



RUSSIAN MARITIME REGISTER OF SHIPPING

URGENT RULE CHANGE NOTICE **No. 431-03-2026** dated 30.07.2024

Entry-into-force date:

From the date of publication

Re: amendments to the Collection of the Rules for Containers (the General Regulations for the Technical Supervision of Containers, the Rules for the Manufacture of Containers and the Rules for the Technical Supervision during Manufacture of Containers, Materials and Products for Containers), 2023, ND No. 2-090201-014-E

Requirements for telematics systems of container in-service monitoring have been introduced.

Instructions on application:

1. Bring the content of the Rule Change Notice 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 Rule Change Notice in the Register practical activity from the date of entry-into-force of the amendments*.

* The provisions of the Rule Change Notice shall not be applied for works performed under already concluded contracts (contract-requests) as of the date of publication of the amendments.

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**AMENDMENTS
TO THE COLLECTION OF THE RULES FOR CONTAINERS, 2023**

REVISION HISTORY

GENERAL REGULATIONS FOR THE TECHNICAL SUPERVISION OF CONTAINERS

Item	Applied to	Description	Remarks
Table 2.1.3	Containers Design/manufacture Telematics systems of container in-service monitoring	New code of the nomenclature has been introduced	

RULES FOR THE MANUFACTURE OF CONTAINERS

Item	Applied to	Description	Remarks
Part I, para. 2.6.5	Containers Design/manufacture Telematics systems of container in-service monitoring	Requirements for container identification devices have been specified	
Part I, Section 6 (new)	Containers Design/manufacture Telematics systems of container in-service monitoring	Requirements for telematics systems have been introduced	

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

Item	Applied to	Description	Remarks
Table 3.2.3	Containers Design/manufacture Telematics systems of container in-service monitoring	Scope of technical supervision during telematics system fabrication has been specified	

GENERAL REGULATIONS FOR THE TECHNICAL SUPERVISION OF CONTAINERS

2 TECHNICAL SUPERVISION

2.1 GENERAL

Table 2.1.3. A new code **50022000 "Telematics device"** is introduced after code 50021000 "Supports for NiS material ingot", reading as follows:

"

Code of item of technical supervision	Name of item of technical supervision	Group of item of technical supervision (1 —5)	Branding	Remarks
<u>50022000</u>	<u>Telematics device</u>	<u>2</u>	<u>=</u>	

"

RULES FOR THE MANUFACTURE OF CONTAINERS

PART I. BASIC REQUIREMENTS

2 GENERAL TECHNICAL DATA

2.6 OPTIONAL STRUCTURES

Para **2.6.5** is amended as follows:

"2.6.5 Container identification equipment.

2.6.5.1 Automatic electronic identification (AEI) equipment.

In case of a container fitted with automatic electronic identification (AEI) equipment, this equipment shall comply with the requirements of ISO 10374.

2.6.5.2 Telematics device

In case of a container fitted with a telematics device, this equipment shall comply with the requirements of Section 6."

New Section 6 is introduced reading as follows:

"6 TELEMATICS SYSTEM OF CONTAINER IN-SERVICE MONITORING

6.1 GENERAL

6.1.1 Application.

6.1.1.1 The requirements of this Section apply to telematics devices of the container in-service monitoring system fitted on the containers.

6.1.1.2 Telematics devices of container in-service monitoring system other than those specified in this Section are subject to the separate consideration by RS to assess the compliance with established requirements.

6.1.2 Definitions.

For the purpose of this Section the following additional definitions have been adopted.

Compound casting is a process of applying a compound to protect any electrical device(s) by immersion or pouring methods.

Compound is thermosetting, thermoplastic polymer resin (cold-hardening) and elastomeric materials with or without fillers and/or additives after curing.

Data processing server infrastructure is a hardware and software complex designed for collection, synchronization, storage and visualization of telematics data for its application in a usable format.

Telematics system is a system that collects, processes and exchanges information between different users and elements of the transportation system.

Telematics device is a piece of equipment (device) installed on the container and designed for registration, storage (in case of temporary absence of cellular communication) and transmission of telematics data to the data processing server infrastructure.

Data packet transmission cycle is one sending of telematics data from telematics devices to the data processing server infrastructure.

6.1.3 Technical documentation.

6.1.3.1 The scope of the technical documentation submitted for consideration as well as the forms for confirming the compliance of the technical documentation with the RS requirements, are specified in Table 6.1.3.1 and may be changed (supplemented) upon the agreement with RS.

Table 6.1.3.1

No.	Document name	Review result ¹
1	Technical conditions or Technical specification	A
2	Operation Manual	Ag
3	Test procedure	A
4	Telematics device drawings ²	A
5	Marking drawing	A

¹ A — approved; Ag — agreed. Documents may be approved and/or agreed subject to RS consideration and implementation of the RS recommendations (if any).
² A list of drawings of telematics device – upon the agreement with RS.

Notes: 1. Documents specified in this table may not be provided upon the agreement with RS, if all necessary information is contained in other documents included in the set of technical documentation on telematics devices.
2. Documents shall be submitted up-to-date, taking considering previously made amendments.

6.2 TECHNICAL REQUIREMENTS

6.2.1 General.

6.2.1.1 The telematics device shall ensure data recording of parameters of the container in-service monitoring system and its transmission to the data processing server infrastructure. The monitored parameters (their values) shall be presented in a format suitable for use by the data processing server infrastructure.

6.2.1.2 The telematics device shall be capable of reliable operation at ambient temperatures from –40 °C to +50 °C.

Other ranges of the operating temperatures, depending on the climatic version of construction specified in the design, may be adopted subject to agreement with RS.

6.2.1.3 Design of the telematics device shall provide for a ventilation unit installed in the device casing and designed to equalize pressure in case of rapid temperature drops during operation, as well as to avoid condensate formation in the inner part of the casing.

6.2.1.4 The design of the telematics device shall ensure that all elements of the electronic module are hermetically sealed by immersion or compound casting.

6.2.1.5 The design of the telematics device shall provide for the presence of sealing devices and protective elements in order to prevent unauthorized dismantling of the device and opening of the device casing during service.

6.2.1.6 Independent source of electrical power supply (accumulator battery pack) shall be designed to ensure the performance of the telematics device (the number of cycles of data packet transmission to the data processing server infrastructure as stated in the technical documentation), taking into account the requirements of 6.2.1.2.

6.2.2 Explosion protection.

6.2.2.1 Safe-type design of the telematics device shall be confirmed by a document issued by a competent organization for compliance with the requirements of international standards IEC 60079-0 and IEC 60079-11 or similar (modified in relation to international standards) national standards.

6.2.3 Protection of electrical equipment.

6.2.3.1 The degree of protection of electrical equipment from external exposure provided by the shell (after sealing) shall not be less than IP56.

6.2.4 Materials.

6.2.4.1 The casing of the telematics device shall be made of materials having low flame-spread characteristics, resistant to sea air and oil and fuel vapors, which shall be confirmed by documents (test reports, technical passport, technical specification, quality certificate, etc.) provided by the manufacturer (supplier) of the materials.

6.2.4.2 Telematics system enclosure shall provide for impact resistance when exposed to a load of $1^{+0,01}$ kg falling vertically from a height of at least $0,7^{+0,01}$ m. Impact resistance of the telematics device shall be verified in accordance with 6.3.1.8.

6.2.5 Mounting on the container.

6.2.5.1 The telematics device shall be mounted on containers upon agreement with RS. The telematics device may be installed during manufacture of containers or during their service. The procedure for mounting telematics devices on containers in-service shall be agreed with the operator (owner) of the containers.

6.2.5.2 The telematics device shall be installed in such a way that it does not protrude beyond the planes drawn on the outer edges of the container's corner fittings and shall be located outside the container's service area (ladders, platforms, service equipment, etc.).

6.2.5.3 Mounting of the telematics device on the container (refer to Fig. 6.2.5.3) shall be carried out taking into account the requirements of 2.2.4 of the Rules for the Approval of Containers for the Transportation of Goods Under Customs Seals.

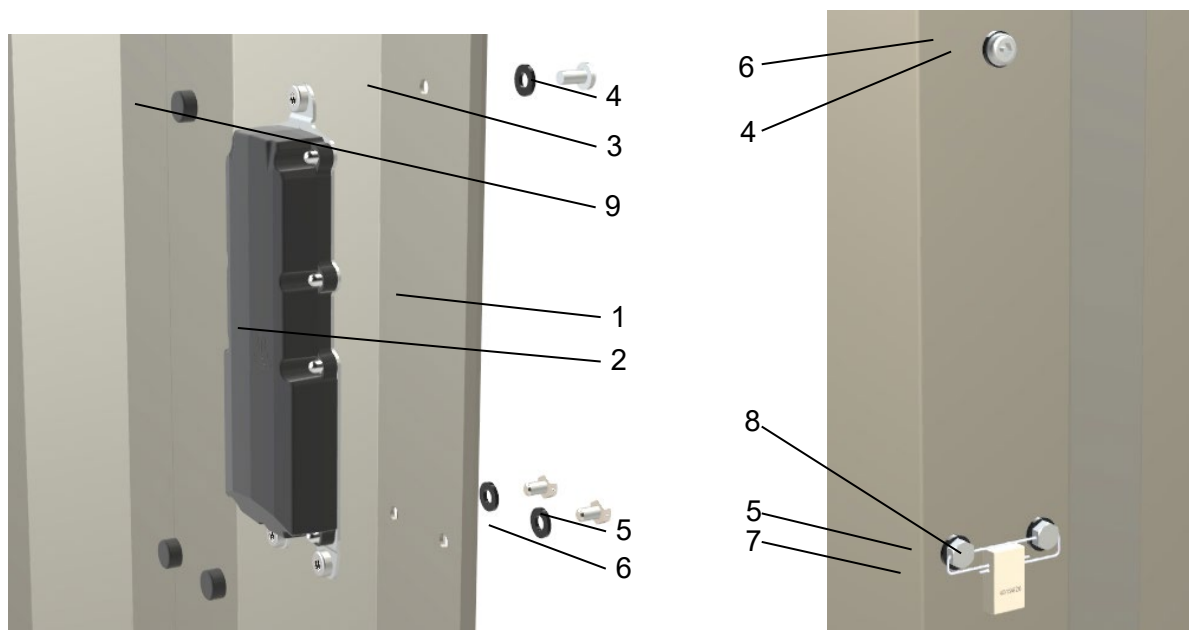


Рис. 6.2.5.3 Example of the telematic device installation on the container:

- 1 — container end wall profile; 2 — telematics device (mounting on the outside of the container);
- 3 — manufacture holes for screws; 4 — anti-vandal screw (mounting on the inside of the container);
- 5 — screws with holes for sealing wire (mounting on the inside of the container);
- 6 — screw heads spacers; 7 — sealing wire;
- 8 — numbered seal; 9 — protective caps

6.3 TESTING

6.3.1 General.

6.3.1.1 The list of tests is given in Table 6.3.1.1. The scope of testing for serial production may be changed upon the RS agreement.

Table 6.3.1.1

No	Testing name	Requirements of the RS Rules	Prototype ¹	Serial production ²
1	Checking geometric dimensions and weights	6.3.1.3	+	+
2	Climatic tests	6.3.1.4	+	–
3	Mechanical environment resilience test	6.3.1.5	+	–
4	Compliance with the degree of protection of electrical equipment against external impact	6.3.1.6	+	–
5	Electromagnetic compatibility	6.3.1.7	+	–
6	Impact resistance test	6.3.1.8	+	+
7	Functional tests	6.3.1.9	+	+

¹ Tests are carried out when products are put into production.
² Within the framework of type testing (when expanding device versions / modifications range).

6.3.1.2 The order of tests is not mandatory, except that the functional tests (refer to 6.3.1.9) shall be performed last.

6.3.1.3 Checking geometric dimensions and weights.

6.3.1.3.1 Before and after completion of all tests, the dimensions shall be checked in accordance with the technical documentation approved by RS. The weight check shall be performed before all tests.

6.3.1.3.2 The verification criteria are compliance of the actually measured overall dimensions and weight of the telematics device with those specified in the technical documentation approved by RS.

6.3.1.4 Climatic tests.

6.3.1.4.1 Climatic tests of the telematics device (tests for heat stability and cold endurance, tests for exposure to temperature changes, damp heat tests, tests for exposure to salt (sea) fog shall be performed in accordance with the requirements of IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-11 or similar national standards.

6.3.1.5 Mechanical environment resilience test.

6.3.1.5.1 Confirmation of the resistance of the telematics device design to vibration and single-action mechanical shocks for products of the M25 mechanical design group is carried out in accordance with the international standard IEC 61373 or similar national standard.

6.3.1.6 Compliance with the degree of protection of electrical equipment against external impacts.

6.3.1.6.1 Confirmation of the telematics device design for compliance with the degree of protection of electrical equipment against ingress of solid foreign objects and water (moisture) into the casing (enclosure) shall be carried out in accordance with the international standard IEC 60529 or a similar national standard.

6.3.1.7 Electromagnetic compatibility.

6.3.1.7.1 Confirmation of electromagnetic compatibility is carried out in accordance with CISPR 22:2006 or similar national standards.

6.3.1.8 Impact resistance.

6.3.1.8.1 Confirmation of mechanical strength of the telematics device is carried out in compliance with IEC 60079-0 or similar national standard. Tests are carried out when exposed to a load (indenter) weighing $1^{+0.01}$ kg falling vertically from a height of at least $0,7^{+0.01}$ m. The indenter shall be made of quenched steel in the shape of a hemisphere with a diameter of $25 \pm 0,5$ mm.

The impact is made on the upper part of the telematics device casing, which is most often subjected to impact during service. The test is carried out at ambient temperature of 20 ± 5 °C.

6.3.1.8.2 The criteria for assessment of the test results are the absence of residual deformations and/or malfunctions that could lead to the inability to operate the telematics device. The presence of minor surface damage is allowed.

6.3.1.9 Functional tests.

6.3.1.9.1 Functional tests shall include the confirmation of data transmission and registration (geolocation, acceleration, etc.) from the telematics device to the data processing server infrastructure, as well as verification of registration in the cellular network and determination of geolocation (provided that cellular communication is available and there is no interference with the navigation receiver built into the device).

6.3.1.9.2 The criteria for evaluating the test results shall be the conformity of the current location of the telematics device with the coordinates determined by global navigation satellite systems (GLONASS/GPS) signals and specified on the data processing server infrastructure, as well as the fact of transmission of acceleration data from the telematics device to the data processing server infrastructure.

6.4 TECHNICAL CONDITION CHECKS (INSPECTIONS)

6.4.1 Periodical checks/inspections of the technical condition of telematics devices shall be carried out during scheduled maintenance of containers in compliance with the requirements of the operation/instruction manual of the telematics device.

6.5 MARKING

6.5.1 Marking of the telematics device shall be performed in accordance with the requirements and methods specified by the technical documentation. Marking shall be applied on visible places of the telematics device and be resistant to unfavorable environmental conditions.

6.5.2 The telematics device marking shall contain the following data in English (text part):
manufacturer's trademark (logo);
name of the equipment
manufacturing (serial) number;
date of manufacture (DD.MM.YY.);
explosion-proof marking in accordance with the international standard IEC 60079-0 or similar (modified in relation to the international standard) national standard (including the image of the special Ex sign);
IP code;
ambient temperature range under operating conditions;
digital code (QR code) (optional).

Additional marking of telematics devices (additional information) shall be specified in the technical documentation.

6.5.3 The text part of the mandatory and additional marking may be duplicated in the national language."

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

3 TECHNICAL SUPERVISION DURING MANUFACTURE OF PRODUCTS

3.2 TECHNICAL SUPERVISION

Table 3.2.3 is supplemented with a new item 1.18 "Telematics device" reading as follows:

No.	Item of technical supervision	Verification of						control of flow direction	tests	marking	branding
		technical documentation	materials and visual examination	machining of parts	welding operations	manufacture of parts and assemblies	assembly of products				
	/ / /	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10		
1.18	telematics device	+	+				+		+	+	