



# CIRCULAR

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**To :** All Surveyors and whom it may concern

**No : 2022-11-E**  
**Date : 30 Sep. 2022**

<b>Subject</b>	9.165 Notice for Establishment to the KR Technical Rules
<b>Application</b>	1 Jan. 2023 (See below)

1. Please be informed that the amendments have been made to reflect IACS Resolutions, IMO Circulars and Requests for Establishment/Revision of Classification Technical Rules, and you are kindly requested to apply the amendments on the relevant works according to effective date.

2. Furthermore, please be informed that the amendments will be included in 2023 edition on Classification Technical Rules which will be published in the first half of 2023.

----- below -----

Classification Technical Rules	Effective Date	Main Amendments
Rules/Guidance for the Classification of Steel Ships Pt 2	The application date for certification of material & welding or the contract date for ship construction on or after 01.01.2023	IACS UR W2(Rev.3 Sep 2021) IACS UR W13(Rev.7 Sep 2021) IACS UR W17(Rev.6 Sep 2021) IACS UR W25(Rev.6 Sep 2021) IACS UR W14(Rev.3 Sep 2021)
Rules for the Classification of Steel Ships Pt 5	The contract date for ship construction on or after 01.01.2023	IACS UR M60 (Rev.1 Nov 2021)
	The application date for certification on or after 01.01.2023	IACS UR M73 (Rev.1 Mar 2022)

Rules for the Classification of Steel Ships Pt 5 Ch 6	The contract date for ship construction on or after 01.01.2023	IACS UR M61 (Rev.1 Feb 2022)
Guidance for the Classification of Steel Ships Pt 7 Ch 5	The contract date for ship construction on or after 01.01.2023	IACS UI GC 32(Rev.1 Feb 2022) MSC Circ. 1651 To reflect result of internal review
Rules for the Classification of Mobile Offshore Drilling Units	The contract date for ship construction on or after 01.01.2023	IACS UR D11(Rev.4 Dec 2021)

Attachments: Amendments for the Classification Technical Rules (K/E) --- each 1 copy.  
(The End)

# Amended Rules for the Classification of Steel Ships

(Part 2 Materials and Welding)



## – Main Amendments –

(1) Effective date : 1 January 2023 (the date of application for certification of material & welding or the contract date for ship construction)

- To reflect IACS UR W2(Rev.3 Sep 2021)
- To reflect IACS UR W13(Rev.7 Sep 2021)
- To reflect IACS UR W17(Rev.6 Sep 2021)
- To reflect IACS UR W25(Rev.6 Sep 2021)

Present	Amendment
<p align="center"><b>CHAPTER 1 MATERIALS</b></p> <p align="center">Section 1 &lt;Omitted&gt; Section 2 Test Specimens and Testing Procedures</p> <p>201. General</p> <p>1. &lt;Omitted&gt;</p> <p>2. Testing machine</p> <p>(1) The testing machines used for the tests relative to this Chapter are to be managed by competent personnel on machines.</p> <p>(2) Tension/compression testing machines are to be calibrated in accordance with <u>ISO 7500-1</u> or other recognised standard. <b>【See Guidance】</b></p> <p>(3) Impact testing machines are to be calibrated in accordance with <u>ISO 148-2</u> or other recognised standard. <b>【See Guidance】</b></p> <p>(4) The accuracy of tensile test machines is to be within <math>\pm 1\%</math></p> <p>3. &lt;Omitted&gt;</p> <p>201. ~ 203. &lt;Omitted&gt;</p>	<p align="center"><b>CHAPTER 1 MATERIALS</b></p> <p align="center">Section 1 &lt;Same as the present Rules&gt; Section 2 Test Specimens and Testing Procedures</p> <p>201. General</p> <p>1. &lt;Same as the present Rules&gt;</p> <p>2. Testing machine</p> <p>(1) The testing machines used for the tests relative to this Chapter are to be managed by competent personnel on machines.</p> <p>(2) Tension/compression testing machines are to be calibrated in accordance with <u>ISO 7500-1:2018</u> or other recognised standard. (2023) <b>【See Guidance】</b></p> <p>(3) Impact testing machines are to be calibrated in accordance with <u>ISO 148-2:2016</u> or other recognised standard. (2023) <b>【See Guidance】</b></p> <p>(4) The accuracy of tensile test machines is to be within <math>\pm 1\%</math>.</p> <p>3. &lt;Same as the present Rules&gt;</p> <p>201. ~ 203. &lt;Same as the present Rules&gt;</p>

Present	Amendment
<p align="center"><b>Section 3 Rolled Steels</b></p> <p><b>301. Rolled steels for hull structural</b></p> <p><b>1. ~ 7.</b> &lt;Omitted&gt;</p> <p><b>8. Verification of dimensions and thickness</b> 【See Guidance】</p> <p>(1) <b>Scope</b></p> <p>(a) The Requirements apply to the tolerance on thickness of steel plates and wide flats with widths of 600 mm or greater with thicknesses of 5 mm and over. The thickness tolerances for products below 5 mm are to be in accordance with a national or international standard, e.g. Class B of <u>ISO 7452</u>. However, the minus tolerance is to be not exceed 0.3 mm. The wide flats with under 600 mm of width may be agreed between the manufacturer and purchaser at the time of ordering. (2019)</p> <p>(b) ~ (d) &lt;Omitted&gt;</p> <p>(2) ~ (5) &lt;Omitted&gt;</p> <p><b>9. ~ 13.</b> &lt;Omitted&gt;</p> <p><b>302. ~ 312.</b> &lt;Omitted&gt;</p> <p align="center"><b>Section 4 ~ Section 7</b> &lt;Omitted&gt;</p>	<p align="center"><b>Section 3 Rolled Steels</b></p> <p><b>301. Rolled steels for hull structural</b></p> <p><b>1. ~ 7.</b> &lt;Same as the present Rules&gt;</p> <p><b>8. Verification of dimensions and thickness</b> 【See Guidance】</p> <p>(1) <b>Scope</b></p> <p>(a) The Requirements apply to the tolerance on thickness of steel plates and wide flats with widths of 600 mm or greater with thicknesses of 5 mm and over. The thickness tolerances for products below 5 mm are to be in accordance with a national or international standard, e.g. Class B of <u>ISO 7452:2013</u>. However, the minus tolerance is to be not exceed 0.3 mm. The wide flats with under 600 mm of width may be agreed between the manufacturer and purchaser at the time of ordering. (2019) (2023)</p> <p>(b) ~ (d) &lt;Same as the present Rules&gt;</p> <p>(2) ~ (5) &lt;Same as the present Rules&gt;</p> <p><b>9. ~ 13.</b> &lt;Same as the present Rules&gt;</p> <p><b>302. ~ 312.</b> &lt;Same as the present Rules&gt;</p> <p align="center"><b>Section 4 ~ Section 7</b> &lt;Same as the present Rules&gt;</p>

Present	Amendment
<p align="center"><b>Section 8 Aluminium Alloys</b></p> <p><b>801. Aluminium alloys</b></p> <p><b>1. ~ 7.</b> &lt;Omitted&gt;</p> <p><b>8. Drift expansion tests</b></p> <p>The manufacturer has to demonstrate by macrosection tests or drift expansion tests of closed profiles performed on each batch of closed profiles that there is no lack of fusion at the press welds.</p> <p>(1) ~ (3) &lt;Omitted&gt;</p> <p>(4) The lengths of the drift expanding test specimens are to be equal to 1.5 times the external diameter(D) of the test specimen in accordance with <u>(KS B) ISO 8493</u>. The test piece may be shorter provided that after testing the remaining cylindrical portion is not less than 0.5D.</p> <p>(5) ~ (6) &lt;Omitted&gt;</p> <p><b>9. Corrosion testing</b></p> <p><b>(1) Testing procedures</b></p> <p>(a) &lt;Omitted&gt;</p> <p>(b) A reference photomicrograph taken at 500x, under the conditions specified in <b>ASTM B928</b>, Section 9.4.1, shall be established for each of the alloy-temper and thickness ranges relevant.</p> <p>(c) The reference photographs shall be taken from samples which have exhibited no evidence of exfoliation corrosion and a pitting rating of PB or better, when subjected to the test described in <b>ASTM G66</b> (ASSET).</p> <p>(d) The samples shall also have exhibited resistance to intergranular corrosion at a mass loss no greater than 15mg/cm<sup>2</sup>, when subjected to the test described in <b>ASTM G67</b> (NAMLT).</p> <p>(e) ~ (f) &lt;Omitted&gt;</p>	<p align="center"><b>Section 8 Aluminium Alloys</b></p> <p><b>801. Aluminium alloys</b></p> <p><b>1. ~ 7.</b> &lt;Same as the present Rules&gt;</p> <p><b>8. Drift expansion tests</b></p> <p>The manufacturer has to demonstrate by macrosection tests or drift expansion tests of closed profiles performed on each batch of closed profiles that there is no lack of fusion at the press welds.</p> <p>(1) ~ (3) &lt;Same as the present Rules&gt;</p> <p>(4) The lengths of the drift expanding test specimens are to be equal to 1.5 times the external diameter(D) of the test specimen in accordance with <u>(KS B) ISO 8493:1998</u>. The test piece may be shorter provided that after testing the remaining cylindrical portion is not less than 0.5D. <i>(2023)</i></p> <p>(5) ~ (6) &lt;Same as the present Rules&gt;</p> <p><b>9. Corrosion testing</b></p> <p><b>(1) Testing procedures</b></p> <p>(a) &lt;Same as the present Rules&gt;</p> <p>(b) A reference photomicrograph taken at 500x, under the conditions specified in <u>ASTM B928:2015</u>, Section 9.4.1, shall be established for each of the alloy-temper and thickness ranges relevant. <i>(2023)</i></p> <p>(c) The reference photographs shall be taken from samples which have exhibited no evidence of exfoliation corrosion and a pitting rating of PB or better, when subjected to the test described in <u>ASTM G66:2018</u> (ASSET). <i>(2023)</i></p> <p>(d) The samples shall also have exhibited resistance to intergranular corrosion at a mass loss no greater than 15mg/cm<sup>2</sup>, when subjected to the test described in <u>ASTM G67:2018</u> (NAMLT). <i>(2023)</i></p> <p>(e) ~ (f) &lt;Same as the present Rules&gt;</p>

Present	Amendment
<p>(2) <b>Acceptance criteria</b></p> <p>(a) For batch acceptance of 5xxx-alloys in the H116 and H321 tempers, metallographic examination of one sample selected from mid width at one end of a coil or random sheet or plate is to be carried out in accordance with <b>ASTM B928</b> or equivalent standards agreed by the Society. The microstructure of the sample is to be compared to the reference photomicrograph of acceptable material in the presence of the Surveyor. <b>【See Guidance】</b></p> <p>(b) &lt;Omitted&gt;</p> <p>(c) Corrosion tests with respect to exfoliation and intergranular corrosion resistance are to be in accordance with <b>ASTM G66</b> and <b>G67</b> or equivalent standards agreed by the Society. <b>【See Guidance】</b></p> <p>(i) The samples have exhibited no evidence of exfoliation corrosion and a pitting rating of PB or better when subjected to the test described in <b>ASTM G66</b>.</p> <p>(ii) The samples shall also have exhibited resistance to intergranular corrosion at a mass loss no greater than 15 mg/cm<sup>2</sup>, when subjected to the test described in <b>ASTM G67</b>.</p> <p>If the results from testing satisfy the acceptance criteria, the batch is accepted, else it is to be rejected.</p> <p>(d) As an alternative to metallographic examination, each batch may be tested for exfoliation-corrosion resistance and intergranular corrosion resistance, in accordance with <b>ASTM G66</b> and <b>G67</b> under the conditions specified in <b>ASTM B928</b>, or equivalent standards. If this alternative is used, then the results of the test must satisfy the acceptance criteria stated in (c) above.</p> <p><b>10. ~ 14.</b> &lt;Omitted&gt;</p>	<p>(2) <b>Acceptance criteria</b></p> <p>(a) For batch acceptance of 5xxx-alloys in the H116 and H321 tempers, metallographic examination of one sample selected from mid width at one end of a coil or random sheet or plate is to be carried out in accordance with <u>ASTM B928:2015</u> or equivalent standards agreed by the Society. The microstructure of the sample is to be compared to the reference photomicrograph of acceptable material in the presence of the Surveyor. (2023) <b>【See Guidance】</b></p> <p>(b) &lt;Same as the present Rules&gt;</p> <p>(c) Corrosion tests with respect to exfoliation and intergranular corrosion resistance are to be in accordance with <u>ASTM G66:2018</u> and <u>G67:2018</u> or equivalent standards agreed by the Society. (2023) <b>【See Guidance】</b></p> <p>(i) The samples have exhibited no evidence of exfoliation corrosion and a pitting rating of PB or better when subjected to the test described in <u>ASTM G66:2018</u>. (2023)</p> <p>(ii) The samples shall also have exhibited resistance to intergranular corrosion at a mass loss no greater than 15 mg/cm<sup>2</sup>, when subjected to the test described in <u>ASTM G67:2018</u>. (2023)</p> <p>If the results from testing satisfy the acceptance criteria, the batch is accepted, else it is to be rejected.</p> <p>(d) As an alternative to metallographic examination, each batch may be tested for exfoliation-corrosion resistance and intergranular corrosion resistance, in accordance with <u>ASTM G66:2018</u> and <u>G67:2018</u> under the conditions specified in <u>ASTM B928:2015</u>, or equivalent standards. If this alternative is used, then the results of the test must satisfy the acceptance criteria stated in (c) above. (2023)</p> <p><b>10. ~ 14.</b> &lt;Same as the present Rules&gt;</p>



Present	Amendment
<p style="text-align: center;"><b>CHAPTER 2 WELDING</b></p> <p style="text-align: center;">Section 1 ~ Section 2   &lt;Omitted&gt;</p> <p style="text-align: center;">Section 6   Welding Consumables</p> <p>601.   &lt;Omitted&gt;</p> <p>602.   Electrodes for manual arc welding for normal strength steels, higher strength steels and steels for low temperature service</p> <p>    1. ~ 5.   &lt;Omitted&gt;</p> <p>    6.   Hydrogen test</p> <p>        The hydrogen test to be carried out by the mercury method or thermal conductivity detector method. The use of the glycerine method may be admitted at the Society discretion. <i>(2017)</i></p> <p>        (1) The mercury method to be as specified in the Standard <u>ISO 3690</u>. <i>(2017)</i></p> <p>        (2) The thermal conductivity detector method is to be as specified in <u>ISO 3690</u>. Four weld assemblies are to be prepared. The temperature of the specimens and minimum holding time are to be complied with <b>Table 2.2.31</b>, according to the measuring method respectively. <i>(2017)</i></p> <p> (hereafter, omitted)</p>	<p style="text-align: center;"><b>CHAPTER 2 WELDING</b></p> <p style="text-align: center;">Section 1 ~ Section 2   &lt;Same as the present Rules&gt;</p> <p style="text-align: center;">Section 6   Welding Consumables</p> <p>601.   &lt;Same as the present Rules&gt;</p> <p>602.   Electrodes for manual arc welding for normal strength steels, higher strength steels and steels for low temperature service</p> <p>    1. ~ 5.   &lt;Same as the present Rules&gt;</p> <p>    6.   Hydrogen test</p> <p>        The hydrogen test to be carried out by the mercury method or thermal conductivity detector method. The use of the glycerine method may be admitted at the Society discretion. <i>(2017)</i></p> <p>        (1) The mercury method to be as specified in the Standard <u>ISO 3690:2018</u>. <i>(2017) (2023)</i></p> <p>        (2) The thermal conductivity detector method is to be as specified in <u>ISO 3690:2018</u>. Four weld assemblies are to be prepared. The temperature of the specimens and minimum holding time are to be complied with <b>Table 2.2.31</b>, according to the measuring method respectively. <i>(2017) (2023)</i></p> <p> (hereafter, same as the present Rules)</p>

# Guidance relating to the Rules for the Classification of Steel Ships

(Guidance Part 2 Materials and Welding)



## – Main Amendments –

(1) Effective date : 1 January 2023 (the date of application for certification of material & welding or the contract date for ship construction)

● To reflect IACS UR W14(Rev.3 Sep 2021)

Present	Amendment
<p align="center"><b>CHAPTER 1 MATERIALS</b></p> <p align="center"><b>Section 1 ~ Section 2</b> &lt;Omitted&gt;</p> <p align="center"><b>Section 3 Rolled Steels</b></p> <p>301. ~ 309. &lt;Omitted&gt;</p> <p>310. Additional requirements for through thickness properties</p> <p>1. ~ 2. &lt;Omitted&gt;</p> <p>3. Ultrasonic tests</p> <p>(1) Ultrasonic test procedures and acceptance criteria, specified in <b>310. 7</b> (2) of the Rules, are to be in accordance with either <i>EN 10160 Level S1/E1</i>, <i>ASTM A 578 Level C</i> or accepted standard at the discretion of the Society <b>【See Rule】</b></p> <p>(hereafter, omitted)</p>	<p align="center"><b>CHAPTER 1 MATERIALS</b></p> <p align="center"><b>Section 1 ~ Section 2</b> &lt;Same as the present Guidance&gt;</p> <p align="center"><b>Section 3 Rolled Steels</b></p> <p>301. ~ 309. &lt;Same as the present Guidance&gt;</p> <p>310. Additional requirements for through thickness properties</p> <p>1. ~ 2. &lt;Same as the present Guidance&gt;</p> <p>3. Ultrasonic tests</p> <p>(1) Ultrasonic test procedures and acceptance criteria, specified in <b>310. 7</b> (2) of the Rules, are to be in accordance with either <i>EN 10160 Level S1/E1</i>, <i>ASTM A 578:2027 Level C</i> or accepted standard at the discretion of the Society (2023) <b>【See Rule】</b></p> <p>(hereafter, same as the present Rules)</p>

# Amended Rules for the Classification of Steel Ships

(Part 5 Machinery Installations)



## – Main Amendments –

(1) Effective date : 1 Jan. 2023 (Date of which contracts for construction are signed)

- The requirement for safety devices of gas turbines has been revised to reflect IACS UR M60 (Rev.1 Nov 2021).

(2) Effective date : 1 Jan. 2023 (Application date for certification of a new turbocharger type or of a turbocharger type that has undergone substantive modifications in respect of the one previously type approved, or for renewal of an expired type approval certificate)

- IACS UR M73 (Rev.1 Mar 2022) on change of effective date of the requirements for turbocharger has been reflected.
  - The effective date of Ch 1, 211. has been changed.
  - The effective date of Ch 2, 202. 3 (3), (4), (5) has been changed.
  - The effective date of Ch 2, 211. 2 (1) has been changed.

Present	Amendment
<p><b>CHAPTER 2 MAIN AND AUXILIARY ENGINES</b></p> <p><b>Section 4 Gas Turbines</b></p> <p><b>401. ~ 403. &lt;omitted&gt;</b></p> <p><b>404. Safety devices</b></p> <ol style="list-style-type: none"> <li>1. Gas turbines are to be provided with automatic safety systems and devices for safeguards against hazardous conditions arising from malfunctions in their operation. The design of safety devices is to be evaluated with failure mode and effects analysis. <i>(2021)</i></li> <li><b>2. Governors and overspeed protective devices</b> (1) ~ (2) &lt;omitted&gt;</li> <li>3. Hand trip gear for shutting off the fuel in an emergency is to be provided at the local control position and, where applicable, at the gas turbine control station. <i>(2021)</i></li> <li><b>4. Alarms and shutdowns (2021)</b>  Gas turbines are to be provided with audible and visible alarming devices, and a quick closing device (shutdown device) which automatically shuts off the fuel supply to the gas turbines <u>as a minimum</u> in listed in <b>Table 5.2.6</b>.</li> </ol> <p>(hereafter, omitted)</p>	<p><b>CHAPTER 2 MAIN AND AUXILIARY ENGINES</b></p> <p><b>Section 4 Gas Turbines</b></p> <p><b>401. ~ 403. &lt;same as the present&gt;</b></p> <p><b>404. Safety devices</b></p> <ol style="list-style-type: none"> <li>1. Gas turbines are to be provided with automatic safety systems and devices for safeguards against hazardous conditions arising from malfunctions in their operation. The design of safety devices is to be evaluated with failure mode and effects analysis. <i>(2021)</i></li> <li><b>2. Governors and overspeed protective devices</b> (1) ~ (2) &lt;same as the present&gt;</li> <li>3. Hand trip gear for shutting off the fuel in an emergency is to be provided at the local control position and, where applicable, at the gas turbine control station. <i>(2021)</i></li> <li><b>4. Alarms and shutdowns (2021)</b>  Gas turbines are <u>in principle</u> to be provided with audible and visible alarming devices, and a quick closing device (shutdown device) which automatically shuts off the fuel supply to the gas turbines <del>as a minimum</del> in listed in <b>Table 5.2.6</b>. <u>However, alarm and shutdown devices can be added or omitted, taking into account the result of FMEA specified in Par 1.</u> <i>(2023)</i></li> </ol> <p>(hereafter, same as the present Rules)</p>

# Amended Rules for Classification of Steel Ships

(Pt. 5 Machinery Installations – Chapter 6)





## – Main Amendments –

- (1) Effective date : 1 Jan 2023 (based on contract date for construction)
  - reflected of IACS UR M61 Rev.1

Present	Amendment
<p style="text-align: center;"><b>CHAPTER 6 AUXILIARIES AND PIPING ARRANGEMENT</b></p> <p style="text-align: center;"><b>Section 11 Compressed Air System</b></p> <p><b>1101. Compressed air starting devices [See Guidance]</b></p> <p><b>1. Number and capacity of main air reservoirs</b></p> <ul style="list-style-type: none"> <li>(1) Where the main engines are arranged for starting by compressed air, at least two starting air reservoirs of about equal capacity are to be fitted. These reservoirs are to be connected ready for use.</li> <li>(2) The total capacity of air reservoirs is to be sufficient to provide, without their being replenished, not less than 12 consecutive starts altering between Ahead and Astern of each main engine of the reversible type, and not less than 6 consecutive starts of each main non-reversible type engine. <u>The number of starts refers to engine in cold and ready to start conditions.</u></li> <li>(3) Where the auxiliary engines are designed for starting by compressed air, two separate auxiliary air reservoirs which are to be sufficient for at least three starts for each auxiliary engine <u>when in cold and ready to start conditions</u> are to be fitted, or starting air for auxiliary engines is to be supplied by separate piping from main air reservoirs. In case where only one auxiliary reservoir is fitted, starting air pipes are to be connected with main air reservoir.</li> <li>(4) Where the auxiliary engines are designed for starting by the main air reservoirs, the capacity of the main air reservoirs is to be more than sum of the capacity required in (2) and (3) above, and the amount consumed for engine control systems, whistle, etc.</li> <li>(5) For multi-engine installations, the number of starts required for each engine is to be determined as deemed appropriate by the Society.</li> </ul> <p>⟨Omitted⟩</p>	<p style="text-align: center;"><b>CHAPTER 6 AUXILIARIES AND PIPING ARRANGEMENT</b></p> <p style="text-align: center;"><b>Section 11 Compressed Air System</b></p> <p><b>1101. Compressed air starting devices [See Guidance]</b></p> <p><b>1. Number and capacity of main air reservoirs <i>(2023)</i></b></p> <ul style="list-style-type: none"> <li>(1) Where the main engines are arranged for starting by compressed air, at least two starting air reservoirs of about equal capacity are to be fitted. These reservoirs are to be connected ready for use.</li> <li>(2) The total capacity of air reservoirs is to be sufficient to provide, without their being replenished, not less than 12 consecutive starts altering between Ahead and Astern of each main engine of the reversible type, and not less than 6 consecutive starts of each main non-reversible type engine. <del>The number of starts refers to engine in cold and ready to start conditions.</del></li> <li>(3) Where the auxiliary engines are designed for starting by compressed air, two separate auxiliary air reservoirs which are to be sufficient for at least three starts for each auxiliary engine <del>when in cold and ready to start conditions</del> are to be fitted, or starting air for auxiliary engines is to be supplied by separate piping from main air reservoirs. In case where only one auxiliary reservoir is fitted, starting air pipes are to be connected with main air reservoir.</li> <li>(4) Where the auxiliary engines are designed for starting by the main air reservoirs, the capacity of the main air reservoirs is to be more than sum of the capacity required in (2) and (3) above, and the amount consumed for engine control systems, whistle, etc.</li> <li>(5) For multi-engine installations, the number of starts required for each engine is to be determined as deemed appropriate by the Society.</li> </ul> <p>⟨Omitted⟩</p>

# Amended Guidance Related to Rules for the Classification of Steel Ships

(Part 7 Chapter 5 Ships Carrying Liquefied Gases in Bulk)



## – Main Amendments –

(1) Reflecting (MSC Circ. 1651, IACS UI GC 32(rev.1) <ships contracted for construction on or after 2023/01/01>

● MRD4800–131–2022: Outer Duct in Gas Fuel Piping Systems

Present	Amendment
<p style="text-align: center;"><b>Section 5 Process Pressure Vessels and Liquid, Vapour and Pressure Piping Systems</b></p> <p>501. to 503. &lt;omitted&gt;</p> <p><b>504. Design pressure</b> [See Rule]</p> <p>1. &lt;omitted&gt; &lt;newly added&gt;</p> <p><b>2.</b> For the purpose of the requirements in <b>504. 4</b> of the Rules, the expression "design pressure of the outer pipe or duct" is either of the following: (2021)</p> <p>(1) the maximum pressure that can act on the outer pipe or equipment enclosure after the inner pipe rupture as documented by suitable calculations taking into account the venting arrangements; or</p> <p>(2) for gas fuel systems with inner pipe working pressure greater than 1 MPa, the "maximum built-up pressure arising in the annular space", after the inner pipe rupture, which is to be calculated in accordance with <b>Ch 9, 802. of Rules for the Classification of Ships Using Low-flashpoint Fuels.</b></p>	<p style="text-align: center;"><b>Section 5 Process Pressure Vessels and Liquid, Vapour and Pressure Piping Systems</b></p> <p>501. to 503. &lt;same as the present&gt;</p> <p><b>504. Design pressure</b> [See Rule]</p> <p>1. &lt;same as the present&gt;</p> <p><b>2.</b> The expression "duct" in <b>504. 4</b> of the Rules means to include the equipment enclosure required in <b>1604. 3 (1) and (2)</b> of the Rules (e.g. GVU enclosure) as well as the structural pipe duct intended to contain any release of gas from inner pipe or equipment. The term "structural pipe duct" means an outer duct forming part of a structure such as a hull structure or superstructure or deck house, where permitted, other than gas valve unit rooms. The gas valve unit rooms are to be: (2023)</p> <p>(1) gastight toward other enclosed spaces;</p> <p>(2) equipped with mechanical exhaust ventilation having a capacity of at least 30 air changes per hour and arranged to maintain a pressure less than the atmospheric pressure; and</p> <p>(3) able to withstand the maximum built-up pressure arising in the room in case of a gas pipe rupture, as documented by suitable calculations taking into account the ventilation arrangements.</p> <p><b>3.</b> For the purpose of the requirements in <b>504. 4</b> of the Rules, the expression "design pressure of the outer pipe or duct" is either of the following: (2021)</p> <p>(1) the maximum pressure that can act on the outer pipe or equipment enclosure after the inner pipe rupture as documented by suitable calculations taking into account the venting arrangements; or</p> <p>(2) for gas fuel systems with inner pipe working pressure greater than 1 MPa, the "maximum built-up pressure arising in the annular space", after the inner pipe rupture, which is to be calculated in accordance with <b>Ch 9, 802. of Rules for the Classification of Ships Using Low-flashpoint Fuels.</b></p>

Present	Amendment
<p><b>501. to 512. &lt;omitted&gt;</b></p> <p><b>513. Testing requirements (2022)</b></p> <p>1. Requirements of type tests [See Rule] &lt;omitted&gt;</p> <p>2. Application [See Rule]</p> <p>For the purpose of the requirements in <b>513. 2 (1)</b> of the Rules, for pipes within the cargo tank and pipes with open ends, the hydraulic test and leak test specified in the requirements in <b>513. 2 (2)</b> and <b>(3)</b> of the Rules may be omitted. However, the hydraulic test specified in the requirements in <b>513. 2 (2)</b> of the Rules is to be conducted for pipes without open ends and discharging pipes provided inside the cargo tanks.</p> <p>3. Pressure test</p> <p>For the purpose of the requirements in <b>513. 2 (4)</b> of the Rules, the expression "maximum pressure at gas pipe rupture" is the maximum pressure to which the outer pipe or duct is subjected after the inner pipe rupture and for testing purposes it is the same as the design pressure used in <b>504. 4</b> of the Rules. (2021)</p> <p>4. Test under operating condition</p> <p>For the purpose of the requirements in <b>513. 2 (5)</b> of the Rules, the test is to be conducted according to the requirements in <b>420. 4</b> of the Guidance.</p> <p>&lt;hereafter, omitted&gt;</p>	<p><b>501. to 512. &lt;same as the present Guidance&gt;</b></p> <p><b>513. Testing requirements (2022)</b></p> <p>1. Requirements of type tests [See Rule] &lt;same as the present&gt;</p> <p>2. Application [See Rule]</p> <p>For the purpose of the requirements in <b>513. 2 (1)</b> of the Rules, for pipes within the cargo tank and pipes with open ends, the hydraulic test and leak test specified in the requirements in <b>513. 2 (2)</b> and <b>(3)</b> of the Rules may be omitted. However, the hydraulic test specified in the requirements in <b>513. 2 (2)</b> of the Rules is to be conducted for pipes without open ends and discharging pipes provided inside the cargo tanks.</p> <p>3. Pressure test</p> <p>For the purpose of the requirements in <b>513. 2 (4)</b> of the Rules, the expression "maximum pressure at gas pipe rupture" is the maximum pressure to which the outer pipe or duct is subjected after the inner pipe rupture and for testing purposes it is the same as the design pressure used in <b>504. 4</b> of the Rules. <u>The expression "duct" in <b>513. 2 (4)</b> of the Rules means to comply <b>504. 2. (2023)</b></u></p> <p>4. Test under operating condition</p> <p>For the purpose of the requirements in <b>513. 2 (5)</b> of the Rules, the test is to be conducted according to the requirements in <b>420. 4</b> of the Guidance.</p> <p>&lt;hereafter, same as the present&gt;</p>

# Amended Rules for the Classification of Steel Ships

(Mobile Offshore Drilling Units)



## **- Main Amendments -**

(1) Effective date : 1 Jan. 2023 (Date of which contracts for construction are signed)

- The requirement for fire extinction has been revised to reflect IACS UR D11.



Present	Amendment
<p style="text-align: center;"><b>CHAPTER 10 FIRE PROTECTION, MEANS OF ESCAPE AND FIRE EXTINCTION</b></p> <p style="text-align: center;"><b>Section 3 Fire Extinction</b></p> <p><b>302. Fire pumps, fire mains, hydrants and hoses</b></p> <p>2. The arrangements of the pumps, sea suctions and sources of power are to be such as to ensure that a fire in any space would not put both the required pumps out of action.</p> <p style="text-align: center;">&lt;omitted&gt;</p> <p><b>308. Fixed automatic gas detection and alarm systems</b></p> <p>1. Fixed automatic gas detection and alarm systems are to be provided for the following areas.</p> <ul style="list-style-type: none"> <li>(1) Cellar deck</li> <li>(2) Drill floor</li> <li style="padding-left: 20px;">&lt;Newly added&gt;</li> <li>(3) Mud pit area</li> <li>(4) Shale shaker area</li> <li>(5) Enclosed spaces containing the open components of mud circulation system from the bell nipple to the mud pits.</li> <li>(6) <u>Ventilation intakes of enclosed machinery spaces contiguous to hazardous areas and containing internal combustion engines and boilers; and</u></li> <li>(7) <u>Ventilation intakes and near other openings of accommodation spaces.</u></li> </ul> <p style="text-align: center;">&lt;Newly added&gt;</p> <p style="text-align: center;">&lt;omitted&gt;</p>	<p style="text-align: center;"><b>CHAPTER 10 FIRE PROTECTION, MEANS OF ESCAPE AND FIRE EXTINCTION</b></p> <p style="text-align: center;"><b>Section 3 Fire Extinction</b></p> <p><b>302. Fire pumps, fire mains, hydrants and hoses</b></p> <p>2. The arrangements of the pumps, sea suctions and sources of power are to be such as to ensure that a fire <u>or flooding</u> in any space would not put both the required pumps out of action. <u>(2022)</u></p> <p style="text-align: center;">&lt;omitted&gt;</p> <p><b>308. Fixed automatic gas detection and alarm systems</b></p> <p><u>1. Areas for protection (2022)</u></p> <p>Fixed automatic gas detection and alarm systems are to be provided for the following areas.</p> <ul style="list-style-type: none"> <li>(1) Cellar deck</li> <li>(2) Drill floor</li> <li>(3) <u>Ventilation intake of positive pressure driller's cabin. (2022)</u></li> <li>(4) Mud pit area</li> <li>(5) Shale shaker area</li> <li>(6) Enclosed spaces containing the open components of mud circulation system from the bell nipple to the mud pits.</li> <li>(6) <u>Ventilation intakes of enclosed machinery spaces contiguous to hazardous areas and containing internal combustion engines and boilers; and</u></li> <li>(7) Ventilation intakes <u>and near other openings</u> of accommodation spaces. <u>(2022)</u></li> <li>(8) <u>Ventilation intakes of enclosed machinery spaces contiguous to hazardous areas and containing internal combustion engines, boilers, or non-explosion proof electrical equipment (2022)</u></li> <li>(9) <u>Air intakes to all combustion engines or machinery, including internal combustion engines, boilers, compressors or turbines, located outside of an enclosed machinery space (2022)</u></li> <li>(10) <u>At each access door to accommodation spaces. (2022)</u></li> <li>(11) <u>Near other openings, including emergency egress, of accommodation spaces, regardless if these openings are fitted with self-closing and gas-tight closing appliances. (2022)</u></li> </ul> <p style="text-align: center;">&lt;same as present&gt;</p>

Present	Amendment
<p>〈Newly added〉</p>	<p><u>2. Areas where protection is not required (2022)</u></p> <p><u>Fixed automatic combustible gas detection and alarm systems are not required.</u></p> <p><u>(1) Near access doors to accommodation spaces where these form part of an air-lock which is provided with a gas detection and alarm system between the two doors of the air-lock.</u></p> <p><u>(2) Near emergency egress doors which are fitted with a mechanism to prevent use other than in an emergency (e.g. doors fitted with security seals acting as a deterrent but easily breakable in a real emergency.)</u></p> <p><u>(3) Near other openings which are provided with closing appliances of non-opening type, (e.g. bolted closed maintenance ways etc.)</u></p> <p>〈same as present〉</p>