

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

Fire Protection, Detection and Extinction

Rules for the Survey and Construction of Steel Ships

Part R

2023 AMENDMENT NO.1

Guidance for the Survey and Construction of Steel Ships

Part R

2023 AMENDMENT NO.1

Rule No.29 / Notice No.28 30 June 2023

Resolved by Technical Committee on 25 January 2023

ClassNK
NIPPON KAIJI KYOKAI

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

**Fire Protection, Detection and
Extinction**

RULES

2023 AMENDMENT NO.1

Rule No.29 30 June 2023

Resolved by Technical Committee on 25 January 2023

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

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

Part R FIRE PROTECTION, DETECTION AND EXTINCTION

Chapter 4 PROBABILITY OF IGNITION

4.5 Cargo Areas of Tankers

4.5.2 Restriction on Boundary Openings*

Sub-paragraph -4 has been amended as follows.

4 Where there is pipe tunnel in cargo area, the pipe tunnel is not to be open to engine rooms and is to be provided with at least two exits to open deck arranged at a maximum distance from each other. However, one of these exits may lead to the main pump room. Where there is permanent access from the pipe tunnel to the main pump-room, a watertight door is to be fitted complying with the requirements of ~~13.3 of 2.2.2, Part 1, Part C~~ and, in addition, with the following. For the application of ~~13.3 of 2.2.2, Part 1, Part C~~, such doors are considered as those which are used at sea.

- (1) In addition to the bridge operation, the watertight door is to be capable of being manually closed from outside the main pump-room entrance; and
- (2) the watertight door is to be kept closed during normal operations of the ship except when access to the pipe tunnel is required.

EFFECTIVE DATE AND APPLICATION

- 1.** The effective date of the amendments is 1 July 2023.
- 2.** Notwithstanding the amendments to the Rules, the current requirements apply to the following ships:
 - (1) ships for which the date of contract for construction is before the effective date; or
 - (2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

**Fire Protection, Detection and
Extinction**

GUIDANCE

2023 AMENDMENT NO.1

Notice No.28 30 June 2023

Resolved by Technical Committee on 25 January 2023

AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

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

Part R FIRE PROTECTION, DETECTION AND EXTINCTION

R3 DEFINITIONS

R3.2 Definitions

Paragraph R3.2.14 has been deleted.

~~**R3.2.14 Combination Carrier**~~

~~Ore/oil carriers specified in 30.7.1, Part C of the Rules and B/O carriers specified in 31.8.1, Part C of the Rules are regarded as “combination carriers” specified in 3.2.14, Part R of the Rules.~~

R4 PROBABILITY OF IGNITION

R4.5 Cargo Areas of Tankers

R4.5.1 Separation of Cargo Tanks and Location of Fuel Tanks

Sub-paragraph -8 has been deleted, and Sub-paragraphs -9 to -12 have been renumbered to Sub-paragraphs -8 to -11 as follows.

~~8 With respect to the requirements of 4.5.1-4(1), Part R of the Rules, the arrangements and isolation of divisions in combination carriers are to comply also with the requirements for bulk ore/oil carriers specified in 30.7, Part C of the Rules, and the requirements for bulk/oil carriers specified in 31.8, Part C of the Rules.~~

~~98~~ The cofferdams specified in 4.5.1-4(1), Part R of the Rules may be commonly used for permanent ballast tanks.

~~109~~ “A permanent continuous coaming of a height of at least 300 mm” specified in the requirements of 4.5.1-6, Part R of the Rules is to be as shown in Fig.R4.5.1-4 and not to be made lower than 50 mm above the upper edge of shear strakes.

~~110~~ As “the arrangements associated with stern loading” specified in the requirements of 4.5.1-6, Part R of the Rules, foam extinguishers or equivalent are to be provided in addition to the requirements of 14.2.4-4, Part D and 4.5.2-6, Part R of the Rules, and further, oil drip pans in sufficient size or spillage coaming are to be provided.

~~1211~~ An example of the “cargo tank block” defined in 4.5.1-8, Part R of the Rules is shown in Fig. R4.5.1-5.

R5 FIRE GROWTH POTENTIAL

R5.2 Control of Air Supply and Flammable Liquid to the Space

R5.2.1 Closing Appliances and Stopping Devices of Ventilation

Sub-paragraph -1(2) has been amended as follows.

1 With respect to the requirements of **5.2.1-1, Part R of the Rules**, the provision of closing appliances for the ventilation of battery rooms may be exempted, subject to the following (1) to (3):

- (1) The battery room only opens directly onto an exposed deck;
- (2) The height of the ventilation opening for the battery room above the deck is not less than 4.5m in the position I and not less than 2.3 m in the position II specified in ~~20.1.2~~, **1.4.3.2, Part 1, Part C of the Rules**; and
- (3) The battery room is not fitted with a fixed gas fire-extinguishing system.

R9 CONTAINMENT OF FIRE

R9.4 Protection of Openings in Fire Resisting Divisions

R9.4.1 Doors in Fire-resisting Divisions

Sub-paragraph -2 has been amended as follows.

2 With respect to the requirements of **9.4.1, Part R of the Rules**, for weathertight doors which are required by the provisions of ~~13.1.1-3, -4 or 13.1.5(2)~~, **2.2.1.1-5, -6 or 2.2.1.5(2), Part 1, Part C of the Rules** and are independently arranged away from a group of accommodation spaces, the fire integrity of them may be in accordance with **9.4.4, Part R of the Rules**.

R10 FIRE FIGHTING

R10.7 Fire-extinguishing Arrangements in Cargo Spaces

R10.7.1 Fixed Fire-extinguishing Systems for General Cargo

Sub-paragraph -1 has been amended as follows.

1 With respect to the provisions of **10.7, Part R of the Rules**, for container cargo holds fitted with partially weathertight hatch covers in accordance with the provisions of ~~20.2.7~~, **14.6.7, Part 1, Part C of the Rules**, closing appliances for such holds may be omitted, provided that the amount of carbon dioxide is increased in accordance with the provisions of **R25.2.2-4**.

R19 CARRIAGE OF DANGEROUS GOODS

R19.2 General Requirements

R19.2.1 Application

Sub-paragraph -2 has been amended as follows.

2 With respect to the requirements of **19.2.1, Part R of the Rules**, for carrying dangerous goods in container cargo holds fitted with partially weathertight hatch covers in accordance with the provisions of ~~20.2.7, 14.6.7, Part 1, Part C of the Rules~~, attentions are to be paid to the provisions in Section 3 of the Guidelines adopted as the *MSC/Circ.1087*.

R19.3 Special Requirements

R19.3.1 Water Supplies

Sub-paragraph -4 has been amended as follows.

4 The wording “suitable measures to limit the adverse effect upon stability of the added weight and free surface of water” required in **19.3.1-3, Part R of the Rules** means that the ships is to comply with the stability criteria specified in **2.2.1-1, Part U of the Rules** in any stage of accumulating water discharged from the fixed spraying or flooding system in the cargo space. The initial condition of loading is to be in accordance with the provisions specified in ~~C31A.2 An2., Annex 1.1, Part 2-2, Part C of the Rules~~.

R19.3.9 Water Spray System

Sub-paragraph -3 has been amended as follows.

3 The wording “the suitable measures to limit the adverse effect upon stability of the added weight and free surface of water” required in **19.3.9, Part R of the Rules** means that the ship is to comply with the stability criteria specified in **2.2.1-1, Part U of the Rules** in any stage of accumulating water discharged from the fixed pressure water-spraying system in the cargo space. The initial condition of loading is to be in accordance with the provisions specified in ~~C31A.2 An2., Annex 1.1, Part 2-2, Part C of the Rules~~.

R20 PROTECTION OF VEHICLE AND RO-RO SPACES

R20.5 Fire-extinction

R20.5.1 Fixed Fire-extinguishing Systems

Sub-paragraph -2 has been amended as follows.

2 With respect to the requirements of **20.5.1, Part R of the Rules**, where container cargo holds fitted with partially weathertight hatch covers in accordance with the provisions of ~~20.2.7, 14.6.7, Part 1, Part C of the Rules~~, are intended for carriage of motor vehicles with fuel in their tanks for their own propulsion, such holds may be protected by a fixed carbon dioxide system, provided that the amount of carbon dioxide is increased in accordance with the provisions of **R25.2.2-5**.

Sub-paragraph -4(1) has been amended as follows.

4 The “drainage systems” required by **20.5.1-4, Part R of the Rules** are to comply with the following **(1)** and **(2)**. However, in cases where the direct overboard discharge provisions or the bilge systems have a capacity sufficient for the additional flow from the fixed fire-extinguishing system and the required number of fire hoses, additional drainage facilities are not required.

(1) Arrangements above the bulkhead deck are to comply with the following **(a)** to **(d)**:

((a) to (c) are omitted.)

(d) The minimum capacity of scuppers, freeing ports or a combination thereof are to be determined in accordance with the following **(i)** or **(ii)** respectively.

(i) (Omitted)

(ii) The minimum required area of freeing ports is to be determined by the following formula. If the cross-sectional area of freeing ports required by ~~23.2.2, 14.9.2, Part 1, Part C of the Rules~~ is equal to or greater than determined above, additional freeing ports are not required:

$$A = \frac{Q}{0.5\sqrt{19.62(h_1 - h_2)}}$$

where

A: The total required sectional area of freeing ports on each side of the ship (m^2);

Q: The combined waterflow from the fixed fire-extinguishing system and the required number of fire hoses (m^3/s); and

$h_1 - h_2$: The depth of water on each deck. This value is to be calculated by multiplying the maximum flow rate of the installed fire-extinguishing system water pumps plus the flow from two fire hoses (four if required by **19.3.1-2, Part R of the Rules**) by an operating time of 30 min. This volume of water is to be divided by the area of the affected deck (m).

(2) (Omitted)

Sub-paragraph -5 has been amended as follows.

5 The wording “suitable measures to limit the adverse effect upon stability of the added weight and free surface of water” required in **20.5.1-4, Part R of the Rules** means that the ship is to comply

with the stability criteria specified in **2.2.1-1, Part U of the Rules** in any stage of accumulating water discharged from the fixed pressure water-spraying system in the cargo space. The initial condition of loading is to be in accordance with the provisions specified in ~~C31A.2 An2.~~ **Annex 1.1, Part 2-2, Part C of the Rules.**

R25 FIXED GAS FIRE-EXTINGUISHING SYSTEMS

R25.2 Engineering Specifications

R25.2.2 Carbon Dioxide Systems

Sub-paragraph -5 has been amended as follows.

5 With respect to the provisions of **25.2.2-1(1), Part R of the Rules**, for container cargo holds fitted with partially weathertight hatch covers in accordance with the provisions of ~~20.2.7,~~ **14.6.7, Part 1, Part C of the Rules**, the quantity of carbon dioxide is not to be less than the following values. ((1) and (2) are omitted.)

R29 FIXED FIRE DETECTION AND FIRE ALARM SYSTEMS

R29.2 Engineering Specifications

R29.2.1 General Requirements

Sub-paragraph -1 has been amended as follows.

1 In applying **29.2.1-2(4), Part R of the Rules**, watertight doors complying with ~~13.3.3,~~ **2.2.2.3, Part 1, Part C of the Rules** which also serve as fire doors are not to close automatically in the case of fire detection.

EFFECTIVE DATE AND APPLICATION

- 1.** The effective date of the amendments is 1 July 2023.
- 2.** Notwithstanding the amendments to the Guidance, the current requirements apply to the following ships:
 - (1) ships for which the date of contract for construction is before the effective date; or
 - (2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.