



# RUSSIAN MARITIME REGISTER OF SHIPPING

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**CIRCULAR LETTER**

**No. 382-08-1651c**

dated 25.10.2021

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Re:

amendments to the Collection of the Rules for Containers, 2021, ND 2-090201-012-E

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Item(s) of supervision:

containers, materials and products for containers

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Entry-into-force date:

**15.11.2021**

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

~~dated~~

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Number of pages:

1 + 11

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Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to the General Regulations for the Technical Supervision of Containers; Parts I "Basic Requirements", II "General Freight Containers", III "Thermal Containers", IV "Tank Containers" and VII "Offshore Containers" of Rules for the Manufacture of Containers; Rules for the Approval of Containers for the Transport of Goods Under Customs Seal and Rules for Technical Supervision During Manufacture of Containers, Materials and Products for Containers.

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Director General

Konstantin G. Palnikov

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Text of CL:

We hereby inform that the General Regulations for the Technical Supervision of Containers, Rules for the Manufacture of Containers, Rules for the Approval of Containers for the Transport of Goods Under Customs Seal and Rules for Technical Supervision During Manufacture of Containers, Materials and Products for Containers 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 in the RS practical activity from the entry-into-force date of amendments.
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List of the amended and/or introduced paras/chapters/sections:

General Regulations for the Technical Supervision of Containers:

paras 1.1.2, 1.4.2.1 and 1.4.4

Rules for the Manufacture of Containers:

Part I: para 1.5.1.4.2, Tables 2.1.2, 2.6.1.1, 2.3.6 and 3.2.7, para 4.2.2

Part II: Table 2.1.1, Chapters. 3.7, 3.8, 3.9, 3.13 and 3.14

Part III: para 2.3.1

Part IV: paras 1.2.1 and 2.2.17

Part VII: paras 1.4.1, 1.4.2, 3.1.2, 7.3.1.2 and 9.7.3

Rules for the Approval of Containers for the Transport of Goods Under Customs Seal:

para 1.3.2.3

Rules for Technical Supervision During Manufacture of Containers, Materials and Products for Containers:

para 5.10.1.1

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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	General Regulations for the Technical Supervision of Containers, para 1.1.2	Explanation for СОД abbreviation has been specified; new abbreviations considering NTD methods have been introduced	382-08-1651c of 25.10.2021	15.11.2021
2	General Regulations for the Technical Supervision of Containers, para 1.4.2.1.6	New para with the description of the new RS document has been introduced	382-08-1651c of 25.10.2021	15.11.2021
3	General Regulations for the Technical Supervision of Containers, para 1.4.4	Requirements for validity period of the RS documents have been specified	382-08-1651c of 25.10.2021	15.11.2021
4	Rules for the Manufacture of Containers, Part I, para 1.5.1.4.2	Requirements for the volume of provided documents have been specified	382-08-1651c of 25.10.2021	15.11.2021
5	Rules for the Manufacture of Containers, Part I, tables of Section 2 (Tables 2.1.2, 2.6.1.1 and 2.3.6)	Misprints have been corrected	382-08-1651c of 25.10.2021	15.11.2021
6	Rules for the Manufacture of Containers, Part I, Table 3.2.7	Column titles have been specified	382-08-1651c of 25.10.2021	15.11.2021
7	Rules for the Manufacture of Containers, Part I, Para 4.2.2	Requirements for marking have been specified	382-08-1651c of 25.10.2021	15.11.2021
8	Rules for the Manufacture of Containers, Part II, Table 2.1.1	Misprint has been corrected	382-08-1651c of 25.10.2021	15.11.2021
9	Rules for the Manufacture of Containers, Part II, Chapter 3.7	The text of the Chapter has been revised; requirements for stacking test have been specified	382-08-1651c of 25.10.2021	15.11.2021
10	Rules for the Manufacture of Containers, Part II, Chapter 3.8	The text of the Chapter has been revised; requirements for roof testing have been specified	382-08-1651c of 25.10.2021	15.11.2021

Nos.	Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
11	Rules for the Manufacture of Containers, Part II, Chapter 3.9	The text of the Chapter has been revised; requirements for floor testing have been specified	382-08-1651c of 25.10.2021	15.11.2021
12	Rules for the Manufacture of Containers, Part II, Chapter 3.13	The text of the Chapter has been revised; requirements for end walls testing have been specified	382-08-1651c of 25.10.2021	15.11.2021
13	Rules for the Manufacture of Containers, Part II, Chapter 3.14	The text of the Chapter has been revised; requirements for side walls testing have been specified	382-08-1651c of 25.10.2021	15.11.2021
14	Rules for the Manufacture of Containers, Part III, para 2.3.1	Reference to another part of the Rules have been specified	382-08-1651c of 25.10.2021	15.11.2021
15	Rules for the Manufacture of Containers, Part IV, para 1.2.1	Definition "Vessel" has been specified	382-08-1651c of 25.10.2021	15.11.2021
16	Rules for the Manufacture of Containers, Part IV, para 2.2.17	Requirements for the scope of non-destructive testing have been specified	382-08-1651c of 25.10.2021	15.11.2021
17	Rules for the Manufacture of Containers, Part VII, paras 1.4.1 and 1.4.2	Requirements for technical documentation have been specified	382-08-1651c of 25.10.2021	15.11.2021
18	Rules for the Manufacture of Containers, Part VII, para 3.1.2	Requirements for the calculation of offshore containers have been specified	382-08-1651c of 25.10.2021	15.11.2021
19	Rules for the Manufacture of Containers, Part VII, para 7.3.1.2	Misprint has been corrected	382-08-1651c of 25.10.2021	15.11.2021
20	Rules for the Manufacture of Containers, Part VII, para 9.7.3	Requirements for the marking of lifting devices for offshore containers have been specified	382-08-1651c of 25.10.2021	15.11.2021
21	Rules for the Approval of Containers for the Transport of Goods under Customs Seal, para 1.3.2.3	Misprint has been corrected	382-08-1651c of 25.10.2021	15.11.2021
22	Rules for Technical Supervision During Manufacture of Containers, Materials and Products for Containers, para 5.10.1.1	Requirements for non-destructive testing of containers have been specified	382-08-1651c of 25.10.2021	15.11.2021

**COLLECTION OF THE RULES FOR CONTAINERS, 2021,  
ND 2-090201-012-E**

**GENERAL REGULATIONS FOR THE TECHNICAL SUPERVISION OF CONTAINERS**

**1 GENERAL**

1 **Para 1.1.2.** Explanation of the of the abbreviation "СОД" is supplemented with the following text:

"Type design approval certificate for thermal container (form 2.3.2)".

The text after the abbreviation "ISO" is replaced by the following text:

"MT — magnetic particle testing

*P* — maximum possible payload, in kg.

PT — penetrant testing, including dye penetrant testing, fluorescent penetrant testing and fluorescent-dye penetrant testing.

*R* — maximum gross mass, in kg.

RT — radiographic testing, including X-ray testing and gamma-ray testing.

*T* — tare mass, in kg.

UT — ultrasonic testing.

VT — visual testing."

2 **New para 1.4.2.1.6** is introduced reading as follows:

".1.6 Type Approval Certificate for Thermal Container which certifies the compliance of the thermal container design type with the requirements of the Rules and with the indication of other applicable normative documents;"

3 **Para 1.4.4.** The first sentence is replaced by the following text:

"The validity period of СОД listed in 1.4.2.1.5 and 1.4.2.1.6, shall not exceed 6 years and the validity period of СТО listed in 1.4.2.2 shall not exceed 5 years."

**RULES FOR THE MANUFACTURE OF CONTAINERS**

**PART I. BASIC REQUIREMENTS**

**1 GENERAL**

4 **Para 1.5.1.4.2** is replaced by the following text:

".2 document (route map) describing the technological process of manufacturing the container;"

## 2 GENERAL TECHNICAL DATA

5 **Table 2.1.2.** In the third column, in the row "1EEE", the value  $2869_{-5}^0$  is replaced by  $2438_{-5}^0$ .

6 **Table 2.6.1.1.** The heading "Pockets for only empty container" (A', B' and C' columns) is replaced with "Pockets for an empty container".

7 **Table 2.6.3.** Designation "d" in the second column is replaced by "D".

## 3 MATERIALS AND WELDING

8 **Table 3.2.7.** The heading the fifth column is replaced by "Average impact energy of longitudinal specimens  $KV_L$  at the minimum working temperature, J, min.". The heading of the sixth column is replaced by "Average impact energy of transverse specimens  $KV_T$  at the minimum working temperature, J, min.".

## 4 MARKING

9 **Para 4.2.2.** The first sentence of **para 4.2.2** is replaced by the following text:

"The inscriptions indicated in 4.2.1.1 — 4.2.1.5 shall be painted or applied by means of material with a glue film in a colour well contrasting with the painting of a container.".

## PART II. GENERAL FREIGHT CONTAINERS

### 2 TECHNICAL REQUIREMENTS

10 **Table 2.1.1.** In the fourth column, item "1D", the value 5867 is replaced by 2802.

### 3 TESTING

11 **Chapters 3.7 — 3.9** are replaced by the following text:

#### "3.7 STACKING

**3.7.1** This test shall be carried out to prove the ability of a fully loaded container to support a superimposed mass of containers, taking into account conditions aboard ships at sea and the relative eccentricities between superimposed containers (refer to Fig. 3.7.1).

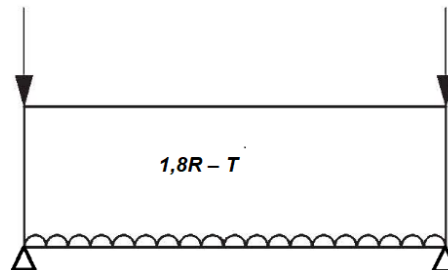


Fig. 3.7.1  
Stacking

**3.7.2** The container shall be placed on four level pads, one under each bottom corner fitting.

The pads shall be centralized under the fittings, and shall be substantially of the same plan dimensions as the fittings. The container shall have a load uniformly distributed over the floor in such a way that the combined mass of the container and the test load is equal to  $1,8R$ .

The container shall be subjected to vertical forces, applied either to all four corner fittings simultaneously or to each pair of end fittings.

The forces shall be applied through a test fixture equipped with corner fittings as specified in ISO 1161, or equivalent fittings which have imprints of the same geometry (i.e. with the same external dimensions, chamfered aperture and rounded edges) as the bottom face of the bottom corner fitting specified in ISO 1161. If equivalent fittings are used, they shall be designed to produce the same effect on the container under the test loads as when corner fittings are used.

In all cases, the forces shall be applied in such a manner that rotation of the planes through which the forces are applied and on which the container is supported is minimized. The force shall be centred over off head position.

The test fittings or pads shall be placed in relation to the top fittings so as to cover all the potential positions of their offset by 25,4 mm laterally and 38 mm longitudinally. The container shall be exposed to the externally applied forces during 5 min.

**3.7.3** The forces applied during the tests to the upper corner fittings of the container are specified in Table 3.7.3.

Table 3.7.3

**Forces to be applied in stacking test**

Container designation	Forces applied simultaneously to four uprights		Forces applied simultaneously to two uprights		Superimposed mass represented by test force	
	kN	kg	kH	kg	kg	lb
1AAA, 1AA, 1A, 1AX, 1BBB, 1BB, 1B, 1BX, 1CCC, 1CC, 1C и 1CX	3767	384048	1883	192024	213360	470380
1D и 1DX	896	91440	448	45720	50800	112000

Notes: 1. The forces used for testing 1EEE, 1EE containers in different stacking models are specified in ISO 1496-1 and are subject to special consideration by the RS.

2. The values indicated for containers 1AAA, 1AA, 1A, 1AX, 1BBB, 1BB, 1B, 1BX, 1CCC, 1CC, 1C and 1CX correspond to ISO 1496-1 and are calculated on the basis of eight-tier stacking of containers, mass  $R = 30480$  kg and acceleration  $1,8g$ . Other quantities are subject to special consideration by the RS.

3. The values indicated for containers 1D and 1DX are in accordance with ISO 1496-1 and are calculated based on six-tier stacking of containers, mass  $R = 10160$  kg and acceleration  $1,8g$ . Other quantities are subject to special consideration by the RS.

4. Forces applied to each upper corner fitting during testing of containers designed for operation without one door shall be  $0,25 \times 1,8g \times$  design stacking mass.

**3.7.4** Before, during and after the tests, measurements of the deformations of the uprights and lower beams of the container base, as well as measurements of the length of the uprights of the container, shall be carried out. Deformations of the uprights should be determined by  $\frac{1}{2}$  of the rack height in the longitudinal and transverse directions. Fig. 3.7.4 shows the places for measuring deformations during testing.

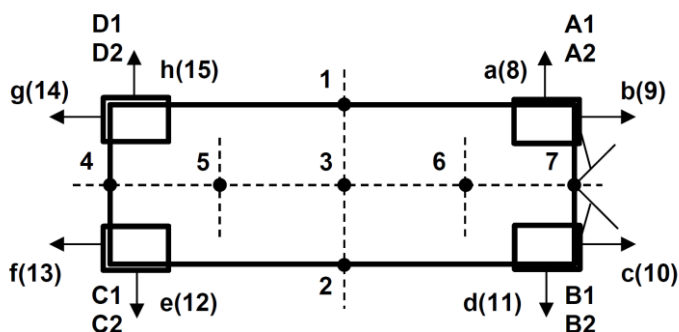


Fig. 3.7.4  
Places for measuring deformations

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied.

### 3.8 STRENGTH OF THE ROOF (where provided)

**3.8.1** This test shall be carried out to prove the ability of the rigid roof of a container, where fitted, to withstand the loads imposed by persons working on it.

**3.8.2** A load of 300 kg shall be uniformly distributed over an area of 600 mm x 300 mm located at the weakest area of the rigid roof of the container.

**3.8.3** Before, during and after the tests, deformations shall be measured at two positions (1 and 2 — refer to Fig. 3.8.3) of the test load.

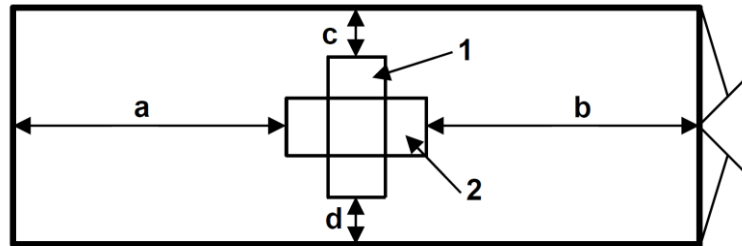


Fig. 3.8.3  
Strength of the roof

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied.

### 3.9 FLOOR STRENGTH

**3.9.1** This test shall be carried out to prove the ability of a container floor to withstand the concentrated dynamic loading during cargo operations involving trucks or similar devices (refer to Fig. 3.9.1).

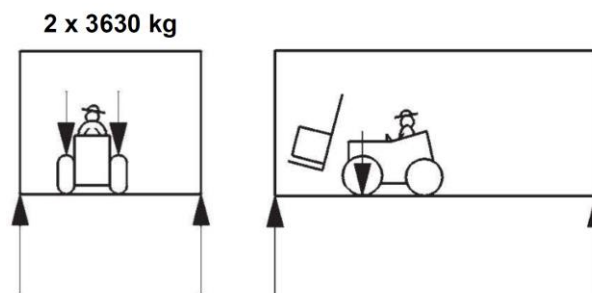


Fig. 3.9.1  
Floor strength

**3.9.2** The test shall be performed using a test vehicle equipped with tyres, with an axle load of 7260 kg (i.e. 3 630 kg on each of two wheels). It shall be so arranged that all points of contact between each wheel and a flat continuous surface lie within a rectangular envelope measuring 185 mm (in a direction parallel to the axle of the wheel) by 100 mm, and that each wheel makes physical contact over an area within this envelope of not more than 142 cm<sup>2</sup>. The wheel width shall be nominally 180 mm and the wheel centres shall be nominally 760 mm.

The test vehicle shall be manoeuvred over the entire floor area of the container both longitudinally and transversally. The test shall be made with the container resting on four level supports under its four bottom corner fittings, with its base structure free to deflect.

Note. For the purpose of compliance with the International CSC, the axle load for the truck may be assumed 5460 kg.

**3.9.3** Deformation measurements shall be taken at several points on the base before, during and after the test. Fig. 3.9.3 shows the places for measuring deformations during testing.

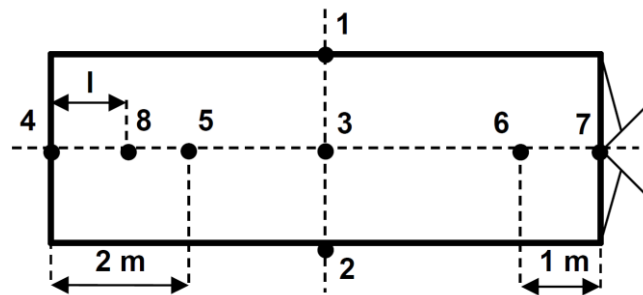


Fig. 3.9.3  
Places for measuring deformations  
 $l = 0,7 \dots 1,2 \text{ m}$

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied."

12 **Chapters 3.13 and 3.14** are replaced by the following text:

### "3.13 STRENGTH OF END WALLS

**3.13.1** This test shall be carried out to prove the ability of a container to withstand longitudinal external restraint under dynamic conditions of railway operations (refer to Fig. 3.13.1).

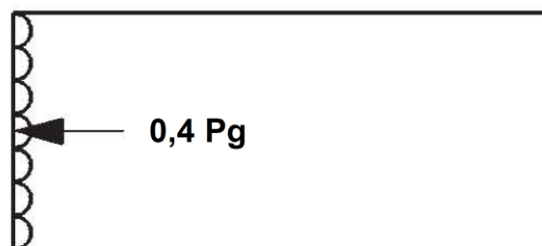


Fig. 3.13.1  
Strength of end walls

**3.13.2** The container shall have each end wall tested. In the case symmetrical construction, one end only need be tested.

The end walls should withstand an internal load of  $0,4Pg$ . Moreover, if the end walls are designed for a load other than  $0,4Pg$ , then they should be tested for this load.

The internal loading shall be uniformly distributed over the wall under test and arranged to allow free deflection of the wall.

**3.13.3** Before, during and after the tests, strain measurements should be taken at several points on the wall. Fig. 3.13.3 shows the places for measuring deformations during testing.



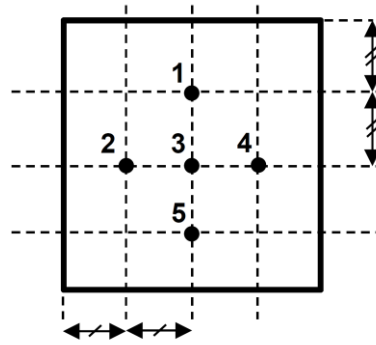


Fig. 3.13.3  
Places for measuring deformations

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied.

### 3.14 STRENGTH OF SIDE WALLS

**3.14.1** This test shall be carried out to prove the ability of a container to withstand the forces resulting from ship movement (refer to Fig 3.14.1).

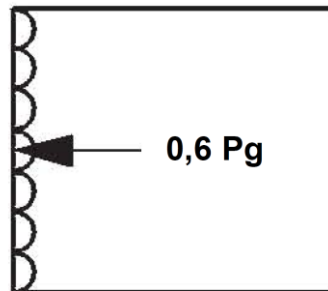


Fig. 3.14.1  
Strength of side walls

**3.14.2** The container shall have each side wall tested. In the case symmetrical construction, one side only need be tested.

Side walls should withstand an internal load of  $0,6Pg$ . Moreover, if the side walls are designed for a load other than  $0,6Pg$ , then they should be tested for this load.

The internal loading shall be uniformly distributed, applied to each wall separately and arranged to allow free deflection of the side wall and its longitudinal members.

Open-top containers fitted with roof bows shall be tested with the roof bows in position.

**3.14.3** Before, during and after the tests, strain measurements should be taken at several points on the wall. Fig. 3.14.3 shows the places for measuring deformations during testing.

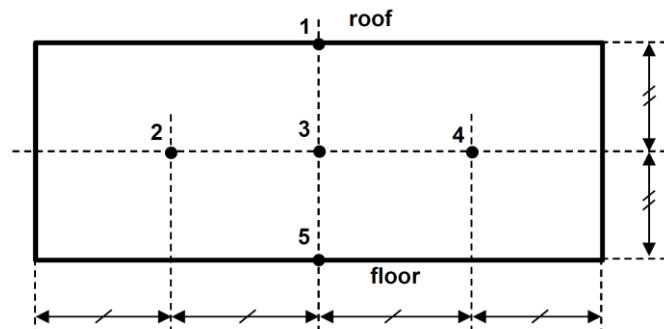


Fig. 3.14.3  
Places for measuring deformations

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied."

### **PART III. THERMAL CONTAINERS**

#### **2 TECHNICAL REQUIREMENTS**

13 **Para 2.3.1.** Reference "2.2" is replaced by "2.3".

### **PART IV. TANK CONTAINERS**

#### **1 GENERAL**

14 **Para 1.2.1.** The definition of "vessel" is replaced by the following text:

"Vessel (tank) is an integral part of a portable tank (tank container), which contains substance intended for the transportation, including openings and their closures, but not including service equipment or external structural equipment."

#### **2 TECHNICAL REQUIREMENTS**

15 **Para 2.2.17** is replaced by the following text:

"**2.2.17** The welded seams of the tank container shall be inspected in the scope agreed with the Register. The minimum amount of control is specified in 5.10 of the Rules for Technical Supervision during Manufacture of Containers, Materials and Products for Containers."

### **PART VII. OFFSHORE CONTAINERS**

#### **1 GENERAL**

16 **Para 1.4.1** is replaced by the following text:

"**1.4.1** Scope of technical documentation submitted for review as applicable for offshore containers shall comprise:

- .1 technical conditions or technical specification (for firms for which the development of technical conditions is not provided according to the applied normative documents) (\*);
- .2 operation manual (instruction) (\*\*);
- .3 program and procedure for testing of the prototype and series-type containers (\*);
- .4 primary structure and secondary structure strength calculations using finite element method or other method (\*\*);
- .5 pad eyes strength and fork lift pockets calculations (if applicable) (\*\*);
- .6 general drawings, specifications, drawings of parts (if necessary) (\*);
- .7 marking drawing (\*);
- .8 weld control scheme where this information is unavailable on the drawings (\*\*).

Note. The extent of the above documentation is the minimum required."

17 **Para 1.4.2** is introduced reading as follows:

"**1.4.2** The documents specified in 1.4.1 and marked with a (\*), based on the results of a positive review, are drawn up by stamping 8.2-1 or 8.2-2, and documents marked with a (\*\*), by stamping 8.2-3 or 8.2-4, in accordance with the requirements of Part II "Technical Documentation" of the Rules for Technical Supervision during the Construction of Ships and Manufacture of Materials and Products for Ships."

### 3 STRUCTURAL STRENGTH

18 **Para 3.1.2** is replaced by the following text:

"**3.1.2** The container shall be designed to withstand loads in compliance with the requirements of ISO 10855-1.

The calculation of bearing structure shall include, at least, the following calculation conditions:

- .1 lifting with a lifting set;
- .2 horizontal impact;
- .3 vertical impact.

If the container is fitted with: fork lift pockets, walls, doors and intermediate decks, top protection, they shall also be designed considering the loads specified in ISO 10855-1."

### 7 MARKING

19 **Para 7.3.1**. The para with text "payload, kg" is renumbered **7.3.1.3**.

### 9 LIFTING SET

20 **Para 9.7.3** is replaced by the following text:

"**9.7.3** For a rope lifting set, an indelible marking shall be applied to the serial number of the lifting set, the abbreviation "RS", as well as the value  $WLL_{min}$  in tons on one of the bushes in the area of the master link, in a manner agreed with the Register. The symbols shall be at least 5 mm in height. Marking shall be applied before testing."

## RULES FOR THE APPROVAL OF CONTAINERS FOR THE TRANSPORT OF GOODS UNDER CUSTOMS SEAL

### 1 GENERAL

21 **Para 1.3.2.3** is replaced by the following text:

"**1.3.2.3** The technical documentation for approval of container by design type shall at least include:

- .1 design specification of the container stating its construction, characteristics of materials involved, welding procedures, as well as the methods of assembling;
- .2 general arrangement plans, sectional views with scantlings, assemblies and elements, with indication of places for affixing Customs seals;
- .3 views of door locking devices with indication of materials involved, as well as places and methods of affixing Customs seals;
- .4 sketches of the container sheet, if used, with indication of fastening methods and places for affixing Customs seals.

Any other additional documentation may be required by the Register, if considered necessary."

# **RULES FOR TECHNICAL SUPERVISION DURING MANUFACTURE OF CONTAINERS, MATERIALS AND PRODUCTS FOR CONTAINERS**

## **5 TECHNICAL SUPERVISION DURING MANUFACTURE OF CONTAINERS**

22 **Para 5.10.1.1** is replaced by the following text:

"**5.10.1.1** Welding seams of any type of container shall be 100 % VT-tested prior to the application of protective coatings. The minimum quality level according to ISO 5817 is level C. Additional requirements are specified in 5.10.2 and 5.10.3."