

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

2009

AMENDMENT NO.2

Guidance for the Survey and Construction of Steel Ships

Part R

2009

AMENDMENT NO.2

Rule No.45 / Notice No.62 30th October 2009

Resolved by Technical Committee on 24th June 2009

Approved by Board of Directors on 28th July 2009

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NIPPON KAIJI KYOKAI

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RULES

Part R

**Fire Protection, Detection and
Extinction**

2009 AMENDMENT NO.2

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Rule No.45 30th October 2009

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

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

Part R FIRE PROTECTION, DETECTION AND EXTINCTION

Chapter 20 PROTECTION OF VEHICLE AND RO-RO SPACES

20.5 Fire-extinction

Sub-paragraph -5 has been added as follows.

5 In the case of closed vehicle and Ro-Ro spaces, in cases where fixed water pressure spraying systems are fitted, Society approved means are to be provided to prevent the blockage of the drainage arrangements of such spaces.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2010.
2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.
(Note) The term “*a similar stage of construction*” means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is the less.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

**Fire Protection, Detection and
Extinction**

GUIDANCE

2008 AMENDMENT NO.2

Notice No.62 30th October 2009

Resolved by Technical Committee on 24th June 2009

Notice No.62 30th October 2009

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

R20 PROTECTION OF VEHICLE AND RO-RO SPACES

R20.5 Fire-extinction

R20.5.1 Fixed Fire-extinguishing Systems

Sub-paragraph -6 has been amended as follows.

6 The wording “other fixed fire-extinguishing system” specified in **20.5.1-3, Part R of the Rules** means a system which is approved by organizations authorized by the Administration or deemed appropriate by the Society in accordance with the ~~“Guidelines for the approving alternative fixed water-based fire fighting systems for use in special category spaces” (MSC/Circ.914)~~ “Guidelines for the approving of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces equivalent to those referred to in resolution A.123 (V)” (MSC.1/Circ.1272).

R25 FIXED GAS FIRE-EXTINGUISHING SYSTEMS

R25.2 Engineering Specifications

Paragraph R25.2.5 has been amended as follows.

R25.2.5 Equivalent Fixed Gas Fire-extinguishing Systems for Machinery Spaces and Cargo Pump Rooms

1 An equivalent system specified in **25.2.5, Part R of the Rules** is to be in accordance with ~~the~~ any of the following Guidelines.

- (1) “Approval of Equivalent Fixed Gas Fire-extinguishing Systems, as referred to in SOLAS 74, for machinery spaces and cargo pump rooms” (MSC/Circ.848)” (including amendments made by MSC. 1/Circ.1267).
- (2) “Revised Guidelines for the Approval of Fixed Aerosol Fire-Extinguishing Systems Equivalent to Fixed Gas Fire-Extinguishing Systems, as referred to in SOLAS 74, for machinery spaces” (MSC. 1/Circ.1270)

2 Fixed gas fire-extinguishing systems referred to in **-1 (1)**, whose agent containers are stored within the area it protects are to comply with the following **(1)** to **(3)**.

- (1) Agent containers are to be distributed throughout the space with bottles or groups of bottles located in at least six separate locations.
- (2) Duplicate power release lines are to be arranged to release all bottles simultaneously. The release lines are to be so arranged that in the event of damage to any power release line, five sixths of the fire extinguishing gas can still be discharged. The bottle valves are to be considered to be part of the release lines and a single failure shall include also failure of the bottle valve.
- (3) For systems that need less than six cylinders (using the smallest bottles available), agent containers need not to be distributed separately, provided that:
 - (a) The total amount of extinguishing gas in the bottles is to be such that in the event of a single failure in one of the release lines (including bottle valve), five sixths of the fire extinguishing gas can still be discharged; and
 - (b) *NOAEL (No Observed Adverse Effects Level)* values calculated at the highest expected engine room temperature are not to be exceeded when discharging the total amount of extinguishing gas simultaneously.

R27 FIXED PRESSURE WATER-SPRAYING AND WATER-MIST FIRE-EXTINGUISHING SYSTEMS

Section R27.2 has been amended as follows.

R27.2 Engineering Specifications

R27.2.1 Fixed Pressure Water-spraying Fire-extinguishing Systems

1 "Approved system" specified in **27.2.1, Part R of the Rules** means a system approved in accordance with the "*Guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump rooms*" (MSC/Circ.1165) (including amendments made by MSC. 1/Circ.1269. This applies to the rest as well.).

~~2 An application of MSC/Circ.1165 is to be made in accordance with the following (1) and (2):~~

- ~~(1) For the 3 m² top tray of the engine mock-up specified in 4.2.1 of APPENDIX B to MSC/Circ.1165, test fuel level is to be 50 mm, regardless of the freeboard stipulated in 4.5.1 of the appendix.~~
- ~~(2) Fire-extinguishing tests with flowing fire (Test No.6) stipulated in 4.3.1 of APPENDIX B are to be carried out in accordance with the following procedures:~~
- ~~(a) The 4 m² fire tray below the engine mock-up is to be filled with a 50 mm water base and heptane up to a level of the tray's freeboard being 150±10 mm.~~
 - ~~(b) The 3 m² fire tray on top of the engine mock-up is to be filled with a 40 mm water base and heptane up to a level of the fuel being 50 mm.~~
 - ~~(c) The fuel is to be ignited when flowing down the side of the engine mock-up approximately 1 m below the notch.~~
 - ~~(d) The pre-burn time stipulated in 4.5.4.1 of the appendix is to be measured from the ignition of heptane.~~

R27.2.2 Equivalent Water-mist Fire-extinguishing Systems

1 "Approved system" specified in **27.2.2, Part R of the Rules** means a system approved in accordance with the "*Revised Guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump rooms*" (MSC/Circ.1165).

~~2 An application of MSC/Circ.1165 is to be made in accordance with **R27.2.1-2** above.~~

R28 AUTOMATIC SPRINKLER, FIRE DETECTION AND FIRE ALARM SYSTEMS

R28.2.1 General Requirements

Sub-paragraph -2 has been added as follows.

2 An approved equivalent system specified in **28.2.1-2, Part R of the Rules** is to be approved by the Society or organizations deemed appropriate by the Society in accordance with the “*Revised Guidelines for approval of sprinkler systems equivalent to that referred to in SOLAS regulation II-2/12²² (IMO Res. A.800(19))*”(including amendments made by IMO Res. MSC.265(84)).

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2010.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.
(Note) The term “*a similar stage of construction*” means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is the less.
3. Notwithstanding the amendments to the Guidance, the current requirements may apply to equipment tested before 9 May 2008, approved until 1 July 2009 and installed on board a ship until 1 July 2015.