



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 314-18-1533c**

dated 25.03.2021

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Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2021, ND No. 2-020101-139-E, considering the application of the Rules

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Item(s) of supervision:

ships under construction

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Entry-into-force date:

**01.05.2021**

~~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 + 5

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part IV "Technical Supervision during Manufacture of Products"

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Director General

Konstantin G. Palnikov

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Text of CL:

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships 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 ships contracted for construction or conversion on or after 01.05.2021, 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 01.05.2021, as well as during review and approval of the technical documentation on ships, the delivery of which is on or after 01.05.2021.
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List of the amended and/or introduced paras/chapters/sections:

Part IV: paras 3.5.1.6, 3.6.1, 3.7.6 and Appendix 3

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"Thesis" System No. 21-57866

**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 3.5.1.6	Requirements have been specified regarding A1.4.4.2, IACS UR A1 (Rev.6 Oct 2016) (Corr.2 Mar.2017)	314-18-1533c of 25.03.2021	01.05.2021
2	Para 3.6.1	Requirement has been aligned with the Nomenclature of Items of the Register Technical Supervision	314-18-1533c of 25.03.2021	01.05.2021
3	Para 3.7.6	Requirement has been aligned with the Nomenclature of Items of the Register Technical Supervision	314-18-1533c of 25.03.2021	01.05.2021
4	Appendix 3	Text of Appendix has been amended in accordance with A1.4.4, IACS UR A1 (Rev.6 Oct 2016) (Corr.2 Mar.2017)	314-18-1533c of 25.03.2021	01.05.2021

## **RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2021,**

### **ND No. 2-020101-139-E**

#### **PART IV. TECHNICAL SUPERVISION DURING MANUFACTURE OF PRODUCTS**

##### **3 EQUIPMENT, ARRANGEMENTS AND OUTFIT**

1 **Para 3.5.1.6** is replaced by the following text:

"**3.5.1.6** To admit a high holding power (HHP) or super high holding power (SHHP) anchor as such, comparative tests are carried out in accordance with Section 2 of Appendix 3."

2 **Para 3.6.1** is replaced by the following text:

"**3.6.1** The Register technical supervision during manufacture of bollards, cleats, fairleads, hawses, rollers and other devices shall include the examination and approval of technical documentation for these products, the survey of the specified products, and the issuance of the relevant certificates."

3 **Para 3.7.6** is replaced by the following text:

"**3.7.6** The Register technical supervision during manufacture of bits, bollards, fairleads, hawses, stoppers, rollers, cleats, towing notch blocks and tow rails shall include the examination of the relevant technical documentation for these products, the survey of the specified products and the issuance of the relevant certificates."

#### *APPENDIX 3*

##### **TENSILE TEST OF ANCHORS AND ANCHOR SHACKLES BY PROOF LOAD**

4 **Appendix 3** is replaced by the following text:

"1 Proof testing of anchors.

1.1 Testing of ordinary anchors.

1.1.1 Anchors of all sizes shall be proof tested with the test loads stipulated in the Table.

1.1.2 The proof load shall be applied on the arm or on the palm at a spot which, measured from the extremity of the bill, is one-third of the distance between it and the centre of the crown (refer to Figs1 and 2).

In the case of stockless anchors, both arms shall be tested at the same time, first on one side of the shank, then reversed and tested on the other.

1.1.3 Before application of proof test load the anchors shall be examined to be sure that castings are reasonably free of surface imperfections of harmful nature. After proof load testing the anchors shall be examined for cracks and other defects. On completion of the proof load tests the anchors made in more than one piece shall be examined for free rotation of their heads over the complete angle.

In every test the difference between the gauge lengths (as shown in figs.1 and 2) where one-tenth of the required load was applied first and where the load has been reduced to one-tenth of the required load from the full load may be permitted not to exceed 1 %.

1.2 Testing of HHP anchors.

The HHP anchor shall be proof tested with load required by the Table for an anchor mass equal to 1,33 times the actual mass of the HHP anchor. The proof loading procedure and examination procedure for HHP anchors shall comply with those for ordinary anchors (refer to 1.1).

**1.3** Testing of SHHP anchors.

**1.3.1** The SHHP anchor shall be proof tested with the load required by the Table for an anchor mass equal to twice the actual mass of the SHHP anchor. The proof loading procedure and examination procedure for SHHP anchors shall comply with those for ordinary anchors (refer to 1.1).

**1.3.2** After the proof load test, all SHHP anchors shall be surface inspected by the dye penetrant method or by the magnetic particle method. All surfaces of cast steel anchors shall be surface inspected. All cast steel anchors shall be examined by UT in way of areas where feeder heads and risers have been removed and where weld repairs have been carried out. The surface inspections and UT inspections shall follow 2.5.3, Part III "Technical Supervision during Manufacture of Materials". Welded steel anchors shall be inspected at the welds. At sections of high load or at suspect areas, the Register may impose volumetric non-destructive examination, e.g., ultrasonic inspection or radiographic inspection.

**1.3.3** The hammering test and the drop test may be additionally applied to cast steel anchors.

**2** Anchor holding power tests for HHP and SHHP anchors.

**2.1** Full scale tests shall be carried out at sea on various types of bottom, normally, soft mud or silt, sand or gravel and hard clay or similar compounded material. The tests shall be applied to anchors of mass which are as far as possible representative of the full range of sizes proposed.

**2.2** For a definite group within the range, the two anchors selected for testing (ordinary stockless anchor and HHP anchor, or ordinary stockless anchor and SHHP anchor, respectively) shall be of approximately the same mass and tested in association with the size of chain required for that anchor mass. Where an ordinary stockless anchor is not available, for testing of HHP anchors a previously approved HHP anchor may be used in its place. For testing of SHHP anchors, a previously approved HHP or SHHP anchor may be used in place of an ordinary stockless anchor. The length of the cable with each anchor shall be such that the pull on the shank remains horizontal. For this purpose, a scope of 10 is considered normal but a scope of not less than 6 may be accepted. Scope is defined as the ratio of length of cable to depth of water.

**2.3** Three tests shall be taken for each anchor and each type of bottom. The stability of the anchor and ease of breaking out shall be noted where possible. Tests shall be carried out from a tug but alternatively shore based tests may be accepted. The pull shall be measured by dynamometer. Measurements of pull, based on the RPM/bollard pull curve of the tug may be accepted as an alternative to a dynamometer.

**2.4** For approval and/or acceptance for a range of HHP anchor sizes, tests shall be carried out for at least two anchor sizes. The mass of the maximum size approved shall not be more than 10 times the mass of the largest size tested.

**2.5** For approval and/or acceptance for a range of SHHP anchor sizes, at least three anchor sizes shall be tested, indicative of the bottom, middle and top of the mass range.

**2.6** The holding power test load shall not exceed the proof load of the anchor.

**3** Each cast anchor shackle shall be tested without an anchor with the non-standard pin secured in it applying a proof load  $F_2$ , in N:

$$F_2 = 2F_1$$

where  $F_1$  = proof load for the anchor determined according to the Table and specified in the technical requirements of a drawing.

In some cases, this test may be carried out selectively in amounts of 5 % of a batch, but not less than two shackles.

The batch is taken as the shackles made of one steel brand after the joint heat treatment or heat treatment as per the same conditions with the compulsory fixing of temperatures. In proof load testing, no cracks and permanent set are acceptable.

If satisfactory results of the abovementioned tests by proof load for particular type of product have been received and the Recognition Certificate for Manufacturer has been issued, the following is admitted:

.1 to conduct tests of anchor shackles by proof load together with the anchor (refer to item 2);

.2 to conduct tensile tests of anchor shackles by proof load equal to double proof load for anchors only when endorsed by the Recognition Certificate for Manufacturer.

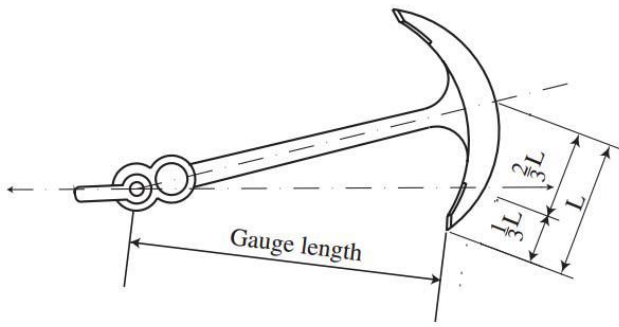
4 Each anchor, irrespective of the method of its manufacture, shall be made subject to the tensile test by applying a proof load on a special chain-testing machine or by a load suspended to the flukes. The anchors shall not be made subject to loading prior to testing.

5 After proof load testing NDT for all anchors shall be tested in accordance with 8.4.2.5 and 8.4.2.6 of Part XIII "Materials" of the Rules for the Classification and Construction of Sea-Going Ships as well as weighing, which is allowed to carry out selectively in the amount of 5 % from each batch but not less than two anchors.

Table

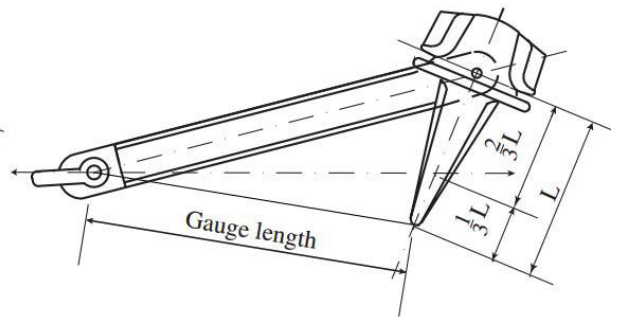
Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN
50	23,2	1250	239	5000	661	12500	1130
55	25,2	1300	247	5100	669	13000	1160
60	27,1	1350	255	5200	677	13500	1180
65	28,9	1400	262	5300	685	14000	1210
70	30,7	1450	270	5400	691	14500	1230
75	32,4	1500	278	5500	699	15000	1260
80	33,9	1600	292	5600	706	15500	1270
90	36,3	1700	307	5700	713	16000	1300
100	39,1	1800	321	5800	721	16500	1330
120	44,3	1900	335	5900	728	17000	1360
140	49,0	2000	349	6000	735	17500	1390
160	53,3	2100	362	6100	740	18000	1410
180	57,4	2200	376	6200	747	18500	1440
200	61,3	2300	388	6300	754	19000	1470
225	65,8	2400	401	6400	760	19500	1490
250	70,4	2500	414	6500	767	20000	1520
275	74,9	2600	427	6600	773	21000	1570
300	79,5	2700	438	6700	779	22000	1620
325	84,1	2800	450	6800	786	23000	1670
350	88,8	2900	462	6900	794	24000	1720
375	93,4	3000	474	7000	804	25000	1770
400	97,9	3100	484	7200	818	26000	1800
425	103	3200	495	7400	832	27000	1850
450	107	3300	506	7600	845	28000	1900
475	112	3400	517	7800	861	29000	1940
500	116	3500	528	8000	877	30000	1990
550	124	3600	537	8200	892	31000	2030
600	132	3700	547	8400	908	32000	2070
650	140	3800	557	8600	922	34000	2160
700	149	3900	567	8800	936	36000	2250
750	158	4000	577	9000	949	38000	2330
800	166	4100	586	9200	961	40000	2410
850	175	4200	595	9400	975	42000	2490
900	182	4300	604	9600	987	44000	2570
950	191	4400	613	9800	998	46000	2650
1000	199	4500	622	10000	1010	48000	2730

Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN	Anchor mass, kg	Proof load, kN
1050	208	4600	631	10500	1040		
1100	216	4700	638	11000	1070		
1150	224	4800	645	11500	1090		
1200	231	4900	653	12000	1110		
Note 1. Proof load for intermediate values of the anchor mass is determined by linear interpolation.							



**Stockless Anchor**

Fig. 1



**Stocked Anchor**

Fig. 2

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