



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 312-11-1273c**

dated 16.10.2019

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Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2019, ND No. 2-0202101-114-E

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Item(s) of supervision:

ships under construction and in service

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Parts I "Classification" and XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"

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Director General

Konstantin G. Palnikov

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Text of CL:

We hereby inform that in connection with introduction of the requirements regarding noise and vibration levels in ship's spaces for assignment of the distinguishing marks **COMF(N – 1 or 2 or 3)** or **COMF(V – 1 or 2 or 3)** in the class notation, the Rules for the Classification and Construction of Sea-Going 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. Familiarize the RS surveyors and interested organizations in the area of the RS Branch Offices' activity with the content of the Circular Letter.
  2. Apply provisions of the Circular Letter during the RS practical activity.
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List of the amended and/or introduced paras/chapters/sections:

Part I: para 2.2.41

Part XVII: Chapters 18.2 and 18.3

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Person in charge: Dmitriy A. Grubov

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+7 (812) 312-24-28

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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 I, para 2.2.41	Requirements regarding assignment of the distinguishing marks <b>COMF(N – 1 or 2, or 3)</b> (permissible noise vibration levels in ship's spaces) and <b>COMF(V – 1 or 2, or 3)</b> (permissible sanitary vibration comfort levels in ship's spaces) have been introduced	312-11-1273c of 16.10.2019	16.10.2019
2	Part XVII, Chapter 18.2	Requirements for noise levels in ship's spaces for assignment of the distinguishing marks <b>COMF(N – 1 or 2, or 3)</b> have been introduced	312-11-1273c of 16.10.2019	16.10.2019
3	Part XVII, Chapter 18.3	Requirements for permissible sanitary vibration levels in ship's spaces for assignment of the distinguishing marks <b>COMF(V – 1 or 2, or 3)</b> have been introduced	312-11-1273c of 16.10.2019	16.10.2019

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

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

#### **PART I. CLASSIFICATION**

##### **2.2 CLASS NOTATION OF A SHIP**

1 **Para 2.2.41** is replaced by the following text:

**"2.2.41 Distinguishing marks for ships complying with the requirements for indoor hygiene and sanitary conditions.**

**2.2.41.1** If ships comply with the indoor climate requirements specified in Chapter 18.1 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, the distinguishing mark **COMF(C)** may be added to the character of classification.

**2.2.41.2** If ships comply with the requirements for noise level in ship's spaces specified in Chapter 18.2 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **COMF(N – 1 or 2, or 3)** may be added to the character of classification, where grades **1, 2, 3** indicate the noise comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).

**2.2.41.3** If ships comply with the requirements for sanitary vibration level in ship's spaces specified in Chapter 18.3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **COMF(V – 1 or 2, or 3)** may be added to the character of classification, where grades **1, 2, 3** indicate permissible sanitary vibration comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).".

#### **PART XVII. DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN THE CLASS NOTATION DEFINING STRUCTURAL AND OPERATIONAL PARTICULARS OF SHIPS**

##### **18 INDOOR HYGIENE AND SANITARY CONDITIONS**

2 **New Chapters 18.2** and **18.3** are introduced reading as follows:

###### **"18.2 NOISE LEVEL IN SHIP'S SPACES**

###### **18.2.1 General.**

**18.2.1.1** If ships comply with the requirements of this Chapter for noise level in all passenger and crew spaces, the distinguishing mark **COMF(N – 1 or 2, or 3)** may be added to the character of classification, where grades **1, 2, 3** indicate the noise comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).

**18.2.1.2** The requirements of this Chapter do not apply to:

- .1 dynamically supported craft;
- .2 high-speed craft;
- .3 fishing vessels;
- .4 pipe-laying vessels and pipe-laying barges;
- .5 mobile offshore drilling units and fixed offshore platforms;
- .6 pleasure craft;
- .7 auxiliary ships of war;
- .8 pile driving vessels;
- .9 dredgers.

### 18.2.2 Definitions.

For the purpose of this Chapter the following definitions have been adopted.

Apparent weighted sound reduction index  $R'_w$  means a single number value, in dB, which describes the overall sound insulation performance in situ of walls, doors or floors provides (refer to ISO 717-1:1996, as amended).

Passenger public spaces:

- .1 Type A means closed rooms where noise is generally high (e.g. discotheques);
- .2 Type B means closed rooms where noise is moderately high (e.g. restaurants, bars, cinemas, casinos, lounges, fitness rooms, gymnasiums and other closed sport areas);
- .3 Type C means closed rooms where noise is relatively low (e.g. lecture rooms, libraries, theatres);
- .4 Type D means closed rooms used for passages which do not require very low background noise (e.g. halls, atriums, shops, corridors, staircases).

A-weighted sound pressure level or noise level means the quantity measured by a sound level meter in which the frequency response is weighted according to the A-weighting curve (refer to IEC 61672-1).

A-weighted equivalent continuous sound level A,  $L_{Aeq}(T)$  means A-weighted sound pressure level of a continuous steady sound that, within a measurement time interval  $T$ , has the same mean square sound pressure as a sound under consideration which varies with time (refer to IEC 31672-1).

### 18.2.3 Documentation.

In addition to technical documentation specified in Section 3, Part I "Classification", a measurement program shall be submitted to the RS Branch Office carrying out technical supervision during construction of a ship for approval. Measurement results shall be submitted to the RS Branch Office for information.

### 18.2.4 Measurements.

**18.2.4.1** Noise level measurement and equipment calibration shall be carried out considering the requirements of ISO 2923, IEC 61672-1, IEC 61260 and IEC 60942.

**18.2.4.2** Sound insulation measurement shall be carried out considering the requirements of ISO 16283-1.

**18.2.4.3** Measuring equipment shall be verified at least every 2 years by a competent laboratory accredited according to ISO 17025 (2005), as amended.

The instrumentation shall be calibrated in situ before the tests and verified after. The deviation shall not exceed 0,5 dB.

**18.2.4.4** The nominal noise level is evaluated with A,  $L_{Aeq}(T)$  value with  $T$  at least 15 s. Results shall be given in global values calculated in octave bands 31,5 Hz – 8 kHz.

**18.2.4.5** The criterion of sound insulation shall be expressed in terms of apparent weighted sound reduction index  $R'_w$  measured according to ISO 16283-1 and then calculated in accordance with the method specified in ISO 717-1.

**18.2.4.6** A tolerance on noise levels may be accepted but shall not exceed the following maximum values:

- .1 3 dB(A) for 18 % of all measured cabins and 5 dB(A) for 2 % of all measured cabins (with a minimum of 1 cabin);
- .2 3 dB(A) for 25 % of measuring points and 5 dB(A) for 5 % of measuring points in other spaces;
- .3 1 dB for 20 % of apparent weighted sound reduction indexes  $R'_w$  and 2 dB for 10 % of apparent weighted sound reduction indexes.

**18.2.4.7** Operating conditions at sea trials for noise level measurements shall comply with 3.3 and 3.5 of IMO resolution MSC.337(91).

**18.2.4.8** List of measuring points shall be prepared according to 18.2.3 prior to the tests and include at least the following conditions:

- .1 noise level measurements in spaces at sea trials;
- .2 apparent weighted sound reduction index measurements in spaces at sea trials.

**18.2.4.9** Measurement positions shall comply with 3.10 – 3.14 of IMO resolution MSC.337(91). For spaces exceeding 20 m<sup>2</sup>, noise measurements shall be performed for every 20 m<sup>2</sup>.

**18.2.4.10** For passenger spaces, the measuring points alongside the length of the ship are divided in two regions:

- .1 from the aft part of the ship to the front bulkhead of the machinery casing, measurements shall be carried out for 35 % of cabins, as a minimum, and all public spaces and open decks.

For large public spaces (lounges, restaurants, etc.) measurements shall be carried out in different locations, each measuring point covering at least 50 m<sup>2</sup> of the space area;

.2 the front bulkhead of the casing to the fore end of the ship, the measurements shall be carried out for 15 % of cabins, as a minimum, and all public spaces and open decks. For large public spaces (lounges, restaurants, etc.) measurements shall be carried out in different locations, each measuring point covering at least 100 m<sup>2</sup> of the space area.

**18.2.5 Permissible noise levels and requirements for sound insulation.**

**18.2.5.1** Maximum permissible noise levels in the crew accommodations shall not exceed the values specified in Table 18.2.5.1.

Table 18.2.5.1

**Noise level requirements for crew accommodations**

Location	A-weighted equivalent continuous sound level A, $L_{Aeq}(T)$ , in dB(A)		
	Grade 1	Grade 2	Grade 3
Wheelhouse	60	63	65
Radio room <sup>1</sup>	55	57	60
Cabins	52	55	60
Offices	57	60	65
Public spaces, mess rooms	57	60	65
Hospital	56	58	60
Main machinery control room and switchboard room continuously manned at sea <sup>2</sup>	70	73	75
Open recreation areas <sup>3,4</sup>	70	73	75
Galleys <sup>2</sup>	70	73	75
Workshops other than those forming part of machinery spaces <sup>2</sup>	85	85	85
Staircases and corridors in crew areas	70	73	75
<sup>1</sup> Equipment switched on but not emitting. <sup>2</sup> Equipment switched on but not processing. <sup>3</sup> Measurement carried out with a windscreen microphone protection. <sup>4</sup> A tolerance of 5 dB(A) may be accepted for measurements at less than 3 m from ventilation inlet/outlet.			

**18.2.5.2** Between two adjacent crew accommodation spaces, the apparent weighted sound reduction index  $R'_w$  shall not be less than the values specified in Table 18.2.5.2. Measurements shall be performed in situ, ship at quay or at anchorage.

Table 18.2.5.2

**Apparent weighted sound reduction index  $R'_w$ , in dB**

Location	Grade 1	Grade 2	Grade 3
Cabin to cabin	37	35	32
Corridor to cabin	35	32	30
Stairs to cabin	35	32	30
Public spaces to cabin	45	44	42

**18.2.5.3** Maximum permissible noise levels in passenger spaces shall not exceed the values specified in Table 18.2.5.3.

Table 18.2.5.3

**Noise level requirements for passenger spaces**

Location	A-weighted equivalent continuous sound level $A, L_{Aeq}(T)$ , in dB(A)		
	Grade 1	Grade 2	Grade 3
Passenger cabins of higher comfort class <sup>1</sup>	45	47	50
Standard passenger cabins <sup>1</sup>	49	52	55
Restaurants, cafeterias and public spaces of Type B	55	57	60
Shops, corridors, public spaces of Type D	60	63	65
Public spaces of Type A	65	68	72
Public spaces of Type C	53	56	59
Open recreation areas (swimming pools, sport areas, etc.) <sup>2,3</sup>	65	70	75
Beauty parlours, barber shops, etc. <sup>4</sup>	53	56	59

<sup>1</sup> Granting of the comfort grade to passenger cabins is the shipowner's prerogative right.  
<sup>2</sup> Measurement shall be carried out with a windscreen microphone protection.  
<sup>3</sup> A tolerance of 5 dB(A) may be accepted for measurements at less than 3 m from ventilation inlet/outlet.  
<sup>4</sup> Equipment is not processing.

**18.2.5.4** For passenger spaces, the apparent weighted sound reduction index  $R'_w$  shall not be less than the values specified in Table 18.2.5.4. Measurements shall be performed in situ, ship at quay or at anchorage.

Table 18.2.5.4

**Apparent weighted sound reduction index  $R'_w$ , in dB**

Location	Grade 1	Grade 2	Grade 3
Cabin to cabin	41	38	36
Corridor to cabin	38	36	34
Stairs to cabin	48	45	45
Public spaces to cabin	53	50	48
Discotheque to cabin or cinema hall	64	62	60

**18.3 SANITARY VIBRATION LEVEL IN SHIP'S SPACES**

**18.3.1 General.**

**18.3.1.1** If ships comply with the requirements of this Chapter for sanitary vibration level in all passenger and crew spaces, the distinguishing mark **COMF(V – 1 or 2, or 3)** may be added to the character of classification, where grades **1, 2, 3** indicate permissible sanitary vibration comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).

**18.3.1.2** The criterion of vibration shall be expressed in terms of overall frequency-weighted r.m.s. value of vibration velocity, in mm/s, in the frequency range 1 – 80 Hz, determined in accordance with ISO 6954.

**18.3.1.3** The requirements of this Chapter do not apply to:

- .1 dynamically supported craft;
- .2 high-speed craft;
- .3 fishing vessels;
- .4 pipe-laying vessels and pipe-laying barges;
- .5 mobile offshore drilling units and fixed offshore platforms;
- .6 pleasure craft;

.7 auxiliary ships of war;

.8 pile driving vessels;

.9 dredgers.

### **18.2.3 Definitions.**

For the purpose of this Chapter the following definition has been adopted.

Passenger public spaces:

.1 Type A means closed rooms where vibration is generally high (e.g. discotheques);

.2 Type B means closed rooms where vibration is moderately high (e.g. restaurants, bars, cinemas, casinos, lounges, fitness rooms, gymnasiums and other closed sport areas);

.3 Type C means closed rooms where vibration is relatively low (e.g. lecture rooms, libraries, theatres);

.4 Type D means closed rooms used for passages which do not require very low background noise (e.g. halls, atriums, shops, corridors, staircases).

### **18.3.3 Documentation.**

In addition to technical documentation specified in Section 3, Part I "Classification", a measurement program shall be submitted to the RS Branch Office carrying out technical supervision during construction of a ship for approval. Measurement results shall be submitted to the RS Branch Office for information.

### **18.3.4 Measurements.**

**18.3.4.1** Sanitary vibration level measurement in spaces shall be carried out considering the requirements of ISO 6954.

**18.3.4.2** Measurements shall be taken in vertical direction. In cabins, offices or other small spaces, measurements shall be taken in the centre of a space. For larger spaces, increased number of measuring points may be required. Vibrations shall be measured in all accommodation and public spaces (cabins, mess rooms, offices) in the wheelhouse, main machinery control room, workshops and other spaces specified in Tables 18.3.5.1 and 18.3.5.2 (if any).

**18.3.4.3** For passenger spaces, the measuring points alongside the length of the ship are divided in two regions:

.1 from the aft part of the ship to the front bulkhead of the machinery casing, measurements shall be carried out for 20 % of cabins, as a minimum, and all public spaces and open decks. For large public spaces (lounges, restaurants, etc.) measurements shall be carried out in different locations, each measuring point covering at least 80 m<sup>2</sup> of the space area;

.2 the front bulkhead of the casing to the fore end of the ship, the measurements shall be carried out for 10 % of cabins, as a minimum, and all public spaces and open decks. For large public spaces (lounges, restaurants, etc.) measurements shall be carried out in different locations, each measuring point covering at least 150 m<sup>2</sup> of the space area.

**18.3.4.4** A tolerance on vibration levels shall not exceed 0,3 mm/s for 20 % of the measurement points for overall frequency-weighted r.m.s. value of vibration velocity.

### **18.3.5 Permissible vibration levels.**

**18.3.5.1** Maximum permissible vibration levels in crew accommodations shall not exceed the values specified in Table 18.3.5.1.

Table 18.3.5.1

**Vibration levels requirements in crew accommodations**

Location	Overall frequency-weighted r.m.s. value of vibration velocity, in mm/s, in the frequency range 1 – 80 Hz		
	Permissible vibration level 1	Permissible vibration level 2	Permissible vibration level 3
Wheelhouse	2,8	3,0	3,2
Radio room			
Cabins	2,8	3,0	3,2
Offices	3,0	3,5	4,0
Public spaces, mess rooms	3,0	3,2	3,5
Hospital	2,8	3,0	3,2
Main machinery control room or switchboard room continuously manned at sea	4,0	4,5	5,0
Open recreation areas	–	–	–
Galleys	5,0	5,5	6,0
Workshops			
Staircases and corridors in crew areas	5,0	5,5	6,0

**18.3.5.2** Maximum permissible vibration levels in passenger spaces shall not exceed the values specified in Table 18.3.5.2.

Table 18.3.5.2

**Vibration level requirements for passenger spaces**

Location	Overall frequency-weighted r.m.s. value of vibration velocity, in mm/s, in the frequency range 1 – 80Hz		
	Permissible vibration level 1	Permissible vibration level 2	Permissible vibration level 3
Passenger cabins of higher <sup>1</sup> comfort class	1,7	2,0	2,2
Standard passenger cabins <sup>1</sup>	2,0	2,5	3,0
Restaurants, cafeterias and public spaces of Type B	2,2	2,5	3,0
Shops, corridors, public spaces of Type D	4,0	4,5	5,0
Public spaces of Type A			
Public spaces of Type C	2,0	2,5	3,0
Open recreation areas (swimming pools, sport areas, etc.)	3,0	3,5	4,0
Beauty parlours, barber shops, etc. <sup>2</sup>	2,0	2,5	3,0

<sup>1</sup> Granting of the comfort grade to passenger cabins is the shipowner's prerogative right.  
<sup>2</sup> Equipment is not processing.