



# RUSSIAN MARITIME REGISTER OF SHIPPING

**CIRCULAR LETTER**

**No. 314-01-1488c**

dated 24.12.2020

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2020, ND No. 2-020101-124-E

Item(s) of supervision:

ships under construction

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Parts XIII "Materials" and XIV "Welding"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for the Classification and Construction of Sea-Going Ships shall be amended as specified in the Appendices to the Circular Letter.

It is necessary to do the following:

1. Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity.
2. Apply the provisions of the Circular Letter during review and approval of the technical documentation on ships contracted for construction or conversion on or after 24.12.2020, in the absence of a contract — on ships, the keels of which are laid or which are at a similar stage of construction on or after 24.12.2020.

List of the amended and/or introduced paras/chapters/sections:

Part XIII: paras 1.3.2.1, 2.1.6, 2.2.2.7, 2.2.2.9, 2.2.3.1, 3.2.6.5, 3.2.7.1, 3.2.7.2, 3.2.7.2.1, 3.2.7.3.1, 3.2.7.3.2, 3.2.8.3, 3.3.2.2, 3.6.7, 3.7.3.1, Table 3.12.2, paras 3.12.4.3, 3.14.2, 3.14.5, 3.16.1.5, 3.16.1.6, 3.16.1.9.3, 4.1.5, 4.2.4, 4.2.7.3.1, 4.2.8.5, 5.1.8, 5.1.9, 5.3.2.3.3, 5.3.2.3.4.2, 5.4.5.3, 5.4.7.3.1, 5.4.7.4.2, 6.3.4.2, 6.8.1, 6.8.2.4, 6.8.4, 6.8.8.4, 6.8.8.5, 7.1.1.1, 7.2.1.3.3, 7.2.1.6.6, 7.2.2.2.5.1, 7.2.2.3.1.3.1, 7.2.2.4.1.3.1, 7.2.2.4.6, 7.2.4.5.2, 7.2.4.5.3, 7.2.4.5.4, 7.2.4.6.3, 7.2.5.5.2, 9.1.2, 9.4.4 and 9.6.2.3.4.2

Part XIV: paras 2.1.7, 2.1.16, 2.2.1, 2.4.4, 2.4.5, 2.5.1, 2.8.1, 2.9.1, 2.11.1, 3.2.2.1, 3.2.3.1, 3.2.4.1, 3.2.5.1, 3.2.5.13.1, 3.2.6.1, Table 3.3.2, paras 3.4.1.1, 3.5.1.1, 4.1.3.3, 4.8.4.3.1, 4.8.4.3.4 and 4.8.4.4

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**Information on amendments introduced by the Circular Letter  
(for inclusion in the Revision History to the RS Publication)**

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
1	Part XIII	Text of paras 1.3.2.1, 2.1.6, 2.2.2.7, 2.2.2.9, 2.2.3.1, 3.2.6.5, 3.2.7.1, 3.2.7.2, 3.2.7.2.1, 3.2.7.3.1, 3.2.7.3.2, 3.2.8.3, 3.3.2.2, 3.6.7, 3.7.3.1, Table 3.12.2, paras 3.12.4.3, 3.14.2, 3.14.5, 3.16.1.5, 3.16.1.6, 3.16.1.9.3, 4.1.5, 4.2.4, 4.2.7.3.1, 4.2.8.5, 5.1.8, 5.1.9, 5.3.2.3.3, 5.3.2.3.4.2, 5.4.5.3, 5.4.7.3.1, 5.4.7.4.2, 6.3.4.2, 6.8.1, 6.8.2.4, 6.8.4, 6.8.8.4, 6.8.8.5, 7.1.1.1, 7.2.1.3.3, 7.2.1.6.6, 7.2.2.2.5.1, 7.2.2.3.1.3.1, 7.2.2.4.1.3.1, 7.2.2.4.6, 7.2.4.5.2, 7.2.4.5.3, 7.2.4.5.4, 7.2.4.6.3, 7.2.5.5.2, 9.1.2, 9.4.4 and 9.6.2.3.4.2 has been harmonized with the definitions of Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships with regard to the use of terms "recognized" and "agreed" referring to standards	314-01-1488c of 24.12.2020	24.12.2020
2	Part XIV	Text of paras 2.1.7, 2.1.16, 2.2.1, 2.4.4, 2.4.5, 2.5.1, 2.8.1, 2.9.1, 2.11.1, 3.2.2.1, 3.2.3.1, 3.2.4.1, 3.2.5.1, 3.2.5.13.1, 3.2.6.1, 3.4.1.1, 3.5.1.1, 4.1.3.3, 4.8.4.3.1, 4.8.4.3.4 and 4.8.4.4 has been harmonized with the definitions of Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships with regard to the use of terms "recognized" and "agreed" referring to standards	314-01-1488c of 24.12.2020	24.12.2020
3	Part XIV, para 2.5.7	Requirement prohibiting the use of brazing for connecting the copper-nickel pipelines has been deleted	314-01-1488c of 24.12.2020	24.12.2020
4	Part XIV, Table 3.3.2	The Table has been supplemented by the requirements for non-destructive testing of welded joints of branches, nozzles, set-on flange, manhole, opening strength structures, etc.	314-01-1488c of 24.12.2020	24.12.2020

## **RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2020,**

### **ND No. 2-020101-124-E**

#### **PART XIII. MATERIALS**

1 **Para 1.3.2.1** is replaced by the following text:

"**1.3.2.1** Check testing during the firm recognition is carried out according to the program approved by the Register. The program is prepared on the basis of appropriate requirements of this Part of the Rules, national or international standards and other technical documentation. Testing under the Register technical supervision during manufacture of products shall be conducted in compliance with the requirements of this Part depending on the materials and products subjected to the tests and RS-agreed standards and specifications."

2 **Paras 2.1.6, 2.2.2.7, 2.2.2.9, 2.2.3.1, , 3.2.6.5, 3.2.7.1, 3.2.7.2, 3.2.7.3.1, 3.2.7.3.2, 3.2.8.3, 3.3.2.2, 3.6.7, 3.7.3.1, 3.12.2, 3.12.4.3, 3.14.2, 3.14.5, 3.16.1.5, 3.16.1.6, 3.16.1.9.3, 4.1.5, 4.2.4, 4.2.7.3.1, 4.2.8.5, 5.1.8, 5.1.9, 5.3.2.3.3, 5.3.2.3.4.2, 5.4.5.3, 5.4.7.3.1, 5.4.7.4.2, 6.3.4.2, 6.8.1, 6.8.2.4, 6.8.4, 6.8.8.4, 6.8.8.5, 7.1.1.1, 7.2.1.3.3, 7.2.1.6.6, 7.2.2.2.5.1, 7.2.2.3.1.3.1, 7.2.2.4.1.3.1, 7.2.2.4.6, 7.2.4.5.2, 7.2.4.5.3, 7.2.4.5.4, 7.2.4.6.3, 7.2.5.5.2, 9.1.2, 9.4.4, 9.6.2.3.4.2.** The terms "recognized" and "approved" referring to standards are replaced by the term "agreed".

3 **Para 3.2.7.2.1** is replaced by the following text:

"**3.2.7.2.1** The surface quality of the rolled product shall be inspected in accordance with international or national standards agreed between the customer, manufacturer and the Register."

#### **PART XIV. WELDING**

4 **Para 2.1.7** is replaced by the following text:

"**2.1.7** Edge preparation for parts to be welded shall be carried out in accordance with the agreed standards or drawings approved by the Register."

5 **Para 2.1.16** is replaced by the following text:

"**2.1.16** Welding of cold formed parts made of hull structural steel may be carried out without any heat treatment if the inside bending radius meets the agreed standards. In the absence of such standards, the radius shall be not less than three times the thickness of the plate."

6 **Para 2.2.1.** The third paragraph is replaced by the following text:

"Excessive cutouts and other damage to the base metal that occur while removing temporary fittings shall be rewelded and the rectified areas dressed to ensure gradual transition to the base metal. In doing so, the reduction of the base metal thickness shall not exceed the permissible tolerances for plate thickness specified in agreed standards."

7 **Para 2.4.4.** The first paragraph is replaced by the following text:

"The heat treatment of boilers and pressure vessels shall be carried out in accordance with the agreed standards or account shall be taken of the instructions of steel manufactures."

8 **Para 2.4.5** is replaced by the following text:

"**2.4.5** When openings in boilers are closed up by means of plugs fixed by welding, the requirements of the agreed national standards shall be met."

9 **Para 2.5.1** is replaced by the following text:

"**2.5.1** The type of welded joints in pipes shall comply with the agreed standards."

10 **Para 2.5.7** is replaced by the following text:

"**2.5.7** Before welding, the edges of copper pipes with a wall thickness of 5 mm and over shall be heated to a temperature 250 — 350 °C. Copper-nickel pipes shall be welded without preheating."

11 **Para 2.8.1.** The second paragraph is replaced by the following text:

" Edge preparation for parts to be welded shall be carried out in accordance with the agreed national standards or drawings approved by the Register."

12 **Para 2.9.1** is replaced by the following text:

"**2.9.1** Brazed joints in structures specified in 1.1.1 are subject to survey by the Register. They shall be carried out in accordance with the agreed standards or technical documentation."

13 **Para 2.11.1** is replaced by the following text:

"**2.11.1** Welding of copper and copper alloys as well as of heavy metals and other non-ferrous metals shall be carried out in accordance with the agreed standards or documentation approved by the Register. "

14 **Para 3.2.2.1** is replaced by the following text:

"**3.2.2.1** Visual and measuring testing of welded joints shall be carried out in compliance with the requirements of ISO 17637 or other agreed international and national standards."

15 **Para 3.2.3.1** is replaced by the following text:

"**3.2.3.1** Penetrant testing including dye penetrant testing, fluorescent penetrant testing and fluorescent-dye penetrant testing (PT) of welded joints shall be applied and carried out in accordance with written specifications (procedures) developed on the basis of ISO 3452 (Parts 1 — 6) or other agreed international and national standards."

16 **Para 3.2.4.1** is replaced by the following text:

"**3.2.4.1** Magnetic particle testing of welded joints shall be applied and carried out in accordance with written specifications (procedures) developed on the basis of ISO 17638 or other agreed international and national standards."

17 **Para 3.2.5.1** is replaced by the following text:

"**3.2.5.1** Radiographic testing of welded joints shall be applied and carried out in accordance with written specifications (procedures) developed on the basis of ISO 17636 or other agreed international and national standards."

18 **Para 3.2.5.13.1** is replaced by the following text:

"**3.2.5.13.1** Radiographic testing of welded joints with the use of digital detectors shall be applied and carried out in accordance with written specifications (procedures) developed on the basis of ISO 17636-2 or other agreed international and national standards."

19 **Para 3.2.6.1** is replaced by the following text:

"**3.2.6.1** Ultrasonic testing of welded joints shall be applied and carried out in accordance with written specifications (procedures) developed on the basis of ISO 17640 or other agreed international and national standards."

20 **Table 3.3.2** is replaced by the following text:

"Table 3.3.2

Class of structure (boilers, pressure vessels and heat exchangers)	Type of welded joint	Scope of welded joint testing as percentage of total weld length	
		visual <sup>1</sup>	radiographic or ultrasonic
I	Longitudinal	100	100
II			25
III			Random
I	Circumferential	100	50
II			25
III			Random
I	Local <sup>2</sup>	100	—
II			—
III			—

<sup>1</sup> In case of doubts in the results of visual testing, penetrant or magnetic particle testing may be carried out.  
<sup>2</sup> Welded joints of branches, nozzles, pads, manholes, opening reinforcement structures, etc.

21 **Para 3.4.1.1** is replaced by the following text:

"**3.4.1.1** Assessment of welded joint quality in hull structural steel shall be carried out based on the quality levels in compliance with the relevant requirements of ISO 5817 or other agreed international and national standards."

22 **Para 3.5.1.1** is replaced by the following text:

"**3.5.1.1** Assessment of welded joint quality in aluminium alloy hull structures shall be carried out based on the quality levels in compliance with the relevant requirements of ISO 10042 or other agreed international and national standards."

23 **Para 4.1.3.3** is replaced by the following text:

"**4.1.3.3** Surveys and tests.

The welding consumables are approved subject to satisfactory results of the following:  
 survey of the production potential and the quality assurance system of the manufacturer of welding consumables by the RS surveyor;  
 tests of welding consumables to the extent of the initial approval as per the requirements of 4.3 — 4.9 witnessed by the RS surveyor directly at the manufacturer's or in the independent testing center recognized by the Register.

The scope of survey of the welding consumables manufacturers at the initial approval is established by the requirements of 5.2, Part III "Technical Supervision during Manufacture of Materials" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

The approval tests required shall be performed on samples of consumables that are representative of the production. Sampling procedures shall be agreed with the RS surveyor.

In general, the approval tests consist of the following control checks and tests:

sampling control of the quality of product manufacture together with checking the welding and technological properties usually carried out during survey of production;

determination of the mechanical properties and chemical composition of deposited metal if the latter is specified by the technical documentation on manufacture and supply of products (coated electrodes, flux-cored wire);

determination of the mechanical properties of the butt welded joint metal;

determination of the content of diffusible hydrogen in deposited metal for the welding consumables with the relevant additional symbols (refer to 4.2.3.1);

determination, where necessary, of the weld metal and welded joint susceptibility to hot cracking;

special types of tests relevant to the welding consumables for welding corrosion-resistant (stainless) steels according to 4.8.

In order to approve the welding consumables and welding procedures, the requirements to which are not specified in the RS Rules, the scope of testing may comply with the agreed standards."

24 **Para 4.8.4.3.1.** The first sentence is replaced by the following text:

"Tests intended to define resistance of the weld metal and deposited metal to intercrystalline corrosion shall be carried out in compliance with the requirements of the agreed national or international standards specifying immersion of the specimens in boiling aqueous solution of copper sulphate and sulphuric acid in presence of copper as metal with subsequent bending of the specimens to 90° angle in order to reveal indications of intercrystalline corrosion (Strauss method)."

25 **Para 4.8.4.3.4.** The first paragraph is replaced by the following text:

"The result of the test for resistance to ICC is considered satisfactory, if the ICC is not detected on any of the tested specimens. If one of the tested specimens yields unsatisfactory results, the tests shall be repeated, as required by the agreed national or international standards."

26 **Para 4.8.4.4.** The second to the last paragraph is replaced by the following text:

"The reference values of  $\alpha$ -phase content shall meet the requirement of technical documentation approved by the Register or specified by the agreed national standards for particular welding consumables."