



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 313-67-1294c**

dated 21.11.2019

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Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships in connection with coming in force of IACS Unified Requirements M52 (Rev. 1, Jan 2019) and Z27 (July 2018)

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Item(s) of supervision:

Propulsion plants, thrust bearings of shafts, technical condition monitoring systems

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Entry-into-force date:

**01.01.2020**

~~Valid till:~~

~~Validity period extended till:~~

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~~Cancels / amends / adds Circular Letter No.~~

~~dated~~

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Number of pages:

1+3

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part VII "Machinery Installations"

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Director General

Konstantin G. Palnikov

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Text of CL:

We hereby inform that upon the re-publication of the Rules for the Classification and Construction of Sea-Going Ships in 2020, the Rules shall be amended as specified in the Appendices to the Circular Letter.

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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 machinery installations and technical condition monitoring systems installed on board the ships contracted for construction or conversion on or after 01.01.2020, 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 01.01.2020.
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List of the amended and/or introduced paras/chapters/sections:

Para 2.4.1, Table 5.6.1, para 7.2.13 and Section 10

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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	Para 2.4.1	Nomenclature of parts which material properties can be selected according to standards has been expanded; information on the supervision during manufacture has been deleted, taking into account the fact that the scope and procedure of the survey is given in the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships	313-67-1294c of 21.11.2019	01.01.2020
2	Table 5.6.1	The Table has been amended considering IACS UR M52 (Rev. 1, Jan 2019)	313-67-1294c of 21.11.2019	01.01.2020
3	Para 7.2.13	Requirements for the calculation of the strength of the means of active control of the ship have been specified	313-67-1294c of 21.11.2019	01.01.2020
4	Section 10	The Section has been amended considering IACS UR Z27 (July 2018)	313-67-1294c of 21.11.2019	01.01.2020

**RULES FOR THE CLASSIFICATION AND CONSTRUCTION  
OF SEA-GOING SHIPS, 2019,**

**ND No. 2-020101-114**

**PART VII. MACHINERY INSTALLATIONS**

**2 GENERAL**

1 **Para 2.4.1** is replaced by the following text:

"**2.4.1** Materials for the manufacture of parts of the shaftings and propellers shall comply with the requirements given in the relevant Chapters of Part XIII "Materials", as indicated in column 4, Table 1.3.2.3. The materials used for the components stated in items 1.2 — 1.8, 2.2.3, 2.3 — 2.5 of Table 1.3.2.3 may also be chosen in accordance with the relevant standards. In such a case, the application of materials shall be agreed with the Register when examining the technical documentation."

**5 SHAFTING**

2 **Table 5.6.1** is replaced by the following:

"Table 5.6.1

Bearing material	$l/d^1$ , not less than	$q^2$ , in MPa, not more than
Oily-lubricated white metal (babbit)	2 <sup>3</sup>	1,0
Rubber or other water-lubricated materials approved by the Register	4 <sup>4</sup>	0,25 <sup>4</sup>
Rubber or other synthetic oil- or environment-friendly oily liquid-lubricated materials approved by the Register	2 <sup>5</sup>	1,0

<sup>1</sup> $l$  = length of bearing;  $d$  = design shaft diameter in way of bearing.

<sup>2</sup> $q$  = contact pressure taken up by the bearing,  $q = R/(l \cdot d)$ , where  $R$  = reaction of support.

<sup>3</sup>Length of the bearing may be reduced if the contact pressure does not exceed 0,8 MPa as determined by static bearing reaction calculation taking into account shaft and propeller weight which is deemed to be exerted solely on the aft bearing divided by the projected area of the shaft and if the results of the operational check are satisfactory. In all cases, the length of the bearing shall not be less than 1,5 of the actual shaft diameter in way of the bearing.

<sup>4</sup>Length of the bearing of synthetic material may be reduced to twice the design shaft diameter in way of the aft bearing, provided the results of the operational check (of the bearing design and material) are satisfactory. Synthetic materials for application as water lubricated stern tube bearings shall be Type Approved.

<sup>5</sup>The length of bearing may be less provided the nominal bearing pressure as determined by static bearing reaction calculation taking into account shaft and propeller weight which is deemed to be exerted solely on the aft bearing divided by the projected area of the shaft is not more than 0,6 MPa and provided the results of the operational check are satisfactory. However, the minimum length shall be not less than 1,5 times the actual diameter.

## 7 ACTIVE MEANS OF THE SHIP'S STEERING

### 7.2 CONSTRUCTION REQUIREMENTS

3 Para **7.2.13** is replaced by the following text:

**7.2.13** Strength of the parts of main AMSS turning mechanism, components for securing to ship's hull shall be so calculated that they can withstand hydrodynamic and ice loads acting upon the propeller, nozzle and AMSS casing without damage. It is permitted to determine hydrodynamic and ice loads on the AMSS components according to the results of hydrodynamic tests and testing of self-propelled models in the ice model basin according to the procedures approved by the Register."

## 10 MACHINERY TECHNICAL CONDITION MONITORING SYSTEMS

4 **Section 10** is replaced by the following text:

### "10 TECHNICAL CONDITION MONITORING SYSTEMS

#### 10.1 GENERAL

**10.1.1** The requirements apply to condition monitoring and maintenance schemes for equipment in which state monitoring results determine the scope and/or frequency of surveys.

**10.1.2** The schemes can be applied to the items located in the system of continuous survey of machinery, as well as to other items, considering the requirements of 2.8, Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service."

#### 10.2 GENERAL REQUIREMENTS FOR TECHNICAL CONDITION MONITORING SYSTEMS

**10.2.1** The technical condition monitoring systems may be constructed on the basis of built-in (fixed) condition monitoring systems, portable control facilities or may combine both.

**10.2.2** The built-in monitoring systems and their elements shall meet the requirements imposed on the ship automation systems (refer to Section 2, Part XV "Automation").

Failures in the operation of the built-in monitoring system shall not adversely affect the operation of the equipment.

**10.2.3** The requirements for computers used in the technical condition monitoring systems are similar to the requirements of Section 7, Part XV "Automation".

**10.2.4** The basic values of the diagnostic parameters used as initial (reference) data during the technical condition monitoring shall be obtained under the specific conditions of draught and the ship speed (at sea) and under operating conditions of the main engines and auxiliaries.

The basic data may be obtained on acceptance trials or on maiden voyage for a newbuilding or on another operational voyage under steady operating modes of the control items agreed with the Register."