

RULES FOR HIGH SPEED CRAFT

GUIDANCE FOR HIGH SPEED CRAFT

Rules for High Speed Craft
Guidance for High Speed Craft

2019 AMENDMENT NO.2
2019 AMENDMENT NO.2

Rule No.118 / Notice No.83 27 December 2019
Resolved by Technical Committee on 22 July 2019

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 HIGH SPEED CRAFT

RULES

2019 AMENDMENT NO.2

Rule No.118 27 December 2019

Resolved by Technical Committee on 22 July 2019

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

“Rules for high speed craft” has been partly amended as follows:

Amendment 2-1

Part 2 CLASS SURVEYS

Chapter 1 GENERAL

1.1 Surveys

Paragraph 1.1.3 has been amended as follows.

1.1.3 Occasional Surveys*

All classed craft are to be subjected to Occasional Surveys when they fall under one of the conditions of **(1)** through **(6)** below not at the time of Annual, Intermediate or Special Surveys or Planned Machinery Surveys. At Occasional Surveys, investigations, examinations or tests are to be made to the satisfaction of the Surveyor with respect to the matters concerned. Where Annual, Intermediate or Special Survey is carried out together with the survey of specific matters for Occasional Survey at due date of the Occasional Survey, the Occasional Survey may be dispensed with. To implement the survey, in lieu of the traditional ordinary surveys where a surveyor is in attendance, the Society may approve survey methods which it considers to be appropriate. ((1) to (6) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 27 December 2019.

Part 2 CLASS SURVEYS

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.5 Hydrostatic and Watertight Tests

In the Classification Survey during construction, hydrostatic tests, watertight tests, etc., are to be carried out in accordance with the following:

- (1) Hull and equipment
 - (a) Hydrostatic tests or watertight tests are to be carried out after all work in connection with watertightness are completed but before painting, in accordance with the requirements specified in **Table 2.2.1**.
 - (b) A part or all of the hose tests may be dispensed with at the discretion of the Society.
 - (c) Watertight tests may be replaced by airtight tests at the discretion of the Society, provided that certain tanks designated by the Society are to be subjected to hydrostatic tests specified in **Table 2.2.1**, afloat.
- (2) Machinery

Hydrostatic, leakage or airtight tests are to be carried out as specified in each Chapter of **Part 9** in relation to the kind of machinery.

Note of Table 2.2.1 has been amended as follows.

Table 2.2.1 Hydrostatic Tests
(Table is omitted.)

Note:

Tests for the pipings are to be as specified in **1.3.1(67)**, **1.3.2(11)** and **1.3.2(13)**, **Part 9 of the Rules**.

Part 9 MACHINERY INSTALLATIONS

Chapter 1 GENERAL

1.2 General Requirements for Machinery Installations

1.2.1 General*

Sub-paragraph -6 has been amended as follows.

6 ~~The following machinery,~~ Main propulsion machinery and prime movers for driving generators, and auxiliary machinery (excluding auxiliary machinery for specific use, etc.) and their prime movers that are installed in the ships are to be designed to operate under the conditions given in **Table 9.1.1**, ~~as fitted in the ship.~~ However, ~~a~~ deviation from the angles given in **Table 9.1.1** may be permitted, ~~after~~ taking into consideration the type, size and service conditions of the ship.

Table 9.1.1 has been amended as follows.

Table 9.1.1 Angle of Inclination

Type of machinery installations	Athwartships ⁽²⁾		Bow Fore-and-stern ⁽²⁾	
	Static inclination (List)	Dynamic inclination (Rolling)	Static inclination (Trim)	Dynamic inclination (Pitching)
Main propulsion machinery Essential auxiliary boilers Prime movers driving generators(excluding those for emergency) Auxiliary machinery (excluding auxiliary machinery for specific use, etc.) and their driving units	15°	22.5°	5° ⁽³⁾	7.5°
Emergency installations (emergency generators, emergency fire pumps and prime movers to drive them) Switchgears ⁽¹⁾ (Circuit breakers, etc.) Equipment for automatic and/or remote controls operated equipment	22.5°	22.5°	10°	10°

Notes:

- (1) ~~Up to an angle of inclination of 45 degrees, No~~ undesired switching operations or operational changes are ~~not to be caused~~ to occur.
- (2) Athwartships and ~~bow~~fore-and-stern~~aft~~ inclinations may occur simultaneously.
- (3) Where the length of the ship exceeds 100 m, the fore-and-aft static angle of inclination may be taken as follows:
 $\theta = 500/L$
 θ : The static angle of inclination (°)
 L : Length of the ship specified in 2.1.2, Part A of the Rules for the Survey and Construction of Steel Ships (m)

1.3 Tests

Paragraph 1.3.1 has been amended as follows.

1.3.1 Shop Tests

Before installation on board, machinery installations are to be tested according to the following requirements at the plants.

((1) to (5) are omitted.)

(6) Welding for Machinery Installations

Welding for machinery installations is to be subjected to tests specified in 11.4, 11.5, 11.6 and 11.7, Part D of the Rules for the Survey and Construction of Steel Ships.

(~~6~~7) Pipes, Valves, Pipe Fittings and Auxiliaries

Pipes, valves, pipe fittings and auxiliaries are to be subjected to tests specified in 12.6.1 and 16.2.5, Part D of the Rules for the Survey and Construction of Steel Ships. When, for technical reasons, it is not possible to carry out the complete hydrostatic testing before assembly on board, for all sections of piping, the testing may be carried out in conjunction with the checking required by 1.3.2(13) provided that the test plans referred to in 2.1.4-5, Part 2 containing the closing lengths of piping, particularly in respect to the closing seams, are submitted to the Society and approved thereby.

(~~7~~8) Steering Gears

Steering gears are to be subjected to tests specified in 15.5.1, Part D of the Rules for the Survey and Construction of Steel Ships.

(~~8~~9) Refrigerating Equipment

Refrigerating Equipment is to be tested in accordance with 17.4.1, Part D of the Rules for the Survey and Construction of Steel Ships.

(~~9~~10) Automatic and Remote Control Systems

Automatic and remote control systems are to be subjected to the tests specified in 18.7.1, Part D of the Rules for the Survey and Construction of Steel Ships. In addition, the requirement specified in 18.7.2, Part D of the Rules for the Survey and Construction of Steel Ships are to be complied with.

1.3.2 Tests after Installation On Board*

Sub-paragraphs (11) to (13) have been amended as follows.

After installation on board, the following tests are to be carried out.

((1) to (10) are omitted.)

(11) For piping systems ~~welded aboard ships~~ for which welding between pipes or between pipes and valves pipe fittings is carried out on board the ship, hydrostatic tests as deemed appropriate by the Society the non-destructive testing specified in 11.6, Part D of the Rules for the Survey and Construction of Steel Ships on all joints welded on board the ship. ~~These tests may be waived with confirmation of no defects by appropriate non-destructive tests deemed appropriate by the Society.~~

(12) For auxiliaries (excluding auxiliary machinery for specific use, etc.,) running tests as deemed appropriate by the Society. However, in the case of machinery having passed the tests specified in above 1.3.1(~~6~~7), the test methods on board may be suitably modified at the discretion of the Society.

(13) In general, checking all the piping systems, after assembly on board, for leakage under operational conditions and, if necessary, using special techniques other than hydrostatic

testing. ~~For~~ In particular, fuel oil piping systems, thermal oil piping systems and heating coils in tanks, ~~leak tests~~ are to be tested at a pressure of 1.5 times the design pressure or 0.4 MPa, whichever is the greater.

((14) to (17) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2020.
2. Notwithstanding the amendments to the Rules, the current requirements 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.

Part 9 MACHINERY INSTALLATIONS

Chapter 11 REFRIGERATING EQUIPMENT

11.1 General

Paragraph 11.1.1 has been amended as follows.

11.1.1 Scope

The requirements in this chapter apply to the refrigerating machinery using the primary refrigerants listed below and forming the refrigerating cycle used for refrigeration, air conditioning, etc., as well as to the controlled atmosphere systems for the cargo holds. However, the refrigerating machinery with compressors of 7.5 kW or less and the refrigerating machinery using the primary refrigerants other than those listed below are to be as deemed appropriate by the Society.

~~R22 : CH₂ClF₂~~
 R134a : CH₂FCF₃
 R404A : R125/R143a/R134a (44/52/4 wt%) CHF₂CF₃ / CH₃CF₃ / CH₂FCF₃
 R407C : R32/R125/R134a (23/25/52 wt%) CH₂F₂ / CHF₂CF₃ / CH₂FCF₃
R407H : R32/R125/R134a (32.5/15/52.5 wt%) CH₂F₂ / CHF₂CF₃ / CH₂FCF₃
 R410A : R32/R125 (50/50 wt%) CH₂F₂ / CHF₂CF₃
R449A : R32/R125/R1234yf/R134a (24.3/24.7/25.7/25.3 wt%)
CH₂F₂ / CHF₂CF₃ / CF₃CF=CH₂/CH₂FCF₃
 R507A : R125/R143a (50/50 wt%) CHF₂CF₃ / CH₃CF₃

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 January 2020.
2. Notwithstanding the amendments to the Rules, the current requirements apply to refrigerating machinery, refrigerating installations or controlled atmosphere systems other than refrigerating machinery, refrigerating installations or controlled atmosphere systems that fall under the following:
 - (1) that intended for installation on ships the keels of which are laid or which are at a similar stage of construction on or after 1 January 2020; or
 - (2) that intended for installation on ships the keels of which are laid or which are at a similar stage of construction before 1 January 2020 that fall under the following:
 - (a) that for which the contractual delivery date of the equipment to the ship is on or after 1 January 2020; or
 - (b) that for which, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship is on or after 1 January 2020.
3. Notwithstanding the provision of preceding 2., the amendment to the Rules may apply, upon request of the owner, to refrigerating machinery, refrigerating installations or controlled atmosphere systems other than those specified in 2.(1) or (2) above.

Part 10 ELECTRICAL INSTALLATIONS

Chapter 1 GENERAL

1.1 General

1.1.5 Drawing and Data*

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

The drawings and data to be submitted are as follows.

- (1) (Omitted)
- (2) Data
 - ((a) to (c) are omitted.)
 - (d) The following data in cases of ships where harmonic filters are installed on the main busbars of the electrical distribution systems ~~on board a ship includes harmonic filters~~, except in cases where the filters are installed for single application frequency devices such as pump motors.
 - i) Total Harmonic Distortion (THD) calculation report
 - ii) Harmonic filter operation guide

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 January 2020.
2. Notwithstanding the amendments to the Rules, the current requirements apply to ships for which the date of contract for construction* is before the effective date and that are not newly fitted with harmonic filters on or after 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.

GUIDANCE FOR HIGH SPEED CRAFT

GUIDANCE

2019 AMENDMENT NO.2

Notice No.83 27 December 2019

Resolved by Technical Committee on 22 July 2019

“Guidance for high speed craft” has been partly amended as follows:

Amendment 2-1

Part 2 CLASS SURVEYS

Chapter 1 GENERAL

1.1 Surveys

Paragraph 1.1.3 has been amended as follows.

1.1.3 Occasional Surveys

1 The wording “the Society may approve the survey methods which it considers to be appropriate.” in **1.1.3, Part 2 of the Rules** means survey methods which the Society considers to be able to obtain information equivalent to that obtained through traditional ordinary surveys where a surveyor is in attendance.

2 For the occasional surveys specified in **1.1.3(5), Part 2 of the Rules**, the following is to be complied with:
((1) to (3) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 27 December 2019.

Part 2 CLASS SURVEYS

Chapter 3 PERIODICAL SURVEYS AND PLANNED MACHINERY SURVEYS

3.6 Annual Surveys for Machinery

3.6.1 Requirements for Annual Surveys

Sub-paragraph -1 has been amended as follows.

1 In general examinations specified in **3.6.1, Part 2 of the Rules**, for ships ~~equipped with where harmonic filters are installed on the main busbars of electrical distribution systems which include harmonic filters~~, except in cases where the filters are installed for single application frequency drives such as pump motors, it is to be ascertained that the harmonic filters are placed in good order and either of the following (1) or (2) is to be verified, ~~except in cases where the filters are installed for single application frequency drives such as pump motors~~.

- (1) ~~For harmonic filters included in the electrical distribution systems described in either the following (a) or (b)~~, For ships fitted with facilities to continuously monitor the records of the Total Harmonic Distortion (~~THD~~THD) values experienced by the main busbars as specified in 2.12.4-1, Part H of the Rules for the Survey and Construction of Steel Ships, records of THD values are to be verified.
 - ~~(a) Electrical distribution systems on board ships for which the date of contract for construction is on or after 1 July 2017.~~
 - ~~(b) Electrical distribution systems on board ships for which the date of contract for construction is before 1 July 2017, but which are newly fitted with harmonic filters on or after 1 July 2017.~~
- (2) ~~For harmonic filters~~ ships other than (1)(a) or (b) above, correct operation of harmonic filters is to be confirmed by verifying that the maximum Total Harmonic Distortion (~~THD~~THD) value of the main busbar on board the ship is measured under typical seagoing conditions as close as possible to the date of the Annual Survey and the value does not exceed the acceptable limit.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2020.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to the periodical surveys for which the application is submitted to the Society before the effective date.