

Clarification of Requirements Applicable to Self-unloading Ships

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Parts C, and CS

Guidance for the Survey and Construction of Steel Ships Parts C, and CS

Reason for Amendment

In an amendment dated 30 June 2020, relevant requirements in Part C of the Rules for the Survey and Construction of Steel Ship were clarified based upon some recent changes made to some IACS Unified Requirements (UR) related to the strength of the self-unloading ship structures such as forecastles and hatch covers.

The aforementioned requirements in Part C were subsequently discussed and reviewed, and it was decided that the application of some of the requirements was still in need of more clarification. Accordingly, relevant requirements were amended in order to further clarify their application.

In addition, the consistency of the aforementioned IACS URs with Part C and Part CS of the Rules for the Survey and Construction of Steel Ship was reviewed as part of a comprehensive review of the ClassNK Rules, and the application of some the NK requirements was found to be unclear. Therefore, relevant requirements were amended in order to clarify their application.

Outline of Amendment

- (1) Amended relevant requirements for bulk carriers in Part C which are applicable to self-unloading ships to clarify their application.
- (2) Amended requirements for forecastles based upon UR S28 to specify they apply to bulk carriers and self-unloading ships subject to the application of Part CS.
- (3) Amended requirements for hatch covers of bulk carriers in Part CS to be consistent with similar requirements in Part C.

“Rules for the survey and construction of steel ships” has been partly amended as follows:

Part C HULL CONSTRUCTION AND EQUIPMENT

Chapter 18 SUPERSTRUCTURES

Section 18.4 has been amended as follows.

18.4 Additional Requirements for Bulk Carriers, Ore Carriers and Combination Carriers, etc.*

Bulk carriers defined in 1.3.1(13), of ~~Part B of the Rules~~ and self-unloading ships defined in 1.3.1(19) of Part B are to be provided with forecastles in accordance with the following requirements. ~~In~~ However, the forecastle deck arrangements of ships ~~for which the application of this requirement is, for some special reasons, difficult are not applicable, the arrangement of the forecastle deck is~~ to be at the direction of the Society.

- (1) The forecastle is to be an enclosed superstructure.
- (2) The forecastle is to be located on the freeboard deck with its aft bulkhead fitted in way or aft of the forward bulkhead of the foremost hold. (See **Fig. C18.2**)
- (3) The forecastle height H_F above the main deck is to be not less than the value given in the following (a) or (b), whichever is the greater:
 - (a) $H_C + 0.5$ (m), where H_C is the height of the forward transverse hatch coaming of the foremost cargo hold.
 - (b) The standard height of superstructure as given in **Table C18.2**. Intermediate values of L_f are to be obtained by linear interpolation.
- (4) ~~With respect to the design loads for the hatch covers and forward transverse hatch coamings of foremost cargo holds, to reduce the load on the hatch cover forward transverse hatch coaming of the foremost cargo hold specified in 20.2.3-1.(1)(a) and/or the pressure applying abaft on the forward transverse hatch coaming specified in Table C20.8 hatch cover of the foremost cargo hold, the horizontal distance l_F (m) from the hatch coaming to all points of the aft edge of the forecastle deck is to satisfy the following formula:~~

$$l_F \leq 5\sqrt{H_F - H_C}$$

H_F and H_C : As specified in (3)

- (5) A breakwater is not to be fitted on the forecastle deck with the purpose of protecting the hatch coaming or hatch covers. If fitted for other purposes, it is to be located such that its aft edge at the centre line is forward of the aft edge of the forecastle deck ~~at~~ at the horizontal distance l_w (m) satisfying the following formula:

$$l_w \geq H_B / \tan 20^\circ$$

H_B : Height of the breakwater above the forecastle.

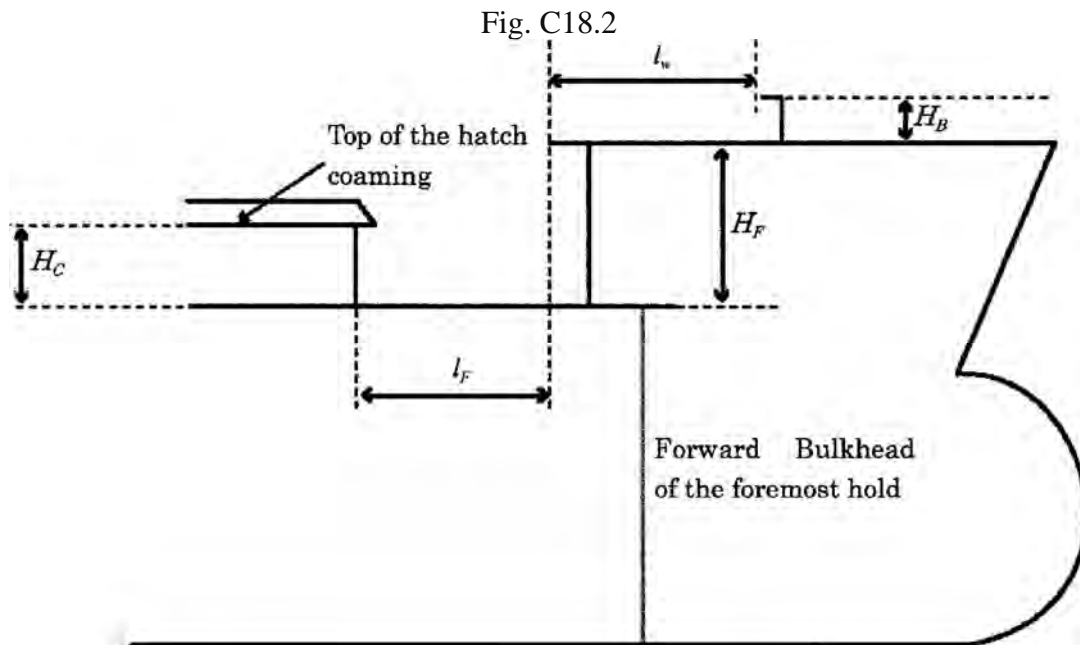


Table C18.2 Standard Height of Superstructure

Length of ship for freeboard (L_f)	Standard Height of Superstructure (m)
75 m or less	1.80
125 m or more	2.30

Chapter 34 LOADING MANUAL AND LOADING COMPUTER

34.2 Additional Requirements for Newly-built Bulk Carriers

34.2.1 General

Sub-paragraphs -1 and -2 have been amended as follows.

1 Bulk carriers, coming under the following (1) or (2), of not less than 150 *m* in length L_f are to be provided with a loading manual and a loading computer in accordance with the requirements in 34.2.2 and 34.2.3.

- (1) Bulk carriers as defined in 1.3.1(13) of **Part B**, which are contracted for construction on or after 1 July 1998
- (2) Bulk carriers as defined in 31A.1.2(1), which are at the beginning stage of construction on or after 1 July 2006
- (3) Self-unloading ships as defined in 1.3.1(19) of **Part B**, which are contracted for construction on or after 1 July 2020

2 Notwithstanding the provisions of -1 above, the bulk carriers defined in 31A.1.2(1) (excluding those bulk carriers specified in 1.3.1(13) of **Part B** or the self-unloading ships specified in 1.3.1(19) of **Part B**) need not comply with the requirements of 34.2.2-1(4), 34.2.2-2(4) and 34.2.3-1(2). In addition, the requirements of 34.2.2-1(3) may be modified so that loading manuals are to include the maximum allowable load per hold. The requirements of 34.2.2-2(7) and (8) may be also modified so that loading manuals are to include general restrictions and/or instructions for loading, unloading, ballasting and de-ballasting with regard to the strength of the ship's structures.

3 Bulk carriers, coming under the provisions of -1(2) above, of less than 150 *m* in length L_f are to be provided with a loading manual in accordance with the requirements in 34.2.2. Notwithstanding the above, items to be included in the loading manual may be in accordance with the provisions of -2 above.

Part CS HULL CONSTRUCTION AND EQUIPMENT OF SMALL SHIPS

Chapter 18 SUPERSTRUCTURES AND DECKHOUSES

Section 18.4 has been added as follows.

18.4 Additional Requirements for Bulk Carriers, Ore Carriers and Combination Carriers, etc.

Bulk carriers defined in 1.3.1(13) of Part B and self-unloading ships defined in 1.3.1(19) of Part B are to be provided with forecastles in accordance with the following requirements. However, the forecastle deck arrangements of ships for which the application of this requirement is, for some reason, difficult are to be at the direction of the Society.

- (1) The forecastle is to be an enclosed superstructure.
- (2) The forecastle is to be located on the freeboard deck with its aft bulkhead fitted in way or aft of the forward bulkhead of the foremost hold. (See Fig. CS18.1)
- (3) The forecastle height H_F above the main deck is to be not less than the value given in the following (a) or (b), whichever is greater:
 - (a) $H_C + 0.5$ (m), where H_C is the height of the forward transverse hatch coaming of the foremost cargo hold.
 - (b) The standard height of superstructure as given in Table CS18.2. Intermediate values of L_f are to be obtained by linear interpolation.
- (4) With respect to the design loads for the hatch covers and forward transverse hatch coamings of foremost cargo holds, to reduce the load on the forward transverse hatch coaming of the foremost cargo hold and/or the pressure applying abaft on the hatch cover of the foremost cargo hold, the horizontal distance l_F (m) from the hatch coaming to all points of the aft edge of the forecastle deck is to satisfy the following formula:

$$l_F \leq 5\sqrt{H_F - H_C}$$

H_F and H_C : As specified in (3)

- (5) A breakwater is not to be fitted on the forecastle deck with the purpose of protecting the hatch coaming or hatch covers. If fitted for other purposes, it is to be located such that its aft edge at the centre line is forward of the aft edge of the forecastle deck at the horizontal distance l_w (m) satisfying the following formula:

$$l_w \geq H_B / \tan 20^\circ$$

H_B : Height of the breakwater above the forecastle.

Fig. CS18.1

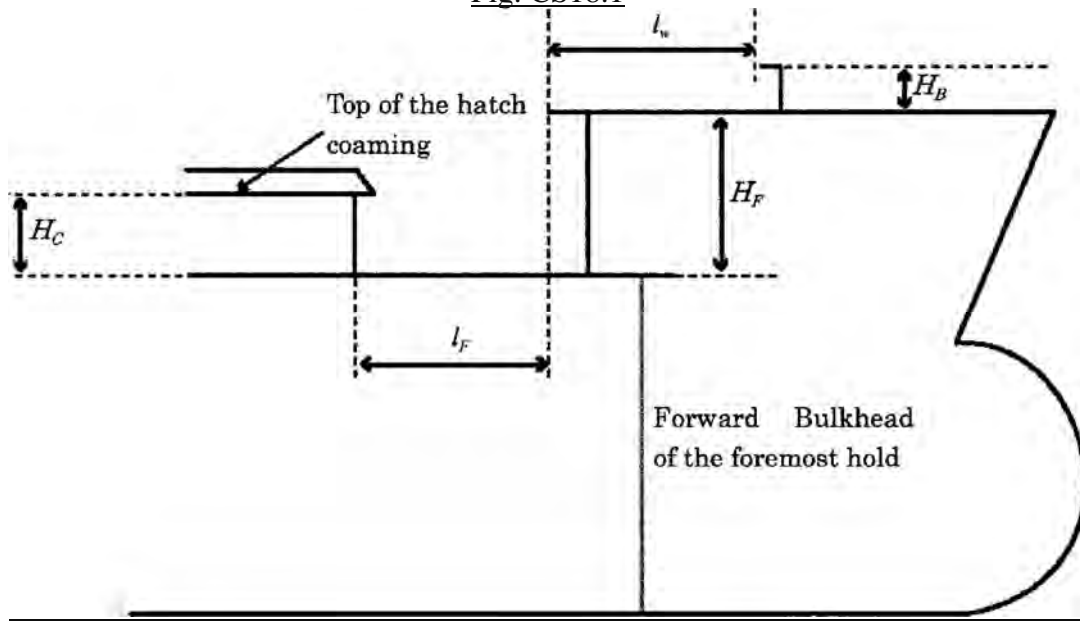


Table CS18.2 Standard Height of Superstructure

Length of ship for freeboard (L_f)	Standard Height of Superstructure (m)
75 m or less	1.80
125 m or more	2.30

Chapter 19 HATCHWAYS, MACHINERY SPACE OPENINGS AND OTHER DECK OPENINGS

19.2 Hatchways

19.2.1 Application*

Sub-paragraph -2 has been amended as follows.

1 The construction and the means for closing of cargo and other hatchways are to comply with the requirements in **19.2**.

2 Notwithstanding the provisions in this paragraph, the construction and means for closing of cargo and other hatchways of bulk carriers defined in **1.3.1(13)**, ~~of Part B of the Rules~~, self-unloading ships defined in 1.3.1(19) of Part B and ships intended to be registered as “bulk carriers” are to be at the discretion of the Society.

3 When the loading condition or the type of construction differs from that specified in this section, the calculation method used is to be as deemed appropriate by the Society.

“Guidance for the survey and construction of steel ships” has been partly amended as follows:

Part C HULL CONSTRUCTION AND EQUIPMENT

C18 SUPERSTRUCTURES

Title of Section C18.4 has been amended as follows.

C18.4 Additional Requirements for Bulk Carriers, Ore Carriers and Combination Carriers, etc.

Part CS HULL CONSTRUCTION AND EQUIPMENT OF SMALL SHIPS

CS19 HATCHWAYS, MACHINERY SPACE OPENINGS AND OTHER DECK OPENINGS

CS19.2 Hatchways

Paragraph CS19.2.1 has been amended as follows.

CS19.2.1 Application

1 Notwithstanding ship length, the construction and means for closing cargo and other hatchways of bulk carriers defined in **1.3.1(13)**, **Part B of the Rules**, self-unloading ships defined in **1.3.1(19)**, **Part B of the Rules** and ships intended to be registered as “bulk carriers” are to comply with ~~the~~ related relevant requirements in Part CSR-B&T or Part CSR-B of the Rules.

2 When the requirements for hatchways in **Part CSR-B&T** or **Part CSR-B** of the Rules apply to hatchways of ships ~~which are not subject to the application of Part CSR-B&T of the Rules~~ in accordance with **-1** above, the corrosion additions of for hatch coamings, hatch coaming stays and stiffeners may be taken as 1.5 mm.