a vessel is intended for a single voyage from laid-up position to a repair yard or another place of lay-up with any periodical survey overdue, the vessel's class suspension may be held in abeyance and consideration may be given to allow the vessel to proceed on a single direct ballast voyage from the site of lay up to a repair yard or another place of lay-up, provided the Society finds the vessel in satisfactory condition after surveys, the extent of which are to be based on surveys overdue and duration of lay-up. A Conditional Certificate of Classification with conditions for the intended voyage may be issued. This is not applicable to vessels whose class was already suspended prior to being laid-up. *(2020)*	- At the request of the Survey Team by phone on 10 Oct. 2024. : English only

Present

〈Guidance Pt 1〉

Annex 1-1 Class Notations

1. Class Notations

1.1 Ship Type and Special Feature Notations

Ship Types	Special Feature Notations					Remarks
	A	B	(C)	D and/or P	IMO Code[5]	
2-1. Liquefied Gas Carrier *(2022)*	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C **1NV**	(R) (P) (RP)	Maximum Vapour Pressure, Minimum Temperatureand Specific Gravity(SG)	(NIGC) (IGC) (GC) (GCX)	〈omitted〉
				Name of Liquefied Gas primarily carried *(2024)*		
	LPG[4]					

Amendments

〈Guidance Pt 1〉

Annex 1-1 Class Notations

1. Class Notations

1.1 Ship Type and Special Feature Notations

Ship Types	Special Feature Notations					Remarks
	A	B	(C)	D and/or P	IMO Code[5]	
2-1. Liquefied Gas Carrier *(2022)*	1G 2G 2PG 3G	2I 3M 3S 1A 1B 1C **NV**	(R) (P) (RP)	Maximum Vapour Pressure, Minimum Temperatureand Specific Gravity(SG)	(NIGC) (IGC) (GC) (GCX)	〈same as the current Guidance〉
				Name of Liquefied Gas primarily carried *(2024)*		
	LPG[4]					

Reason

- In accordance with the letter HRT4700-164-2024 on 15 Oct. 2024

1NV → NV
: Because it may not be independent tanks.

Present	Amendments	Reason
〈Guidance Pt 1〉 **Annex 1-16 Procedures for Testing Tanks and Tight Boundaries *(2018)*** **PART B - SOLAS Exempt/Equivalent Ships *(2024)*** **2. Application** (6) Where the structural adequacy of the tanks and spaces of a vessel were verified by the structural testing required by either **PART A** or **PART B 2.** (3), subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that: *(2024)* (A) water-tightness of boundaries of all tanks and spaces are verified by leak tests and thorough inspections are carried out. (B) structural testing is carried out for at least one tank or space of "each type" among all tanks/spaces of each sister vessel. Note : The expression of "each type" refers to the purpose of the tanks given in each row of Table 3.1.1 where the structural testing is required. **PART C - Non-SOLAS Ships *(2024)*** **2. APPLICATION** (3) The requirements given in Table 3.1.1 of **PART A** to structurally test tanks to 2.4 m above the top of the tank do not apply. Instead, the minimum test pressure for structural testing is to be taken as 0.3D + 0.76 m above the top of the tank where the top of the tank is the deck forming the top of the tank, excluding any hatchways and D is the depth of the ship. The minimum test pressure need not be taken greater than 2.4 m above the top of the tank.	**〈Guidance Pt 1〉** **Annex 1-16 Procedures for Testing Tanks and Tight Boundaries *(2018)*** **PART B - SOLAS Exempt/Equivalent Ships *(2024)*** **2. Application** (6) Where the structural adequacy of the tanks and spaces of a vessel were verified by the structural testing required by either **PART A** or **PART B 2.** (3), subsequent vessels in the series (i.e. sister ships built from the same plans at the same shipyard) may be exempted from structural testing of tanks, provided that: *(2024)* (A) water-tightness of boundaries of all tanks and spaces are verified by leak tests and thorough inspections are carried out. (B) structural testing is carried out for at least one tank or space of "each type" among all tanks/spaces of each sister vessel. Note : The expression of "each type" refers to the purpose of the tanks given in each row of **Table** ~~3.1.1~~ 1 where the structural testing is required. **PART C - Non-SOLAS Ships *(2024)*** **2. APPLICATION** (3) The requirements given in **Table** ~~3.1.1~~ 1 of **PART A** to structurally test tanks to 2.4 m above the top of the tank do not apply. Instead, the minimum test pressure for structural testing is to be taken as 0.3D + 0.76 m above the top of the tank where the top of the tank is the deck forming the top of the tank, excluding any hatchways and D is the depth of the ship. The minimum test pressure need not be taken greater than 2.4 m above the top of the tank.	- Typo 3.1.1 → 1

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〈Guidance Part 1 〉

Pt1 Classification and Surveys

Annex 1-1 Class Notations

1.2 Additional Installations Notations

<table>
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<tr><td>PMS-CBM (2022)</td><td>[Same]</td></tr>
<tr><td>STCM (2017)</td><td>[Same]</td></tr>
<tr><td>[New]</td><td></td></tr>
<tr><td>DPS(0), DPS(1),...</td><td>[Same]</td></tr>
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〈Guidance Part 1 〉

Pt1 Classification and Surveys

Annex 1-1 Class Notations

1.2 Additional Installations Notations

<table>
<tr><td rowspan="5">Machinery Items</td><td>Additional Installations Notations</td><td>Relevant Requirements</td></tr>
<tr><td>PMS-CBM (2022)</td><td>[Same]</td></tr>
<tr><td>STCM (2017)</td><td>[Same]</td></tr>
<tr><td>BCM(2021)</td><td>to ships where the Boiler Condition Monitoring System specified in Ch 2, 803 of Guidance is provided on board.</td></tr>
<tr><td>DPS(0), DPS(1),...</td><td>[Same]</td></tr>
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PART 2

Present	Amendment	Note
〈Rules〉 Pt 2 CHAPTER 1 MATERIALS Section 4 Welding Procedure Qualification Tests 304. Rolled steels for low temperature service 10. Marking (1) Steels which have satisfactorily complied with the required tests are to be marked with the identification mark in accordance with the requirements in 110. (2) For steels to which the requirements given in Notes (1) of Table 2.1.17 and Notes (7) of Table 2.1.17-1 have been applied, "*TM*" and impact test temperature "*T*" are to be suffixed to the markings. (e.g. *RL* 325*TM*-50*T*) (3) For steel to which the requirements given in 5. (3), the specified value of the maximum yield stress or proof stress and "A" are to be suffixed to the markings. (e.g. *RL* 325*A*-440*A*) *(2023)*	〈Rules〉 Pt 2 CHAPTER 1 MATERIALS Section 4 Welding Procedure Qualification Tests 304. Rolled steels for low temperature service 10. Marking (1) Steels which have satisfactorily complied with the required tests are to be marked with the identification mark in accordance with the requirements in 110. (2) For steels to which the requirements given in Notes (2) of Table 2.1.17 and Notes (7) of Table 2.1.18 have been applied, "*TM*" and impact test temperature "*T*" are to be suffixed to the markings. (e.g. *RL* 325*TM*-50*T*) (3) For steel to which the requirements given in 5. (3), the specified value of the maximum yield stress or proof stress and "A" are to be suffixed to the markings. (e.g. *RL* 325*A*-440*A*) *(2023)*	Date: 2024.07.19. Person in charge: Choi Daegon Typo

Present

〈Rules〉 Pt 2

CHAPTER 2 WELDING

Section 4 Welding Procedure Qualification Tests

404. Tests for butt welded joints

4. Tensile tests

Table 2.2.6 Tensile Test Requirements for Butt Welded Joint

Kind of testing materials	Grade of testing materials	Tensile strength (N/mm^2)	Yield strength (N/mm^2)
Rolled steels for lower temperature service	*RL* 9*N*490	590 min.(1)	315 min.
		630 min.(2)	–
Steel pipes for low temperature service	*RLP*9	630 min.	–
Aluminium alloys	5754	190 min.	–
	5086	240 min.	–
	5083	275 min.	–
	5383	290 min.	–
	5059	330 min.	–
	6005A, 6061, 6082(3)	170 min.	–

(Notes)
(1) For test specimen in longitudinal direction
(2) For test specimen in transverse direction
(3) See notes (9) of **Table 2.2.4.**

Amendment

〈Rules〉 Pt 2

CHAPTER 2 WELDING

Section 4 Welding Procedure Qualification Tests

404. Tests for butt welded joints

4. Tensile tests

Table 2.2.6 Tensile Test Requirements for Butt Welded Joint

Kind of testing materials	Grade of testing materials	Tensile strength (N/mm^2)	Yield strength (N/mm^2)
Rolled steels for lower temperature service	*RL* 9*N*490	590 min.(1)	315 min.
		630 min.(2)	–
Steel pipes for low temperature service	*RLP*9	630 min.	–
Aluminium alloys	5754	190 min.	–
	5086	240 min.	–
	5083	275 min.	–
	5383	290 min.	–
	5059	330 min.	–
	6005A, 6061, 6082(3)	170 min.	–

(Notes)
(1) For test specimen in longitudinal direction
(2) For test specimen in transverse direction
(3) See notes (8) of **Table 2.2.4.**

Note

Date: 2024.07.19.
Person in charge: Choi Daegon

Typo

Present	Amendment	Note
〈Guidance〉 Pt 2 CHAPTER 2 WELDING Section 1 General 103. Special weldings 5. Test specimens (3) Impact test specimens are to be the charpy V-notch test specimen specified in **Table 2.1.3** of the Rules. In the impact test, one set of test specimens comprising three pieces are to be taken from every test assembly. The test specimens are to be taken alternately from the position "a" and from a position among "b" through "e" where the lowest value is recorded in the welding procedure qualification test, shows in Fig 2.2.7 of the Rules. This means that one set of three test specimens are taken from a test assembly at the position "a", hence other set of three test specimens are taken in the subsequent test assembly from the position among "b" through "e" where the lowest value is recorded, and this procedure is repeated. No impact test specimens is required in cases of stainless steel and aluminium alloy.	〈Guidance〉 Pt 2 CHAPTER 2 WELDING Section 1 General 103. Special weldings 5. Test specimens (3) Impact test specimens are to be the charpy V-notch test specimen specified in **Table 2.1.3** of the Rules. In the impact test, one set of test specimens comprising three pieces are to be taken from every test assembly. The test specimens are to be taken alternately from the position "a" and from a position among "b" through "e" where the lowest value is recorded in the welding procedure qualification test, shows in Fig 2.2.8 of the Rules. This means that one set of three test specimens are taken from a test assembly at the position "a", hence other set of three test specimens are taken in the subsequent test assembly from the position among "b" through "e" where the lowest value is recorded, and this procedure is repeated. No impact test specimens is required in cases of stainless steel and aluminium alloy.	Date: 2024.07.19. Person in charge: Choi Daegon Typo

PART 3

Present	Amendment	Reason
〈Guidance Pt.3〉 **Annex 3-3 Guidance for the Fatigue Strength Assessment of Ship Structures** **1. General** *(2020)* **〈omitted〉** **2. Definition of stress** In the fatigue analysis, three kinds of stresses; i. e. the nominal stress, the hot spot stress and notch stress can be used. The hot spot stress approach and edge stress approach are to be employed in this Guidance. (1) Nominal stress 〈omitted〉 (2) Hot spot stress (A) 〈omitted〉 (B) For the calculation of the hot spot stress, multiplying ~~notch~~ stress by stress concentration factor or the three dimensional finite element analysis is to be performed. Then, it can be determined by extrapolating maximum principal stresses outside the region affected by the weld geometry. The stress range near welding toe is to be used consistently depending on the effect by type and size of the finite element. (3) ~ (4) 〈omitted〉 **4. ~ 7. 〈omitted〉** ⚓	**〈Guidance Pt.3〉** **Annex 3-3 Guidance for the Fatigue Strength Assessment of Ship Structures** **1. General** *(2020)* **〈same as the current Rules〉** **2. Definition of stress** In the fatigue analysis, three kinds of stresses; i. e. the nominal stress, the hot spot stress and notch stress can be used. The hot spot stress approach and edge stress approach are to be employed in this Guidance. (1) Nominal stress 〈same as the current Rules〉 (2) Hot spot stress (A) 〈same as the current Rules〉 (B) For the calculation of the hot spot stress, multiplying nominal stress by stress concentration factor or the three dimensional finite element analysis is to be performed. Then, it can be determined by extrapolating maximum principal stresses outside the region affected by the weld geometry. The stress range near welding toe is to be used consistently depending on the effect by type and size of the finite element. (3) ~ (4) 〈same as the current Rules〉 **4. ~ 7. 〈same as the current Rules〉** ⚓	- Typo

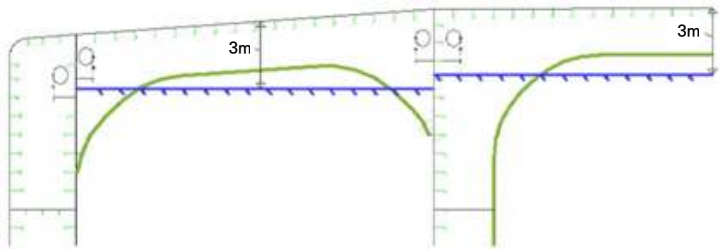
Present	Amendment	Note
〈Guidance〉 Pt 3	〈Guidance〉 Pt 3	
CHAPTER 7 DOUBLE BOTTOMS	**CHAPTER 7 DOUBLE BOTTOMS**	
Section 8 Construction of Strengthened Bottom Forward	**Section 8 Construction of Strengthened Bottom Forward**	
3. With respect to the requirements of **801.** of the Rules, ships of which L and C_b are 150 m or more and 0.7 or more respectively may apply to the followings.	**3.** With respect to the requirements of **801.** of the Rules, ships of which L and C_b are 150 m or more and 0.7 or more respectively may apply to the followings.	
(1) Slamming impact pressure P specified in **804. 1** of the Rules, may be given by the following formula. In this case, the slamming impact pressure is to be calculated at the mid-span point for each longitudinal shell stiffeners or bottom longitudinals.	(1) Slamming impact pressure P specified in **804. 1** of the Rules, may be given by the following formula. In this case, the slamming impact pressure is to be calculated at the mid-span point for each longitudinal shell stiffeners or bottom longitudinals.	
$P = 1.14\frac{\nu^2}{\beta}$ (kPa)	$P = 1.14\frac{\nu^2}{\beta}$ (kPa)	
β = as given by the following formula. In no case, the value of $1/\beta$ is greater than 11.43.	β = as given by the following formula. In no case, the value of $1/\beta$ is greater than 11.43.	
$\beta = \frac{0.0025L}{b}$	$\beta = \frac{0.0025L}{b}$	
b = in considering transverse section, horizontal distance (m) from the ship's center line to the intersection of the horizontal line of 0.025L above the ship's base line and the ship's moulded line of shell.	b = in considering transverse section, horizontal distance (m) from the ship's center line to the intersection of the horizontal line of 0.0025L above the ship's base line and the ship's moulded line of shell.	-error
〈omission〉	〈same as present〉	
C_4 = as given by the following formula. In no case, the value is less than zero.	C_4 = as given by the following formula. In no case, the value is less than zero.	
〈omission〉	〈same as present〉	
ϕ_0 = pitch angle (rad) as given by the following formula.	ϕ_0 = pitch angle (rad) as given by the following formula.	
$\phi = \frac{3.3\,(C_7\,V+5)^{0.2}}{L^{1.2}\sqrt{C_b}}\,H_W$	$\phi_0 = \frac{3.3\,(C_7\,V+5)^{0.2}}{L^{1.2}\sqrt{C_b}}\,H_W$	-error

Present	Amendment	Note
⟨Rule⟩ Pt 3 Ch 1 GENERAL Section 5 Welding 501. General *(2021)* **4. Slot weld 【See Guidance】** (1) The slot weld is to have adequate shape to permit a thoroughly fused bead to be applied all around the bottom edge of the opening. (2) The fillet sizes of slot welds are to be F1 and the spacing of slots is to be as determined by the Society.	⟨Rule⟩ Pt 3 Ch 1 GENERAL Section 5 Welding 501. General *(2021)* **4. Slot weld 【See Guidance】** (1) The slot weld is to have adequate shape to permit a thoroughly fused bead to be applied all around the bottom edge of the opening. (2) The fillet sizes of slot welds are to be F1, the length and spacing of slots is to be as determined by the Society.	

Present	Amendment	Note
⟨Guidance⟩ Pt 3 Ch 1 GENERAL Section 5 Welding 501. General 2. Slot weld【See Rule】 For the applying **501. 4** (2) of the Rules, the spacing of slots is to be in accordance with **Pt 13, Sub Pt 1, Ch 12, Sec 3, 4.2** of the Rules.	⟨Guidance⟩ Pt 3 Ch 1 GENERAL Section 5 Welding 501. General 2. Slot weld【See Rule】 For the applying **501. 4** (2) of the Rules, the length and spacing of slots is to be in accordance with **Pt 13, Sub Pt 1, Ch 12, Sec 3, 4.2** of the Rules.	

PART 4

Present	Amendment	Note
〈Guidance Part 4〉 **CHAPTER 1 RUDDERS** **Section 4 Rudder Strength Calculation** **401. Rudder strength calculation 【See Rule】** **1. ~ 6. 〈omitted〉** **7. Type E rudders(Semi spade rudder with 2-conjugate elastic support)** (1) General data The data on the semi spade rudder with 2-conjugate elastic support models is as follows(See **Fig 4.1.7** and **Fig 4.1.8** of the Guidance): K_{11}, K_{22}, K_{12} : Rudder horn compliance constants calculated for rudder horn with 2-conjugate elastic supports The 2-conjugate elastic supports are defined in terms of horizontal displacements, y_i, by the following equations: at the lower rudder horn bearing: $y_1 = K_{12}B_2 - K_{22}B_1$ at the upper rudder horn bearing: $y_2 = K_{11}B_2 - K_{12}B_1$ y_1, y_2 : Horizontal displacements at the lower and upper rudder horn bearings, respectively (m) B_1, B_2 : Horizontal support forces at the lower and upper rudder horn bearings, respectively (kN) K_{11}, K_{22}, K_{12} : Obtained, in m/kN, from the following formulae: $K_{11} = 1.3\frac{\lambda^3}{3EJ_{1h}} + \frac{e^2\lambda}{GJ_{th}}$ $K_{22} = 1.3\left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(d-\lambda)}{2EJ_{1h}}\right] + \frac{e^2\lambda}{GJ_{th}}$ $K_{12} = 1.3\left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(d-\lambda)}{EJ_{1h}} + \frac{\lambda(d-\lambda)^2}{EJ_{1h}} + \frac{(d-\lambda)^3}{3EJ_{2h}}\right] + \frac{e^2d}{GJ_{th}}$	**〈Guidance Part 4〉** **CHAPTER 1 RUDDERS** **Section 4 Rudder Strength Calculation** **401. Rudder strength calculation 【See Rule】** **1. ~ 6. 〈same as present〉** **7. Type E rudders(Semi spade rudder with 2-conjugate elastic support)** (1) General data The data on the semi spade rudder with 2-conjugate elastic support models is as follows(See **Fig 4.1.7** and Fig 4.1.8 of the Guidance): K_{11}, K_{12}, K_{22} : Rudder horn compliance constants calculated for rudder horn with 2-conjugate elastic supports The 2-conjugate elastic supports are defined in terms of horizontal displacements, y_i, by the following equations: at the lower rudder horn bearing: $y_1 = -K_{12}B_2 - K_{22}B_1$ at the upper rudder horn bearing: $y_2 = -K_{11}B_2 - K_{12}B_1$ y_1, y_2 : Horizontal displacements at the lower and upper rudder horn bearings, respectively (m) B_1, B_2 : Horizontal support forces at the lower and upper rudder horn bearings, respectively (kN) K_{11}, K_{12}, K_{22} : Obtained, in m/kN, from the following formulae: $K_{11} = 1.3\frac{\lambda^3}{3EJ_{1h}} + \frac{e^2\lambda}{GJ_{th}}$ $K_{12} = 1.3\left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(d-\lambda)}{2EJ_{1h}}\right] + \frac{e^2\lambda}{GJ_{th}}$ $K_{22} = 1.3\left[\frac{\lambda^3}{3EJ_{1h}} + \frac{\lambda^2(d-\lambda)}{EJ_{1h}} + \frac{\lambda(d-\lambda)^2}{EJ_{1h}} + \frac{(d-\lambda)^3}{3EJ_{2h}}\right] + \frac{e^2d}{GJ_{th}}$	Correction editorial error (UR S10 Rev.7 Corr2.) Correction error Correction editorial error (UR S10 Rev.7 Corr2.)

Present	Amendment	Error
〈Guidance〉 - Pt 4 CHAPTER 11 ACCESS TO AND WITHIN SPACES IN, AND FORWARD OF, THE CARGO AREA OF OIL TANKERS AND BULK CARRIERS **103. Safe access to cargo holds, cargo tanks, ballast tanks and other spaces 【See Rule】** **2.** In application of **103. 2** of the Rules, the details are as follows. 〈omission〉 (1) access direct from the deck via a vertical ladder and small platform fitted approximately 2 m below the deck in each bay; or (2) access to deck from a longitudinal permanent platform having ladders to deck in each end of the tank. The platform shall, for the full length of the tank, be arranged in level with, or above, the maximum water level needed for rafting of under deck structure. For this purpose, the ullage corresponding to the maximum water level is to be assumed not more than 3 m from the deck plate measured at the midspan of deck transverses and in the middle length of the tank. (See Figure below). A permanent means of access from the longitudinal permanent platform to the water level indicated above is to be fitted in each bay (e.g., permanent rungs on one of the deck webs inboard of the longitudinal permanent platform).	〈Guidance〉 - Pt 4 CHAPTER 11 ACCESS TO AND WITHIN SPACES IN, AND FORWARD OF, THE CARGO AREA OF OIL TANKERS AND BULK CARRIERS **103. Safe access to cargo holds, cargo tanks, ballast tanks and other spaces 【See Rule】** **2. 〈same as present〉**  	MSC.1/Cir.1572(R.2) 1.6 - Error (added missing Figure)

PART 6

Amendment	Note
# 〈RULE PART 6〉 # CHAPTER 2 CONTROL SYSTEMS ## Section 4 Computer Based Systems *(2024)* **407. Technical requirements on computer based systems** **3. Verification of technical requirements by the Society** (1) The implementation of the technical requirements provided in this article is verified by the Society as part of the system description (**404. 2** (3)), FAT (**404. 2** (7)) and SAT (**404. 3** (6)) described above.	-'407.' -〉 'this article' (Eng only) : According to the Introduction to the Classification Technical Rules, the rule mentioned as '407.' is within the same article, requiring a change in the text.

Amendment	Note
〈RULE PART6〉 **CHAPTER 1 ELECTRICAL EQUIPMENT** **Section 1 General** **103. Testing and inspection** **Table 6.1.1 Electrical equipment and cables subject to the approval and test (continued)** ***(2023)***	- The numbering order for the note has been postponed, and the new table number has been added.
(Notes) (6) To be complied with note (10) in ~~the table for tests of rotating machinery of 309. 16.~~ **Table 6.1.10.** ***(2018)***	
Section 3 Rotating Machinery **309. Testing and inspection**	- The new table number has been added.
5. Overspeed test 【See Guidance】 Rotating machines are to withstand the overspeed test specified in ~~the following~~ **Table 6.1.7** for 2 minutes.	- The new table number has been added.
6. Insulation resistance test (2) The minimum values of test voltages and insulation resistances are given in ~~the following~~ **Table 6.1.8**. ***(2017)***	- The new table number has been added.
16. Tests The tests of rotating machinery are ~~as following table~~ given in **Table 6.1.10** according to its kinds. ***(2024)***	- The new table number has been added.
605. Testing and inspection	- The new table number has been added.
6. Insulation resistance test Before and after the high voltage test, the insulation resistance test for all current-carrying parts are to be carried out and minimum values are to be given in ~~the following~~ **Table 6.1.20**.	

Amendment	Note
Section 9 Explosion-protected Electrical Equipment	
901. General	
4. Selection of electrical equipment according to the maximum surface temperature	- The new table number has been added.
(1) The electrical equipment is to be so selected that its maximum surface temperature will not reach the ignition temperature of any gas, vapour or dust which may be present. Maximum surface temperature according to temperature class of electrical equipment is ~~as following table~~ in **Table 6.1.23**.	
Section 15 High Voltage Electrical Installations	
1502. System Design 【See Guidance】	
3. Insulation	- The new table number has been added.
(1) Air clearance In general, phase-to-phase air clearances and phase-to-earth air clearances between non-insulated parts of equipment are to be not less than those specified in Table ~~as below~~ **6.1.31**. However, air clearance may be reduced subject to the Society's permission.	
1504. Power Transformers	- The new table number has been added.
2. Test voltage of High voltage test is given in the **Table 6.1.32.**	
1505. Cables 【See Guidance】	- The new table number has been added.
2. Test voltage of High voltage test is given in the **Table 6.1.33.**	
Section 16 Electric Propulsion Unit	
1603. Rotating machines (2017)	- The reference number has been changed to the new table number .
1. General	
(2) The rotors are to be so constructed that they will withstand for 2 minutes at an overspeed in accordance with the requirements in ~~**309. 5**~~ **Table 6.1.7**. However, the overspeed of turbo-generators and electromagnetic slip-couplings is to be 120% of the rated speed.	

Amendment	Note
Section 17 Tests after Installation on Board **1701. Insulation resistance test** **3. Generators and motors** The insulation resistance of each generator and motor under working temperature is to be in accordance with the requirements in ~~309. 6~~ Table 6.1.8.	- The reference number has been changed to the new table number

Amendment	Note
# ⟨GUIDANCE PART6⟩ # CHAPTER 1 ELECTRICAL EQUIPMENT ## Section 3 Rotating Machinery **309. Testing and inspection** **8.** In application to **309. 16** of the Rules, "the Society's permission" of notes (9) in ~~the table~~ **Table 6.1.10** of the Guidance means type approval, test report's confirmation, etc. **【See Rule】** **9.** In application to **309. 16** of the Rules, "the Society's permission" of notes (10) in ~~the table~~ **Table 6.1.10** of the Guidance means type approval, design approval's confirmation, etc. **【See Rule】** ## Section 9 Explosion-protected Electrical Equipment **902. Special requirements 【See Rule】** The wording "as deemed appropriate by the Society" in **902.** of the Rules means the followings. **1. Flameproof type electrical equipment** (5) When installing equipment, its flameproof joints are not to be installed within the distance specified in ~~the following table~~ **Table 6.1.8** of the Guidance with respect to a bulkhead or solid object. ## Section 15 High Voltage Electrical Installations **1501. General 【See Rule】** **1.** The supply voltages and frequency specified in ~~the followings~~ **Table 6.1.19** of the Guidance are recognized as a standard.	- The numbering order for the note has been postponed, and the reference has been changed to the new table number. - The reference has been changed to the new table number. - The reference has been changed to the new table number.

PART 7

Present	Amendment	Note
〈Guidance〉 Pt 7	〈Guidance〉 Pt 7	
ANNEX 7-2 Guidance for the Container Securing Arrangements	**ANNEX 7-2 Guidance for the Container Securing Arrangements**	
8. Determination and application of forces	**8. Determination and application of forces**	
(1) Symbols and definitions (2019)	(1) Symbols and definitions (2019)	
(A) Definitions and symbols of terms are as follows.	(A) Definitions and symbols of terms are as follows.	
T_θ, T_ϕ : full period of pitch and roll of the ship (sec)	T_θ, T_ϕ : full period of roll and pitch of the ship (sec)	
Annex 7-12 Liquefaction Ore Bulk Cargoes	**Annex 7-12 Liquefaction of Ore Bulk Cargoes**	
3. Hull Strength	**3. Hull Strength**	
(5) Corrugated bulkheads	(5) Corrugated bulkheads	
(A)	(A)	
Face part: $C = \frac{1.5}{\sqrt{1+\left(\frac{t_w}{t_f}\right)^2}}$	Face part: $C = \frac{1.4}{\sqrt{1+\left(\frac{t_w}{t_f}\right)^2}}$	- English only
Web part: $C = 1.0$	Web part: $C = 1.0$	
t_f , t_w = thickness of plates of face part and web part, respectively (mm).	t_f , t_w = thickness of plates of face part and web part, respectively (mm).	

Present	Amendment	Error
〈Guidance〉 - Pt 7	**〈Guidance〉 - Pt 7**	
Annex 7-2 Guidance for the Container Securing Arrangements	**Annex 7-2 Guidance for the Container Securing Arrangements**	
8. Determination and application of forces	**8. Determination and application of forces**	
(1) Symbols and definitions *(2019)*	(1) Symbols and definitions *(2019)*	
(A) Definitions and symbols of terms are as follows.	(A) Definitions and symbols of terms are as follows.	
a_0, a_{heave}, a_{sway}, a_{surge} : ~ , is as following formulae	a_0, a_{heave}, a_{sway}, a_{surge} : ~ , is as following formula	
a_{roll} : acceleration of ship roll motion, is as following formulae $a_{roll} = \theta\left(\frac{2\pi}{T_\theta}\right)^2 \quad (\mathrm{m/sec^2})$	a_{roll} : acceleration of ship roll motion, is as following formula $a_{roll} = \theta\left(\frac{2\pi}{T_\theta}\right)^2 \frac{\pi}{180} \quad (\mathrm{rad/sec^2})$	- refer Pt13 Ch4 Sec2
a_{pitch} : acceleration of ship pitch motion, is as following formulae $a_{pitch} = \left(\frac{3.1}{\sqrt{gL}} + 1.4\right)\phi\left(\frac{2\pi}{T_\phi}\right)^2 \quad (\mathrm{m/sec^2})$	a_{pitch} : acceleration of ship pitch motion, is as following formula $a_{pitch} = \left(\frac{3.1}{\sqrt{gL}} + 1.4\right)\phi\left(\frac{2\pi}{T_\phi}\right)^2 \frac{\pi}{180}$ $(\mathrm{rad/sec^2})$	
〈omit〉	〈same as present〉	
z : vertical distance from base line to the centre of gravity of the container (positive upwards) (m), center of local container is 1/3 of container's height.	z : vertical distance from base line to the centre of gravity of the container (positive upwards) (m), center of local container is 0.45 of container's height.	- z = C_c
C_c : height ratio of container weight, generally, 0.45	〈same as present〉	
θ, ϕ : Angle of roll (radian), angle of pitch (radian)	θ, ϕ : Angle of roll (radian), angle of pitch (degree)	

Present	Amendment	Error
〈Guidance〉 - Pt.7 **Annex 7-2 Guidance for the Container Securing Arrangements** CONTENTS 1. General 2. Materials and testing for fixed container securing fittings 3. Materials and testing for Loose container securing fittings 4. Arrangements for stowage on exposed decks without cell guides 5. Container securing arrangements for underdeck stowage without cell guides 6. Container securing arrangements for stowage using cell guides 7. Ship structure 8. Determination and application of forces 9. Container Lashing calculation program and instrument Appendix 1 Container Dimensions of each types Appendix 2 Examples of Specific Route Appendix 3 Sample Calculation based on equations	〈Guidance〉 - Pt.7 **Annex 7-2 Guidance for the Container Securing Arrangements** CONTENTS 1. General 2. Materials and testing for fixed container securing fittings 3. Materials and testing for Loose container securing fittings 4. Arrangements for stowage on exposed decks without cell guides 5. Container securing arrangements for underdeck stowage without cell guides 6. Container securing arrangements for stowage using cell guides 7. Ship structure 8. Determination and application of forces 9. Container Lashing calculation program and instrument Appendix 1 Container Dimensions of each types Appendix 2 Examples of Specific Route	- delete

Present	Amendment	Note
〈Guidance〉 Pt 7 **ANNEX 7-2 Guidance for the Container Securing Arrangements** **8. Determination and application of forces** (1) Symbols and definitions (2019) (A) Definitions and symbols of terms are as follows. T_θ, T_ϕ : full period of pitch and roll of the ship (sec) **Annex 7-12 Liquefaction Ore Bulk Cargoes** **3. Hull Strength** (5) Corrugated bulkheads (A) Face part: $C = \frac{1.5}{\sqrt{1+\left(\frac{t_w}{t_f}\right)^2}}$ Web part: $C = 1.0$ t_f , t_w = thickness of plates of face part and web part, respectively (mm).	〈Guidance〉 Pt 7 **ANNEX 7-2 Guidance for the Container Securing Arrangements** **8. Determination and application of forces** (1) Symbols and definitions (2019) (A) Definitions and symbols of terms are as follows. T_θ, T_ϕ : full period of roll and pitch of the ship (sec) **Annex 7-12 Liquefaction of Ore Bulk Cargoes** **3. Hull Strength** (5) Corrugated bulkheads (A) Face part: $C = \frac{1.4}{\sqrt{1+\left(\frac{t_w}{t_f}\right)^2}}$ Web part: $C = 1.0$ t_f , t_w = thickness of plates of face part and web part, respectively (mm).	-

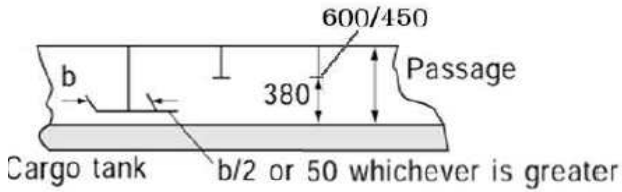
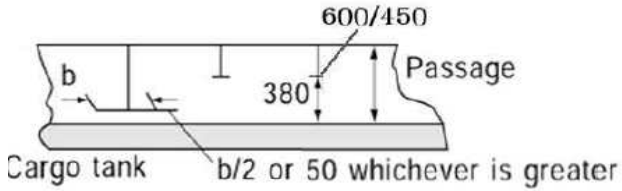
Present	Amendment	Note
〈Rule〉 Pt 7 CHAPTER 4 CONTAINER SHIPS Section 7 Breakwater 701. Breakwater **7.** Proof of buckling strength Structural members' buckling strength has to be proved according to Pt 11, Ch 6, sec 3.	〈Rule〉 Pt 7 CHAPTER 4 CONTAINER SHIPS Section 7 Breakwater 701. Breakwater **7.** Proof of buckling strength Structural members' buckling strength has to be proved according to Pt 14, Ch 8, sec 5.	-error

PART 7 (CH5, 6)

Present	Amendment	Note
〈Guidance〉 Pt 7 Ch 5 CHAPTER 5 LIQUEFIED GASS CARRIERS 420. Construction process 6. Additional information on the gas-trial and cargo full loading test (4) The cargo full loading test to capacity specified in the preceding (1) (B) may be conducted simultaneously with the gas-trial indicated in the preceding (1) (A). (5) The survey items "at loading operation" ~~specified in **Table 7.5.6** of the Guidance in~~ the preceding (1) (B) may be substituted by the test items which were carried out during on board test and gas trial, and the survey items on "Condition of cargo tanks and other cargo containment systems after full loading" may be confirmed when the inspection for "discharging operation" is carried out.	〈Guidance〉 Pt 7 Ch 5 CHAPTER 5 LIQUEFIED GASS CARRIERS 420. Construction process 6. Additional information on the gas-trial and cargo full loading test (4) The cargo full loading test to capacity specified in the preceding (1) (B) may be conducted simultaneously with the gas-trial indicated in the preceding (1) (A). (5) The survey items at loading operation in the preceding (1) (B) may be substituted by the test items which were carried out during on board test and gas trial, and the survey items on "Condition of cargo tanks and other cargo containment systems after full loading" may be confirmed when the inspection for "discharging operation" is carried out.	

Present	Amendment	Note
〈Guidance〉 Pt 7 Ch 5	〈Guidance〉 Pt 7 Ch 5	
Annex 7A-8 Guidelines for Safety Margin of Cargo Containment System	**Annex 7A-8 Guidelines for Safety Margin of Cargo Containment System**	
CHAPTER 2 SAFETY MARGIN	**CHAPTER 2 SAFETY MARGIN**	
Section 1 Type A Independent Tanks	**Section 1 Type A Independent Tanks**	
201. Allowable stress for ultimate and accidental design conditions The allowable membrane equivalent stresses for primarily constructed of plane surfaces, applied for finite element analysis, shall not exceed a lesser of $0.83R_e$ or $0.5R_m$ for nickel steels and carbon-manganese steels and a lesser of $0.83R_e$ or $0.4R_m$ for austenitic steels and aluminium alloys. The thickness of the skin plate and the size of the stiffener shall not be less than those required for type A independent tanks. If 9% nickel steel is used for the plates of the cargo tank, the allowable stress $0.75R_e$ is applied to the calculation of the tank plates.	**201. Allowable stress for ultimate and accidental design conditions** The allowable membrane equivalent stresses for primarily constructed of plane surfaces, applied for finite element analysis, shall not exceed a lesser of $0.83R_e$ or $0.5R_m$ for nickel steels and carbon-manganese steels and a lesser of $0.83R_e$ or $0.4R_m$ for austenitic steels and aluminium alloys. The thickness of the skin plate and the size of the stiffener shall not be less than those required for type A independent tanks.	
Section 3 Type C Independent Tanks	**Section 3 Type C Independent Tanks**	
301. Allowable stress for ultimate and accidental design conditions For horizontal cylindrical tanks made of C-Mn steel supported in saddles, the equivalent stress, σ_e, in the stiffening rings shall not exceed a lesser of $0.85R_e$ or $0.57R_m$ if calculated using finite element method: $\sigma_e = \sqrt{(\sigma_n + \sigma_b)^2 + 3\tau^2}$ where, σ_n : nominal stress in the circumferential direction of the stiffening ring($\mathrm{N/mm^2}$) σ_b : bending stress in the circumferential direction of the stiffening ring($\mathrm{N/mm^2}$) τ : shear stress in the stiffening ring($\mathrm{N/mm^2}$)	**301. Allowable stress for ultimate and accidental design conditions** 〈delete〉	

Present	Amendment	Note
〈Guidance〉 Pt 7 Ch 5 Section 4 Membrane Type Tanks **402. Allowable stress and buckling pressure of membrane systems** Sloshing load due to ship motion is governing factor in comparison with other loads such as cooling-down, ship loading, vibration, static heel or collision case. In order to evaluate the structural strength of membrane, PUF, plywood and mastic in cargo containment system against sloshing load for ultimate and accidental design conditions, the following criteria is recommended. - allowable equivalent stress : $\sigma_{eq} \leq 0.67R_e$ - allowable buckling pressure : $P_c < 0.9P_{cr}$ P_{cr} is the critical buckling pressure which should be based on the acknowledged experimental data for each material and the standard recognized by the Society	〈Guidance〉 Pt 7 Ch 5 Section 4 Membrane Type Tanks **402. Allowable stress and buckling pressure of membrane systems** Sloshing load due to ship motion is governing factor in comparison with other loads such as cooling-down, ship loading, vibration, static heel or collision case. In order to evaluate the structural strength of membrane, PUF, plywood and mastic in cargo containment system against sloshing load for ultimate and accidental design conditions, the following criteria is recommended. - allowable equivalent stress : $\sigma_{eq} \leq 0.60R_e$ - allowable buckling pressure : $P_c < 0.9P_{cr}$ P_{cr} is the critical buckling pressure which should be based on the acknowledged experimental data for each material and the standard recognized by the Society	

현 행	개 정 안	비 고
〈Rules〉 Pt 7 Ch 5 CHAPTER 5 LIQUEFIED GASS CARRIERS 103. Equivalents The construction and equipment, etc. which do not fall under the provisions of this Chapter but are considered to be equivalent to those required in this Chapter will be accepted by the Society. 305. Access to spaces in the cargo area (IGC Code 3.5)  Fig 7.5.8	〈Rules〉 Pt 7 Ch 5 CHAPTER 5 LIQUEFIED GASS CARRIERS 103. Equivalents The equivalence of alternative and novel features which deviate from or are not directly applicable to the Rules is to be in accordance with Pt 1, Ch 1 105. of Rules for the Classification of Steel Ships. 305. Access to spaces in the cargo area (IGC Code 3.5)  Fig 7.5.8	

Present	Amendment	Note
〈Guidance〉 Pt 7 -2 CHAPTER 5 LIQUEFIED GASS CARRIERS 420. Construction process 6. Additional information on the gas-trial and cargo full loading test (4) The cargo full loading test to capacity specified in the preceding (1) (B) may be conducted simultaneously with the gas-trial indicated in the preceding (1) (A). (5) The survey items "at loading operation" ~~specified in **Table 7.5.6** of the Guidance in~~ the preceding (1) (B) may be substituted by the test items which were carried out during on board test and gas trial, and the survey items on "Condition of cargo tanks and other cargo containment systems after full loading" may be confirmed when the inspection for "discharging operation" is carried out.	〈Guidance〉 Pt 7 -2 CHAPTER 5 LIQUEFIED GASS CARRIERS 420. Construction process 6. Additional information on the gas-trial and cargo full loading test (4) The cargo full loading test to capacity specified in the preceding (1) (B) may be conducted simultaneously with the gas-trial indicated in the preceding (1) (A). (5) The survey items at loading operation in the preceding (1) (B) may be substituted by the test items which were carried out during on board test and gas trial, and the survey items on "Condition of cargo tanks and other cargo containment systems after full loading" may be confirmed when the inspection for "discharging operation" is carried out.	

PART 8

Present	Amendment	Note
⟨Guidance Pt 8⟩ CHAPTER 7 CONTAINMENT OF FIRE Section 1 ~ Section 5 ⟨omitted⟩ Section 6 Ventilation Systems [See Rule] **601. General ⟨omitted⟩** **602. Arrangement of ducts** **1.** In applying **602. 4** of the Rules, "A-60" class insulation" is, as a standard, to be an insulation with rock-wool approved as non-combustible material, or insulation approved as "A-60" class standard and arrangement of ducts are to be in accordance with **Fig 8.7.5** of the Guidance. **2.** In applying **602.** and **605.** of the Rules for determining fire insulation for trunks and ducts which pass through an enclosed space, the term "pass through" means the part of the trunk/duct contiguous to the enclosed space. (see **Fig 8.7.6** of the Guidance.)	⟨Guidance Pt 8⟩ CHAPTER 7 CONTAINMENT OF FIRE Section 1 ~ Section 5 ⟨same as the present⟩ Section 6 Ventilation Systems [See Rule] **601. General ⟨same as the present⟩** **602. Arrangement of ducts** **1.** In applying **602. 4** of the Rules, "A-60" class insulation" is, as a standard, to be an insulation with rock-wool approved as non-combustible material, or insulation approved as "A-60" class standard and arrangement of ducts are to be in accordance with **Fig 8.7.5** of the Guidance. **2.** In applying **602.** and **605.** 1 & 2 of the Rules for determining fire insulation for trunks and ducts which pass through an enclosed space, the term "pass through" means the part of the trunk/duct contiguous to the enclosed space. (see **Fig 8.7.6** of the Guidance.)	

PART 10

Present	Amendment	Error
〈Rules〉 - Pt.10	〈Rules〉 - Pt.10	
Ch.13 ARRANGEMENTS TO RESIST PANTING	**Ch.13 ARRANGEMENTS TO RESIST PANTING**	
Section 2 Arrangements to resist Panting Forward the Collision Bulkhead	**Section 2 Arrangements to resist Panting Forward the Collision Bulkhead**	
203. Longitudinal framing	**203. Longitudinal framing**	
3. The scantlings of side transverses supporting longitudinals are not to be less than those obtained from the following formulae	**3.** The scantlings of side transverses supporting longitudinals are not to be less than those obtained from the following formulae	
Web depth : $d_1 = 200 l_0$ (mm), $t_2 = 0.6\sqrt{L} + 3$ (mm) or 2.5 times the depth of slots for longitudinals (mm), whichever is the greatest	Web depth : $d_1 = 200 l_0$ (mm), $5.3L + 250'$(mm) or 2.5 times the depth of slots for longitudinals (mm), whichever is the greatest	- 2008 error (E)
Section modulus : $Z = 8Shl_0^2$ (cm^3)	Section modulus : $Z = 8Shl_0^2$ (cm^3)	
Thickness of web : $t_1 = 42\frac{Shl_0}{d_0} + 1.5$ (mm), $t_2 = 0.02L + 5.5$ (mm) whichever is the greater	Thickness of web : $t_1 = 42\frac{Shl_0}{d_0} + 1.5$ (mm), $t_2 = 0.02L + 5.5$ (mm) whichever is the greater	

Present	Amendment	Note
⟨Rule⟩ Pt 10 Ch 1 GENERAL Section 1 Definitions **107. Fore and aft end** The fore and aft end means the part covering 0.1 L from the fore and aft end of the ship.	⟨Rule⟩ Pt 10 Ch 1 GENERAL Section 1 Definitions **107. Fore and aft end** The fore and aft end part means the part covering 0.1 L from the fore and aft end of the ship.	- English only

PART 13

Present	Amendment	Note
⟨RULE PART 13⟩ Sub-Part 1 Chapter 5 HULL GIRDER STRENGTH Section 1 HULL GIRDER YIELDING STRENGTH SYMBOLS For symbols not defined in this section, refer to Ch 1, Sec 4. ⟨omitted⟩ f_B : Heading correction factor, to be taken as: f_B = 1.05 for seagoing conditions. f_B = 1.0 for ballast water exchange at sea, harbour/sheltered water and accidental flooded design load scenarios.	⟨RULE PART 13⟩ Sub-Part 1 Chapter 5 HULL GIRDER STRENGTH Section 1 HULL GIRDER YIELDING STRENGTH SYMBOLS For symbols not defined in this section, refer to Ch 1, Sec 4. ⟨same as the presnt⟩ f_β : Heading correction factor, to be taken as: f_β = 1.05 for seagoing conditions. f_β = 1.0 for ballast water exchange at sea, harbour/sheltered water and accidental flooded design load scenarios.	- Heading correction factor, f_B replaced with f_β (English only)

PART 14

Present	Amendment	Note
Chapter 3 Structural Design Principles **Section 1 ~ 5 〈omitted〉** **Section 6 Structural Detail Principles** **1. 〈omitted〉** **2. General principles** **2.1 ~ 2.2 〈omitted〉** **2.3 Connection of longitudinal members not contributing to the hull girder longitudinal strength** **2.3.1** Where the hull girder stress at the strength deck or at the bottom as defined in Ch 5, Sec 1, [2.2.2] is higher than the permissible stress as defined in **Ch 5, Sec 1, [3.4.1]** for normal strength steel, longitudinal members not contributing to the hull girder longitudinal strength and welded to the strength deck or bottom plating and bilge plating, such as gutter bars, strengthening of deck openings, bilge keel, are to be made of steel with the same specified minimum yield stress as the strength deck or bottom structure steel.	**Chapter 3 Structural Design Principles** **Section 1 ~ 5 〈same as the present〉** **Section 6 Structural Detail Principles** **1. 〈same as the present〉** **2. General principles** **2.1 ~ 2.2 〈same as the present〉** **2.3 Connection of longitudinal members not contributing to the hull girder longitudinal strength** **2.3.1** Where the hull girder stress at the strength deck or at the bottom as defined in Ch 5, Sec 1, [3.4.1] is higher than the permissible stress as defined in **Ch 5, Sec 1, [3.4.1]** for normal strength steel, longitudinal members not contributing to the hull girder longitudinal strength and welded to the strength deck or bottom plating and bilge plating, such as gutter bars, strengthening of deck openings, bilge keel, are to be made of steel with the same specified minimum yield stress as the strength deck or bottom structure steel.	- typo

Present	Amendment	Note
# Chapter 5 Hull Girder Strength ## Section 1 Hull Girder Yield and Buckling Strength **1. 〈omitted〉** **2. Hull girder stress** **2.1 〈omitted〉** **2.2 Shear stress** **2.2.1 Shear stress induced by vertical still water shear force** The hull girder shear stress, in N/mm^2, induced by vertical still water shear forces is to be determined, at the load calculation point under consideration, as follows: a) for seagoing condition: $\tau_{sw} = \frac{Q_{sw}}{t} q_{vi} \times 10^3$ b) for harbour / sheltered condition $\tau_{sw} = \frac{Q_{sw-p}}{t} q_{vi} \times 10^3$ where: q_{vi} : Contribution ratio for hull girder shear force per mm, in mm^{-1}, for the plate i based on net scantlings with deduction of $0.5\,t_C$, which is equal to the unit shear flow per mm, in N/mm, for a unit vertical shear force, from a numerical calculation based on thin-walled beam theory according to ~~Ch 5~~ **App 1**.	# Chapter 5 Hull Girder Strength ## Section 1 Hull Girder Yield and Buckling Strength **1. 〈same as the present〉** **2. Hull girder stress** **2.1 〈same as the present〉** **2.2 Shear stress** **2.2.1 Shear stress induced by vertical still water shear force** The hull girder shear stress, in N/mm^2, induced by vertical still water shear forces is to be determined, at the load calculation point under consideration, as follows: a) for seagoing condition: $\tau_{sw} = \frac{Q_{sw}}{t_{i-n50}} q_{vi} \times 10^3$ b) for harbour / sheltered condition $\tau_{sw-p} = \frac{Q_{sw-p}}{t_{i-n50}} q_{vi} \times 10^3$ where: q_{vi} : Contribution ratio for hull girder shear force per mm, in mm^{-1}, for the plate i based on net scantlings with deduction of $0.5\,t_C$, which is equal to the unit shear flow per mm, in N/mm, for a unit vertical shear force, from a numerical calculation based on thin-walled beam theory according to **App 1**.	- typo

Present	Amendment	Note
2.2.2 Shear stress induced by vertical wave shear force The hull girder shear stress, in N/mm^2, induced by vertical wave shear forces is to be determined, at the load calculation point under consideration, as follows: $\tau_{sw} = \frac{Q_{wv}}{t} q_{vi} \times 10^3$	**2.2.2 Shear stress induced by vertical wave shear force** The hull girder shear stress, in N/mm^2, induced by vertical wave shear forces is to be determined, at the load calculation point under consideration, as follows: $\tau_{wv} = \frac{Q_{wv}}{t_{i-n50}} q_{vi} \times 10^3$	- typo
2.2.3 Shear stress induced by horizontal wave shear force The hull girder shear stress, in N/mm^2, induced by horizontal wave shear forces is to be determined, at the load calculation point under consideration, as follows: $\tau_{sw} = \frac{Q_{wh}}{t} q_{hi} \times 10^3$ where: q_{hi} : Contribution ratio for hull girder shear force per mm, in mm-1, for the plate i based on net scantlings with deduction of 0.5 t_C, which is equal to the unit shear flow per mm, in N/mm, for a unit horizontal shear force, from a numerical calculation based on thin-walled beam theory according to **App 1.**	**2.2.3 Shear stress induced by horizontal wave shear force** The hull girder shear stress, in N/mm^2, induced by horizontal wave shear forces is to be determined, at the load calculation point under consideration, as follows: $\tau_{wh} = \frac{Q_{wh}}{t_{i-n50}} q_{hi} \times 10^3$ where: q_{hi} : Contribution ratio for hull girder shear force per mm, in mm^{-1}, for the plate i based on net scantlings with deduction of 0.5 t_C, which is equal to the unit shear flow per mm, in N/mm, for a unit horizontal shear force, from a numerical calculation based on thin-walled beam theory according to **App 1.**	- typo

Present	Amendment	Note
# Chapter 8 Buckling ## Section 1 〈omitted〉 ## Section 2 Slenderness requirements ### 1. ~ 2. 〈omitted〉 ### 3. Stiffeners #### 3.1 Proportions of stiffeners **3.1.1 Net thickness of all stiffener types** The net thickness of stiffeners is to satisfy the following criteria: a) Stiffener web plate: $t_w \geq \frac{h_w}{C_w}\sqrt{\frac{R_{eH}}{235}}$ b) Flange: $t_f \geq \frac{b_{t-out}}{C_f}\sqrt{\frac{R_{eH}}{235}}$ where: C_w, C_f : Slenderness coefficients given in **Table 1**. If requirement **b)** is not fulfilled, the effective free flange outstand, in mm, used in strength assessment including the calculation of actual net section modulus, is not to be taken greater than: $b_{t-out-max} = C_f t_f \sqrt{\frac{235}{R_{eH}}}$ 〈omitted〉	# Chapter 8 Buckling ## Section 1 〈same as the present〉 ## Section 2 Slenderness requirements ### 1. ~ 2. 〈same as the present〉 ### 3. Stiffeners #### 3.1 Proportions of stiffeners **3.1.1 Net thickness of all stiffener types** The net thickness of stiffeners is to satisfy the following criteria: a) Stiffener web plate: $t_w \geq \frac{h_w}{C_w}\sqrt{\frac{R_{eH}}{235}}$ b) Flange: $t_f \geq \frac{b_{f-out}}{C_f}\sqrt{\frac{R_{eH}}{235}}$ where: C_w, C_f : Slenderness coefficients given in **Table 1**. If requirement **b)** is not fulfilled, the effective free flange outstand, in mm, used in strength assessment including the calculation of actual net section modulus, is not to be taken greater than: $b_{f-out-max} = C_f t_f \sqrt{\frac{235}{R_{eH}}}$ 〈same as the present〉	- replaced b_{t-out} to b_{f-out} (typo) - replaced $b_{t-out-max}$ to $b_{f-out-max}$ (typo)

Present	Amendment	Note
Section 3 Prescriptive buckling requirements	**Section 3 Prescriptive buckling requirements**	
1. 〈omitted〉	**1. 〈omitted〉**	
2. Hull girder stress	**2. Hull girder stress**	
2.1 General	**2.1 General**	
2.1.1 〈omitted〉	**2.1.1 〈omitted〉**	
2.1.2	**2.1.2**	
The hull girder shear stresses, τ_{hg}, in $\mathrm{N/mm^2}$, in the plate i are determined as follows: $\tau_{hg} = \frac{Q_{Tot}(x)\, q_{vi}}{t_{i-n50}} 10^3$ where: $Q_{Tot}(x)$: Total vertical shear force, in kN, at the ship longitudinal location x, taken as follows: a) For the design load combination S + D • For seagoing operations: $Q_{Tot}(x) = \lvert Q_{sw} + Q_{wv-LC} \rvert$ b) For the design load combination S • For harbour / sheltered water operations: $Q_{Tot}(x) = \lvert Q_{sw-p} \rvert$ q_{vi} : Contribution ratio in way of the plate i, as defined in Ch 5, Sec 1, [3.2.1]. t_{i-n50} : Net thickness of the plate i, in mm as defined in Ch 5, Sec 1, [3.2.1], used for shear stress calculation. 〈omitted〉	The hull girder shear stresses, τ_{hg}, in $\mathrm{N/mm^2}$, in the plate i are determined as follows: $\tau_{hg} = \frac{Q_{Tot}(x)\, q_{vi}}{t_{i-n50}} 10^3$ where: $Q_{Tot}(x)$: Total vertical shear force, in kN, at the ship longitudinal location x, taken as follows: a) For the design load combination S + D • For seagoing operations: $Q_{Tot}(x) = \lvert Q_{sw} + Q_{wv-LC} \rvert$ b) For the design load combination S • For harbour / sheltered water operations: $Q_{Tot}(x) = \lvert Q_{sw-p} \rvert$ q_{vi} : Contribution ratio in way of the plate i, as defined in Ch 5, Sec 1, [2.2.1]. t_{i-n50} : Net thickness of the plate i, in mm as defined in Ch 5, Sec 1, [2.2.1], used for shear stress calculation. 〈omitted〉 〈same as the present〉	- typo

Present	Amendment	Note
Chapter 12 Construction **Section 1 ~ 2 〈omitted〉** **Section 3 Design of Weld Joint** **1. 〈omitted〉** **2. Tee or Cross Joint** **2.1 ~ 2.4 〈omitted〉** **2.5 Weld size criteria** **2.5.1 ~ 2.5.7 〈omitted〉** **2.5.8** Welding of longitudinals to plating is to be doubled continuous at the ends of the longitudinals at the extent of 15 % of shear span as defined in Ch 3, Sec 6, [1.1.3]. In way of primary supporting members, the length of the double continuous weld is to be equal to the depth of the longitudinal or the end bracket, whichever is greater.	**Chapter 12 Construction** **Section 1 ~ 2 〈same as the present〉** **Section 3 Design of Weld Joint** **1. 〈same as the present〉** **2. Tee or Cross Joint** **2.1 ~ 2.4 〈same as the present〉** **2.5 Weld size criteria** **2.5.1 ~ 2.5.7 〈same as the present〉** **2.5.8** Welding of longitudinals to plating is to be doubled continuous at the ends of the longitudinals at the extent of 15 % of shear span as defined in Ch 3, Sec 7, [1.1.3]. In way of primary supporting members, the length of the double continuous weld is to be equal to the depth of the longitudinal or the end bracket, whichever is greater.	- typo

Present	Amendment	Note
〈Rules Pt 14〉 **Chapter 4 Loads** **Section 1 ~ 4 〈omitted〉** **Section 5 External Loads** **1. ~ 2. 〈omitted〉** **3. External impact pressures** **3.1 〈omitted〉** **3.2 Equivalent design pressure** **3.2.1 Entry impact pressure** The entry impact pressure, P_{EI} in $\mathrm{kN/m^2}$, as equivalent static pressure is to be taken as: $P_{EI} = CP_EC_E$ where: C : Vertical distribution coefficient, to be taken as: $C = 1.0$ for bottom slamming $C = 0.18(C_w - 0.5h_0)$ for bow impact $C = 0.18(C_w - 2.0h_0)$ for stern slamming ~~C is not to be less than 0.0 nor greater than 1.0.~~ 〈omitted〉	**〈Rules Pt 14〉** **Chapter 4 Loads** **Section 1 ~ 4 〈same as present〉** **Section 5 External Loads** **1. ~ 2. 〈same as present〉** **3. External impact pressures** **3.1 〈same as present〉** **3.2 Equivalent design pressure** **3.2.1 Entry impact pressure** The entry impact pressure, P_{EI} in $\mathrm{kN/m^2}$, as equivalent static pressure is to be taken as: $P_{EI} = CP_EC_E$ where: C : Vertical distribution coefficient, to be taken as follow but not to be taken less than 0.0: $C = 1.0$ for bottom slamming $C = 0.18(C_w - 0.5h_0)$ for bow impact $C = 0.18(C_w - 2.0h_0)$, but not greater than 1.0 for stern slamming 〈same as present〉	- for clarification of application

PART 15

Present	Correction	Reason
〈Rule Part 15〉 **Chapter 1** **General Principles** **Section 1 Application** **1. Scope of application** **1.1 General** **1.1.1** These Rules apply to the following ships: a) Ships intended to be registered and classed as "Liquefied Gas Carrier" and: b) Membrane type liquefied natural gas carriers having a length L of 150m above and: c) Being self-propelled ships with unrestricted navigation. Note 1: Unrestricted navigation means that the ship is not subject to any geographical restrictions (i.e. any oceans, any seasons) except that limited by the ship's capability for operation in ice. Note 2: Membrane type means that the ship has membrane tanks (3M notation assigned) as a cargo containment system in hold for the carriage of liquefied gases in bulk. ⚓	**〈Rule Part 15〉** **Chapter 1** **General Principles** **Section 1 Application** **1. Scope of application** **1.1 General** **1.1.1** These Rules apply to the following ships: a) Ships intended to be registered and classed as "Liquefied Gas Carrier" and: b) Membrane type liquefied natural gas carriers having a length L of 150m or above and: c) Being self-propelled ships with unrestricted navigation. Note 1: Unrestricted navigation means that the ship is not subject to any geographical restrictions (i.e. any oceans, any seasons) except that limited by the ship's capability for operation in ice. Note 2: Membrane type means that the ship has membrane tanks (3M notation assigned) as a cargo containment system in hold for the carriage of liquefied gases in bulk. ⚓	-Typo (above → or above) * HUT4000-1267-2024

Present	Correction	Reason
# Chapter 6 Hull Local Scantling ## Section 4 Plating **2.2 Bilge plating** **2.2.1 Definition of bilge area** The definition of bilge area is given in **Ch 1, Sec 4, [3.7.1].** **2.2.2 Bilge plate thickness** a) The net thickness of bilge plating is not to be taken less than the ~~offered net thickness~~ for the adjacent bottom shell or adjacent side shell plating, whichever is greater.	# Chapter 6 Hull Local Scantling ## Section 4 Plating **2.2 Bilge plating** **2.2.1 Definition of bilge area** The definition of bilge area is given in **Ch 1, Sec 4, [3.7.1].** **2.2.2 Bilge plate thickness** a) The net thickness of bilge plating is not to be taken less than the net required thickness for the adjacent bottom shell or adjacent side shell plating, whichever is greater.	- Typo

Present	Correction	Reason
Chapter 7 **Direct Strength Analysis** **Section 2 Strength Assessment**	**Chapter 7** **Direct Strength Analysis** **Section 2 Strength Assessment**	
1. General 〈omission〉	**1. General** 〈same as present〉	
2. Structural model	**2. Structural model**	
2.1 ~ 2.4 〈omission〉	**2.1 ~ 2.4** 〈same as present〉	
2.5 Boundary conditions	**2.5 Boundary conditions**	
2.5.1 General	**2.5.1 General**	-Typo (IGC pressure applied cases → LM3-I)
All boundary conditions described in this section are in accordance with the global coordinate system defined in **Ch 4, Sec 1**. The boundary conditions given **[2.5.2]** are applicable to cargo hold finite element model analyses in cargo hold region.	All boundary conditions described in this section are in accordance with the global coordinate system defined in **Ch 4, Sec 1**. The boundary conditions given **[2.5.2]** are applicable to cargo hold finite element model analyses in cargo hold region.	
2.5.2 Boundary Conditions	**2.5.2 Boundary Conditions**	
The rigid links connect the nodes on the longitudinal members at the model ends to an independent point at neutral axis in centreline. The boundary conditions to be applied at the ends of the mid-hold cargo hold FE model are given in **Table 1.** For the foremost and aftmost cargo hold analysis, the boundary conditions to be applied at the ends of the cargo hold model are given in **Table 2** and **Table 3** respectively. For the case of ~~IGC pressure applied cases~~, additional boundary condition as given in **Table 4** is to be applied at the aftward and forward cofferdam bulkheads of middle hold in the model.	The rigid links connect the nodes on the longitudinal members at the model ends to an independent point at neutral axis in centreline. The boundary conditions to be applied at the ends of the mid-hold cargo hold FE model are given in **Table 1.** For the foremost and aftmost cargo hold analysis, the boundary conditions to be applied at the ends of the cargo hold model are given in **Table 2** and **Table 3** respectively. For the case of LM3-I, additional boundary condition as given in **Table 4** is to be applied at the aftward and forward cofferdam bulkheads of middle hold in the model. ⚓	

Present	Correction	Reason
Table 5 : Additional ~~IGC~~ boundary constraints at bulkhead sections for cargo hold model	Table 4 : Additional LM3-I boundary constraints at bulkhead sections for cargo hold model	-Typo (IGC→ LM3-I)

Location	Translation			Rotation		
	δ_x	δ_y	δ_z	θ_x	θ_y	θ_z
Aftward cofferdam bulkhead of Aft bulkhead in the middle hold						
Line D, Line B	-	Fix	-	-	-	-
Forward cofferdam bulkhead of fore bulkhead in the middle hold						
Line D, Line B	-	Fix	-	-	-	-
Note 7 : [-] means no constraint applied (free). Note 8 : See **Figure 9.**						

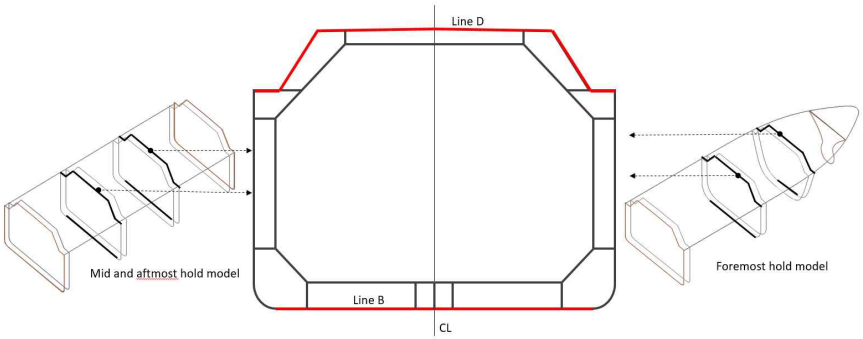


Figure 9 : Additional ~~IGC~~ Boundary conditions applied at the model

Location	Translation			Rotation		
	δ_x	δ_y	δ_z	θ_x	θ_y	θ_z
Aftward cofferdam bulkhead of Aft bulkhead in the middle hold						
Line D, Line B	-	Fix	-	-	-	-
Forward cofferdam bulkhead of fore bulkhead in the middle hold						
Line D, Line B	-	Fix	-	-	-	-
Note 7 : [-] means no constraint applied (free). Note 8 : See **Figure 9.**						

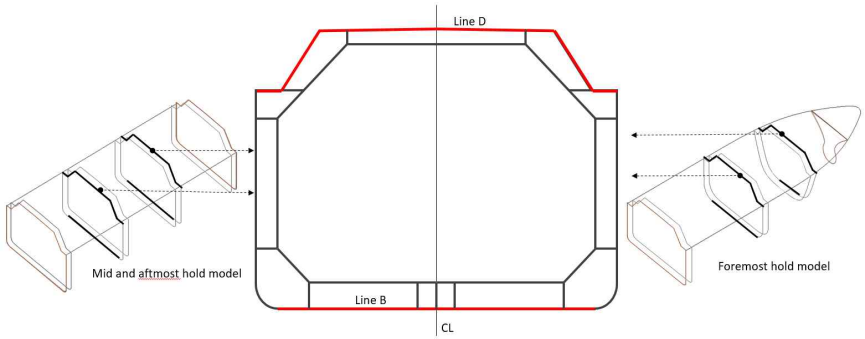
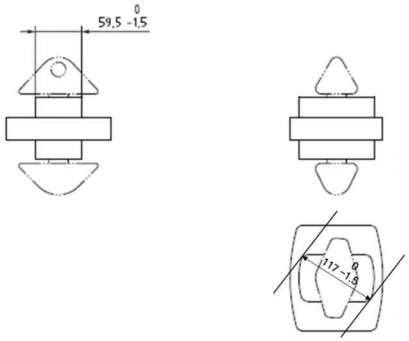
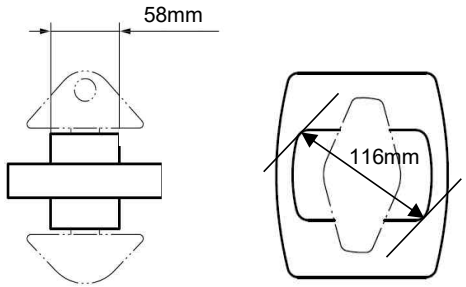


Figure 9 : Additional LM3-I Boundary conditions applied at the model

OTHER RULES AND GUIDANCE

Present	Amendment	Note
〈Guidance for Floating Production Units〉 **CHAPTER 1 GENERAL** **Section 1 General** **102. Classification of units** 1. Purpose of units (3) FSO (Floating Production and Storage) FSO is a unit with systems for the storage and off-loading of produced crude oil and petroleum gases.	〈Guidance for Floating Production Units〉 **CHAPTER 1 GENERAL** **Section 1 General** **102. Classification of units** 1. Purpose of units (3) FSO (Floating Storage and Offloading) FSO is a unit with systems for the storage and offloading of produced crude oil and petroleum gases.	- Edited for translation error.

Present	Amendment	Note
〈Guidance for Type Approval〉 CHAPTER 3 TYPE APPROVAL 2504. Test requirements of additional special feature notation HHS(High Holding Securing) *(2021)* 6. The twistlock housing should be fastened with at least one bolt each at the top and bottom. Also the dimension of the neck of the twist lock should be equal to or greater than the value according to **Fig. 3.25.5**. In this case, the neck of the twistlock should be symmetrical in the length/width direction. *(2023)*  Fig. 3.25.5 *(2024)* CHAPTER 4 DESIGN APPROVAL Section 3 Container Lashing calculation program	〈Guidance for Type Approval〉 CHAPTER 3 TYPE APPROVAL 2504. Test requirements of additional special feature notation HHS(High Holding Securing) *(2021)* 6. The bottom twistlock housing should be fastened with at least one bolt each at the top and bottom. Also the dimension of the neck of the twist lock should be equal to or greater than the value according to **Fig. 3.25.5**. In this case, the neck of the twistlock should be symmetrical in the length/width direction. *(2023)*  그림 3.25.5 *(2024)* CHAPTER 4 DESIGN APPROVAL Section 3 Container Lashing Calculation Program	- English only

Present	Amendment	Note
〈Guidances Relating to the Rules for the Classification of Floating Docks〉	**〈Guidances Relating to the Rules for the Classification of Floating Docks〉**	
ANNEX GUIDANCE FOR DOCK GATES	**ANNEX GUIDANCE FOR DOCK GATES**	
1. 〈omitted〉	**1. 〈same as the presnt〉**	
2. Classification Surveys	**2. Classification Surveys**	
2.1 Classification Survey during Construction	**2.1 Classification Survey during Construction**	
(1) Survey For classification survey of a dock gate, the materials, workmanship and arrangements are to be surveyed in the presence of the Surveyor from the commencement of the work until the completion of the dock, and until the completion of the final test for machinery under the working condition. Any item found not to be in accordance with the **Rules** or the approved plans, or any material, workmanship or arrangement found to be unsatisfactory are to be rectified. (2) Hydraulic test Hydraulic test and leak test are to be carried out in accordance with Pt 3, Ch 1, 209. of the **Rules** in the presence of the Surveyor. 〈omitted〉	(1) Survey For classification survey of a dock gate, the materials, workmanship and arrangements are to be surveyed in the presence of the Surveyor from the commencement of the work until the completion of the dock, and until the completion of the final test for machinery under the working condition. Any item found not to be in accordance with the **Rules** or the approved plans, or any material, workmanship or arrangement found to be unsatisfactory are to be rectified. (2) Hydraulic test Hydraulic test and leak test are to be carried out in accordance with Pt 1, Annex 1-16 of Guidance relating to the **Rules** in the presence of the Surveyor. 〈same as the presnt〉	- Revision of reference

Present	Amendment	Note
3. Stability **3.1 Criteria of Stability Calculation** (1) Stability calculation is to be in accordance with following conditions. (A) The position of center of gravity of dock gate is to be obtained from the results of inclining test. (B) The free surface effect of liquid tanks is to be considered. (2) Further details other than above, **Pt 1, Annex 1-2** of Guidance relating to the **Rules** is to be applied to stability calculation. 〈omitted〉	**3. Stability** **3.1 Criteria of Stability Calculation** (1) Stability calculation is to be in accordance with following conditions. (A) The position of center of gravity of dock gate is to be obtained from the results of inclining test. (B) The free surface effect of liquid tanks is to be considered. (2) Further details other than above, **IS Code 2008** may be applied to stability calculation. 〈same as the presnt〉	- Revision of reference

Present	Amendment	Note
〈Guidance for the LNG Fuel Ships Ready〉	〈Guidance for the LNG Fuel Ships Ready〉	
CHAPTER 2 REQUIREMENTS FOR LEVELS OF LNG FUEL READY	CHAPTER 2 REQUIREMENTS HAPTER 2 REQUIREMENTS FOR LEVELS OF LNG FUEL READY	
Section 1 ~ 3 〈omitted〉	Section 1 ~ 3 〈same as the present〉	
Section 4 Level of Installing Parts of System	Section 4 Level of Installing Parts of System	
401. General 1. 〈omitted〉 2. The plans and documents for generic design required in Sec 2 are to be submitted and reviewed by the Society except those required for approval in 302. to 306.. 3. ~ 4. 〈omitted〉	401. General 1. 〈same as the present〉 2. The plans and documents for generic design required in Sec 3 are to be submitted and reviewed by the Society except those required for approval in 402. to 406.. 3. ~ 4. 〈same as the present〉	
402. ~ 412. 〈omitted〉	402. ~ 412. 〈same as the present〉	