

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

2014 AMENDMENT NO.2

Guidance for the Survey and Construction of Steel Ships

Part R

2014 AMENDMENT NO.2

Rule No.55 / Notice No.40 30th June 2014

Resolved by Technical Committee on 4th February 2014

Approved by Board of Directors on 24th February 2014

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RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

**Fire Protection, Detection and
Extinction**

RULES

2014 AMENDMENT NO.2

Rule No.55 30th June 2014

Resolved by Technical Committee on 4th February 2014

Approved by Board of Directors on 24th February 2014

Rule No.55 30th June 2014

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 5 FIRE GROWTH POTENTIAL

Section 5.4 has been deleted.

~~**5.4 Materials used in Machinery Spaces**~~

~~**5.4.1 Materials used in Machinery Spaces**~~

~~Materials used in machinery spaces are not normally to have properties increasing the fire potential of these spaces. Where these materials may increase the fire potential, adequate measures are to be taken. Neither combustible nor oil absorbing materials are to be used flooring, bulkhead lining, ceiling or decks in the control rooms, machinery spaces, shaft tunnel or spaces where oil tanks are located.~~

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 30 June 2014.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part R

**Fire Protection, Detection and
Extinction**

GUIDANCE

2014 AMENDMENT NO.2

Notice No.40 30th June 2014

Resolved by Technical Committee on 4th February 2014

Notice No.40 30th June 2014

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

Amendment 2-1

R4 PROBABILITY OF IGNITION

R4.5 Cargo Areas of Tankers

R4.5.2 Restriction on Boundary Openings

Sub-paragraph -1 has been amended as follows.

1 In cases where it is impossible or impractical to satisfy~~With respect to~~ the requirements specified in **4.5.2-1** and **-2, Part R of the Rules**, ~~access to fore-castle spaces containing sources of ignition may be through doors facing cargo area provided the doors are located outside hazardous areas as defined in 4.3.1, Part H of the Rules.~~ access doors, air inlets and openings facing cargo areas may be provided subject to no sources of ignition in a hazardous areas as defined in **4.3.1, Part H of the Rules**. In such cases, explosion-protected electrical equipment complying with IEC 60092-502 is not regarded as a source of ignition.

R7 DETECTION AND ALARM

R7.5 Protection of Accommodation and Service Spaces and Control Stations

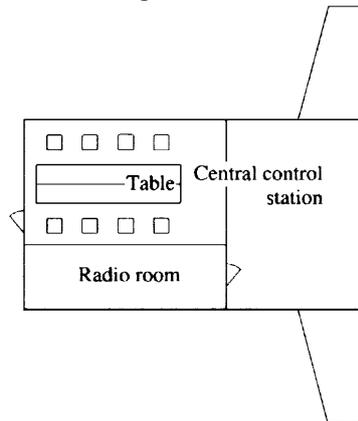
Paragraph R7.5.1 has been amended as follows.

R7.5.1 Fire Detection and Fire Alarm Systems

1 With respect to the requirements of **7.5.1, Part R of the Rules**, the deckhouses, boatswain's lockers, etc. which are separated from accommodation spaces may not be deemed as service spaces.

2 In case where the central control station is arranged as shown in **Fig. R7.5.1-1**, the spaces of such control stations which can be regarded as the service spaces are to be provided with the fire detection system conforming to the requirements of **Chapter 29, Part R of the Rules** and the space of such control stations which can be regarded as the navigation bridge is to be provided with manual call points. However, in case where a general alarm system is provided, such manual call points are not necessary.

Fig. R7.5.1-1



3 With respect to the requirement of **7.5.1, Part R of the Rules**, unless otherwise specified in -2 above, control stations need not be covered by a fixed fire detection and fire alarm system.

R10 FIRE FIGHTING

R10.7 Fire-extinguishing Arrangements in Cargo Spaces

R10.7.1 Fixed Fire-extinguishing Systems for General Cargo

Sub-paragraph -5 has been amended as follows.

5 Vegetable oil, latex and molasses are regarded as “cargoes which constitute a low fire risk” referred in **10.7.1-2, Part R of the Rules**. For other cargoes carried in bulk, reference is to be made to the “~~Code of Safe Practice for Solid Bulk Cargoes Emergency Schedule B14~~ International Maritime Solid Bulk Cargoes (IMSBC) Code, as amended, appendix 1, entry for coal” and the “Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective” (~~MSC/Circ.1146~~ MSC.1/Circ.1395/Rev.1).

R10.7.2 Fixed Fire-extinguishing Systems for Dangerous Goods

Sub-paragraph -2 has been amended as follows.

2 With respect to the requirements of **10.7.2, Part R of the Rules**, for cargoes listed in the Table 2 in the ~~MSC/Circ.671~~ MSC.1/Circ.1395/Rev.1, means of water supplies complying with the requirements of **19.3.1-2, Part R of the Rules** may be considered as a “fire-extinguishing system which gives equivalent protection” specified in **10.7.2, Part R of the Rules**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 30 June 2014.

R26 FIXED FOAM FIRE-EXTINGUISHING SYSTEMS

R26.3 Fixed High-expansion Foam Fire-extinguishing Systems

Paragraph R26.3.2 has been added as follows.

R26.3.2 Inside Air Foam Systems

1 With respect to the requirements of **26.3.2-1(2), Part R of the Rules**, where a machinery space of category A includes a casing, the volume of the largest protected space is to include that of the machinery space up to the following **(1)** or **(2)**, whichever is higher:

(1) the lowest part of the casing; or

(2) 1m above the highest point of the highest positioned fire risk objects within the machinery space. Such fire risk objects include, but may not be limited to, those listed in **3.2.31, Part R of the Rules**, and those defined in **3.2.34, Part R of the Rules**.

2 With respect to the requirements of **26.3.2-1(2), Part R of the Rules**, where a machinery space of category A does not include a casing, the volume of the largest protected space is to be that of the space in its entirety, irrespective of the location of any fire risk object therein.

Paragraph R26.3.3 has been added as follows.

R26.3.3 Outside Air Foam Systems

1 With respect to the requirements of **26.3.3-1(2), Part R of the Rules**, where a machinery space of category A includes a casing, the volume of the largest protected space is to include that of the machinery space up to the following **(1)** or **(2)**, whichever is higher:

(1) the lowest part of the casing; or

(2) 1m above the highest point of the highest positioned fire risk objects within the machinery space. Such fire risk objects include, but may not be limited to, those listed in **3.2.31, Part R of the Rules**, and those defined in **3.2.34, Part R of the Rules**.

2 With respect to the requirements of **26.3.3-1(2), Part R of the Rules**, where a machinery space of category A does not include a casing, the volume of the largest protected space is to be that of the space in its entirety, irrespective of the location of any fire risk object therein.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 30 June 2014.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships for which the date of contract for construction* is before the effective date.
* “contract for construction” is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of “contract for construction” of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.
2. The date of “contract for construction” of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a “series of vessels” if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
 - (1) such alterations do not affect matters related to classification, or
 - (2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.
3. If a contract for construction is later amended to include additional vessels or additional options, the date of “contract for construction” for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a “new contract” to which **1.** and **2.** above apply.
4. If a contract for construction is amended to change the ship type, the date of “contract for construction” of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:

This Procedural Requirement applies from 1 July 2009.

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

R27.2 Engineering Specifications

Paragraph R27.2.1 has been amended as follows.

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

“Approved system” specified in **27.2.1, Part R of the Rules** means a system approved in accordance with both the “*Revised 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 and MSC.1/Circ.1386) and MSC.1/Circ.1458.*

Paragraph R27.2.2 has been amended as follows.

R27.2.2 Equivalent Water-mist Fire-extinguishing Systems

“Approved system” specified in **27.2.2, Part R of the Rules** means a system approved in accordance with both the “*Revised 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 and MSC.1/Circ.1386) and MSC.1/Circ.1458.*

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 30 June 2014.
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.

R10 FIRE FIGHTING

R10.2 Water Supply Systems

R10.2.1 Fire Mains and Hydrants

Sub-paragraph -7 has been added as follows.

7 The wording “isolation valves are to be fitted in the fire main at poop front in a protected position” specified in 10.2.1-4(4), Part R of the Rules means that the valve is to be located:

- (1) within an accommodation space, service spaces and control station; or
- (2) at least 5 m aft of the aft end of the aftermost cargo tank in case the valve is located on the open deck; or
- (3) if the above (1) and (2) are not practical, within 5 m aft of the cargo area provided it is protected from the cargo area by a permanent steel obstruction.

R25 FIXED GAS FIRE-EXTINGUISHING SYSTEMS

R25.2 Engineering Specifications

R25.2.1 General Requirements

Sub-paragraph -8 has been added as follows.

8 The wording “conventional cargo spaces” specified in 25.2.1-3(2), Part R of the Rules means cargo spaces other than ro-ro spaces or container holds equipped with integral reefer containers.

R25.2.2 Carbon Dioxide Systems

Sub-paragraph -3 has been amended as follows.

3 The requirements specified in 25.2.2-2, Part R of the Rules apply to the spaces identified in 25.2.1-3(2), Part R of the Rules. The means of gas control of the fixed gas fire-extinguishing system ~~specified in 25.2.2, Part R of the Rules~~ is to comply with the following requirements:

- (1) In case where the same gas container is used for individual separate spaces, the control valve (normally closed) is to be fitted to each gas discharge main led to each space respectively.
- (2) In case where discharge of carbon dioxide gas is remotely controlled, manual means of control is to be provided at the storage position of gas containers.
- (3) Where carbon dioxide gas is discharged by the gas pressure of the starting gas container (including the carbon dioxide gas container itself), two or more containers are to be provided and a local manual means of opening the containers is to be provided.
- (4) Where automatic discharge regulator of carbon dioxide gas for the protected spaces is provided, a manual regulator is to be provided.
- (5) If the system serves more than one spaces, means for control of discharge quantities of carbon dioxide are to be provided, *e.g.* automatic timer or accurate level indicators located at the control position.
- (6) At the operating station of carbon dioxide system, an instruction manual is to be placed.
- (7) The wording “Positive means” specified in 25.2.2-2(1), Part R of the Rules means mechanical and/or electrical interlocks that do not depend on any operational procedures.
- (8) The “two separate controls” specified in 25.2.2-2(1), Part R of the Rules can be independent of the controls for activating pre-discharge alarms.
- (9) A single control for the activating the “alarm” specified in 25.2.2-2(1), Part R of the Rules is sufficient.

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 July 2014.
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.

* For high speed craft, “1%” is to be read as “3%”.

R9 CONTAINMENT OF FIRE

R9.7 Ventilation Systems

R9.7.1 Duct and Dampers

Sub-paragraph -6 has been added as follows.

1 With respect to the provisions of **9.7.1, Part R of the Rules**, flexible bellows of combustible material may be used for connecting fans to the ducting in air conditioning room, except the extent specified in -2.

2 With respect to the provisions of **9.7.1-1, Part R of the Rules**, combustible gaskets in flanged ventilation duct connections are not permitted within 600 *mm* of an opening in an “A” class or “B” class division and in ducts required to be of “A” class construction.

3 The term “free cross-sectional area” specified in **9.7.1, Part R of the Rules** means, even if the case of a pre-insulated duct, the area calculated on the basis of the inner diameter of the duct.

4 With respect to the “calorific value” specified in **9.7.1-1(2), Part R of the Rules**, reference is made to **R5.3.2**.

5 Fire dampers required to be fitted in the requirements of **9.7.4(2), Part R of the Rules** need not comply with the requirements of **9.7.1-2, Part R of the Rules**, provided that they are to be capable of stopping the draught.

6 With respect to the provisions of **9.7.1-1, Part R of the Rules**, unless otherwise specified, a ventilation duct made of material other than steel may be considered equivalent to a ventilation duct made of steel, provided the material is non-combustible and has passed a standard fire test in accordance with Part 3 of Annex 1 to the *FTP Code* as non-load bearing structure for 30 *minutes* following the requirements for testing “B” class divisions.

EFFECTIVE DATE AND APPLICATION (Amendment 2-5)

1. The effective date of the amendments is 1 July 2015.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships for which the date of contract for construction* is before the effective date.
* “contract for construction” is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of “contract for construction” of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.
2. The date of “contract for construction” of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a “series of vessels” if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
 - (1) such alterations do not affect matters related to classification, or
 - (2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.
3. If a contract for construction is later amended to include additional vessels or additional options, the date of “contract for construction” for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a “new contract” to which **1.** and **2.** above apply.
4. If a contract for construction is amended to change the ship type, the date of “contract for construction” of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:

This Procedural Requirement applies from 1 July 2009.