

Rules for the Classification of Steel Ships
(Part 10 Hull Structure and Equipment of Small Steel Ships)



HULL RULE DEVELOPMENT TEAM

- Main Amendments -

(1) Effective date : 1 July 2019

- Revision of requirements for gudgeon of stern frame
- Revision of requirements for watertight doors of watertight bulkhead
- Revision of requirements for hatchway covers of sand carrier and dredger
- Flow through method

Present	Amendment
<p style="text-align: center;">CHAPTER 1 <omitted> CHAPTER 2 STEMS AND STERN FRAMES</p> <p style="text-align: center;">Section 1 <omitted> Section 2 Stern Frames</p> <p>201. ~ 205. <omitted></p> <p>206. Gudgeons</p> <p>1. The bearing length of the pintle l_p is to be such that:</p> $d_p \leq l_p \leq 1.2d_p \text{ (mm)}$ <p>where:</p> <p>d_p = diameter of pintle (mm).</p> <p>2. The length of the pintle housing in the gudgeon is not to be less than pintle diameter d_p.</p> <p>3. The thickness of the pintle housing is not to be less than $0.25 d_p$. For ships specified in Pt 4, Ch 1, 103., however, the thickness of the pintle housing is to appropriately increased. ↓</p>	<p style="text-align: center;">CHAPTER 1 <same as the present Rule> CHAPTER 2 STEMS AND STERN FRAMES</p> <p style="text-align: center;">Section 1 <same as the present Rule> Section 2 Stern Frames</p> <p>201. ~ 205. <same as the present Rule></p> <p>206. Gudgeons <i>(2019)</i></p> <p>1. The depth of gudgeon is not to be less than the length of the pintle bearing.</p> <p>2. The thickness of the gudgeon is not to be less than $0.25 d_{po}$. For ships specified in Pt 4, Ch 1, 104., the thickness of the gudgeon is to be appropriately increased.</p> <p>where:</p> <p>d_{po} = Actual diameter of the pintle measured at the outer surface of the sleeve(mm). ↓</p>

Present	Amendment
<p style="text-align: center;">CHAPTER 3 ~ 13 <omitted> CHAPTER 14 WATERTIGHT BULKHEADS</p> <p style="text-align: center;">Section 1 ~ 2 <omitted> Section 3 Watertight Doors</p> <p>301. <omitted></p> <p>302. Type of watertight doors [See Guidance]</p> <ol style="list-style-type: none"> 1. Watertight doors are to be of sliding type. Hinged or rolling type may, however, be accepted having regard to the position or the service condition of the door. 2. Notwithstanding the provisions in 1 above, where watertight door is as small as crew can pass, the watertight door may be of hinged type or rolling type, except where the doors are required to be capable of being closed remotely in accordance with 304. 2. 3. ~ 4. <omitted> <p>303. ~ 308. <omitted></p> <p>309. Sliding doors [See Guidance]</p> <ol style="list-style-type: none"> 1. Sliding watertight doors are to be capable of being operated from an accessible position above the bulkhead deck and are to have an index at the operating position showing whether the door is open or closed. This remote control of the door may, however, be omitted where the Society is satisfied with such an arrangement having regard to the service condition of the door. 2. Where the above control means is operated by rods, the lead of operating rods is to be as direct as possible and the screw is to work in a nut of gun-metal or other approved material. 3. Sliding doors controlled from remote positions are also to be capable of being operated at the position of the door. 4. The frames of vertically sliding watertight doors are to have no groove at the bottom in which dirt might lodge and prevent the door from closing. <p>310. <omitted></p>	<p style="text-align: center;">CHAPTER 3 ~ 13 <same as the present Rule> CHAPTER 14 WATERTIGHT BULKHEADS</p> <p style="text-align: center;">Section 1 ~ 2 <same as the present Rule> Section 3 Watertight Doors</p> <p>301. <same as the present Rule></p> <p>302. Type of watertight doors [See Guidance]</p> <ol style="list-style-type: none"> 1. Watertight doors are to be of sliding type. <i>(2019)</i> 2. Notwithstanding the provisions in 1 above, where watertight door is as small as crew can pass, the watertight door may be of hinged type or rolling type, except where the doors are required to be capable of being closed remotely in accordance with 304. 2. 3. ~ 4. <same as the present Rule> <p>303. ~ 308. <same as the present Rule></p> <p>309. Sliding doors [See Guidance] <i>(2019)</i></p> <ol style="list-style-type: none"> 1. Where a sliding watertight door is operated by rods, the lead of operating rods is to be as direct as possible and the screw is to work in a nut of gun-metal or other approved material. 2. The frames of vertically sliding watertight doors are to have no groove at the bottom in which dirt might lodge and prevent the door from closing. <p>310. <same as the present Rule></p>

Present	Amendment
<p style="text-align: center;">CHAPTER 19 HATCHWAYS AND OTHER DECK OPENINGS</p> <p style="text-align: center;">Section 1 ~ 4 <omitted> Section 5 Hatchway Covers for Sand Carrier and Dredger</p> <p>501. Hatchway covers for sand carrier and dredger</p> <p><u>In the case of sand carriers and dredgers, hatchway covers may be omitted at the discretion of the Society.</u></p> <p><u>In this article sand carrier and dredger mean that the ships are engaged in gathering, transporting, dredging or reclamation etc. for sand, soil, gravel etc.</u></p> <p>1. For the ship which operates in domestic-costal service area, the requirement for exemption of hatchway covers of sand carrier and dredger is as follows:</p> <p>(1) Barge and Ship having hopper door — Ships which is fitted with a buoyancy tank in each side and hopper door in bottom should have sufficient reserved buoyancy and stability in assumed the worst flooded condition of cargo hold.</p> <p>(2) Barge not having a hopper door — Barge which is fitted with a buoyancy tank in each side and operates within 20 nautical miles out of the Korean peninsula(excluding those intend to sail to Che-ju Island) should have sufficient reserved buoyancy and stability in assumed the worst flooded condition of cargo hold.</p> <p>(3) For the exemption of hatchway cover installation, it should be met with the following conditions in assumed the worst flooded condition:</p> <p>(A) The upper deck side line should be not flooded</p> <p>(B) For self-propelled ship : $G_0M \geq 0.15 \text{ m}$ — For non self-propelled ship : $G_0M \geq 0.095B \text{ m}$ — (where, B = Breadth)</p>	<p style="text-align: center;">CHAPTER 19 HATCHWAYS AND OTHER DECK OPENINGS</p> <p style="text-align: center;">Section 1 ~ 4 <same as the present Rule> Section 5 Hatchway Covers for Sand Carrier and Dredger</p> <p>501. Hatchway covers for sand carrier and dredger <i>(2019)</i></p> <p><u>Exemption of hatchway covers of sand carrier and dredger is to be in accordance with the requirements in Pt 4, Ch 2, 104. 3 of the <u>Guidance</u></u></p> <p style="text-align: center;"><u><deleted></u></p>

Present	Amendment
<p>2. For the ship which operates in international service area and is fitted with door or valve in bottom, the requirement for exemption of hatchway cover installation of sand carrier and dredger is as follows:</p> <p>(1) The intact stability is to be met with the requirement of Pt 1, Annex 1-2 of the Guidance.</p> <p>— In this case, the calculation is to include the homogeneous full load condition of cargo in each cargo hold loaded up to the top of the hatchway coaming.</p> <p>(2) When the wetted cargo with the design bulk density of minimum 2.2 ton/m³ is homogeneously loaded to the assigned freeboard in each hold and assuming that the void space of the cargo hold above the cargo surface is filled with the sea water induced by the flooding, the stability of the above (1) is to be satisfied.</p> <p>(3) The damage stability is to be met with SOLAS Ch. II-1, B-1.</p> <p>(4) The doors or valves on bottom area are to be met with following requirements:</p> <p>(A) The opening of the bottom dump doors should be effective in less than one(1) minute.</p> <p>(B) In the case of bottom door not to be opened by gravity, the opening should be possible even after the main power source or the ram mechanism actuating the bottom dump doors have been put out of order.</p> <p>— In this case, it should be possible to operate both systems from bridge, and the cargo releasing arrangements should be such that asymmetrical jettisoning of the cargo should not be possible even partially.</p> <p>(5) Draft indicator is to be fitted on the bridge.</p> <p>(6) Where the additional requirements other than described above are necessary, the ship is to be met with those requirements also.</p> <p style="text-align: center;">Section 6 <omitted> CHAPTER 20 ~ 23 <omitted></p>	<p style="text-align: center;"><u><deleted></u></p> <p style="text-align: center;">Section 6 <same as the present Rule> CHAPTER 20 ~ 23 <same as the present Rule></p>

Present	Amendment
<p style="text-align: center;">CHAPTER 24 DOUBLE HULL TANKERS</p> <p style="text-align: center;">Section 2 Bulkheads Platings</p> <p style="text-align: center;"><u><newly added></u></p>	<p style="text-align: center;">CHAPTER 24 DOUBLE HULL TANKERS</p> <p style="text-align: center;">Section 2 Bulkheads Platings</p> <p><u>201. Bulkhead plating of cargo oil tanks and deep tanks</u></p> <p><u>1. When the flow-through ballast water exchange operations is used in applying the requirements in 202 of the Rules, the following water heads are to be additionally considered.</u></p> $h_3 = z_{\top} + h_{air} + h_{drop} - z$ <p>z_{top} : height of highest point of tank (m)</p> <p>h_{air} : height of air or overflow pipe above tank top (m)</p> <p>h_{drop} : Overpressure due to sustained liquid flow through air pipe or overflow pipe in case of overfilling or filling during flow through ballast water exchange. It is to be defined by the designer, but not to be less than 2.5.</p> <p>z : height to the considered location (m)</p> $h_4 = 0.85 (h_4 + \Delta h)$ <p>Δh : as specified in Pt 3 Ch.15 105. of the Rules</p> <p><u>Section 3 Frames, Stiffeners and Longitudinals Beams</u></p> <p><u>302. Bulkhead stiffeners in cargo oil tanks and deep tanks</u></p> <p><u>1. When the flow-through ballast water exchange operations is used in applying the requirements in 302. of the Rules, the following water heads are to be additionally considered.</u></p> <p>h_3 and h_4 = as specified in 201.1</p> <p style="text-align: right;">↓</p>

Guidance Relating to the Rules for the Classification of Steel Ships

(Part 10 Hull Structure and Equipment of Small Steel Ships)



HULL RULE DEVELOPMENT TEAM

- Main Amendments -

(1) Effective date : 1 July 2019

● Newly added requirements for forecastle of fishing vessels

Present	Amendment
<p style="text-align: center;">CHAPTER 1 ~ 15 <omitted> CHAPTER 16 SUPERSTRUCTURES</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application</p> <p>In application to 101. 3 of the Rules, the construction and scantlings of the superstructures above the third tier are to be applied as if they are in third tier.</p> <p style="text-align: center;">Section 3 <omitted></p> <p style="text-align: center;">CHAPTER 17 ~ 24 <omitted></p>	<p style="text-align: center;">CHAPTER 1 ~ 15 <same as the present Guidance> CHAPTER 16 SUPERSTRUCTURES</p> <p style="text-align: center;">Section 1 General</p> <p>101. Application <i>(2019)</i></p> <p><u>1. In application to 101. 1 of the Rules, the forecastle for fishing vessels may be omitted provided that they are satisfied with the relevant requirements of Standard for Fishing Vessel's Structure of Korean Ship Safety Act.</u></p> <p><u>2. In application to 101. 3 of the Rules, the construction and scantlings of the superstructures above the third tier are to be applied as if they are in third tier.</u></p> <p style="text-align: center;">Section 3 <same as the present Guidance></p> <p style="text-align: center;">CHAPTER 17 ~ 24 <same as the present Guidance></p>