

**RUSSIAN MARITIME REGISTER OF SHIPPING**

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# **RULES**

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

### **Part I GENERAL REGULATIONS FOR TECHNICAL SUPERVISION**

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Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships have been approved in accordance with the established approval procedure and come into force on 1 July 2019.

The present edition of the Rules is based on the 2018 edition taking into account the amendments developed immediately before publication.

The Rules are published in the following parts:

Part I "General Regulations for Technical Supervision";

Part II "Technical Documentation";

Part III "Technical Supervision during Manufacture of Material";

Part IV "Technical Supervision during Manufacture of Products".

The Rules are published in electronic format in Russian and English.

*As compared to the 2018 edition, the present edition of the Rules contains the following amendments.*

## **PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION**

1. Chapter 1.1: definition "Manufacturer" has been specified;  
new definitions "Applicant", "Major nonconformity" and "Minor nonconformity" have been introduced.
2. Chapter 1.2: new abbreviations "M", "MC", "CKK Certificate", "CTO MR" and "MR" have been introduced.
3. Section 2: paras 2.4, 2.8, 2.19 have been amended.
4. Section 3: paras 3.1, 3.3, 3.4, 3.5, 3.6 have been amended;  
paras 3.4.1 and 3.4.2 have been deleted.
5. Section 4: para 4.5 has been amended.
6. Section 5: para 5.1 has been amended.
7. Section 6: the provisions of 6.5.2 have been specified and new paras 6.11 — 6.15 have been introduced.
8. Section 8: Table 8.1.1 has been amended;  
paras 8.1.1.1, 8.1.5, 8.3.1, 8.3.3, 8.3.15 (existing) have been amended;  
para 8.3.8 has been deleted, paras 8.3.9 — 8.3.16 have been renumbered 8.3.9 — 8.3.15 accordingly;  
Section has been supplemented by new paras 8.3.17 and 8.3.18.
9. Section 9: para 9.3.1.1 has been amended;  
new paras 9.3.9.4 and 9.3.12.5 have been introduced.
10. Section 10 has been supplemented by new para 10.2.5.
11. Section 11: Table 11.1.1, para 11.1.2 have been amended;  
para 11.1.3 has been deleted;  
Section has been supplemented by new para 11.3.4.
12. Section 14 has been specified.
13. Appendix 1: the Nomenclature of Items of the Register Technical Supervision has been amended.
14. Part has been supplemented by new Appendix 3 "PROCEDURE FOR TECHNICAL SUPERVISION DURING MANUFACTURE OF RADIO EQUIPMENT AND NAVIGATIONAL EQUIPMENT".
15. Editorial amendments have been made.

# **PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION**

## **1 TERMS, DEFINITIONS, ABBREVIATIONS**

Definitions and explanations relating to general terminology of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships<sup>1</sup> are given in Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships. For the purpose of these Rules the following terms and definitions are applied.

### **1.1 DEFINITIONS AND EXPLANATIONS**

#### **1.1.1 Definitions.**

**Administration** is the Administration in accordance with the definitions in international conventions.

**RS Head Office** is the management of the Register and departments of the Head Office.

**Prototype ship** is a single-built ship or the first ship of the series, which is built under the Register technical supervision.

In case of ships built under the same design at different shipyards, the first ship built at each shipyard is considered to be the prototype ship.

**Prototype (first lot)** is a material or product (lot) used by the Register to check and confirm by means of tests and surveys that it complies with the RS requirements and may be used for the intended purpose if produced at the firm (manufacturer) concerned.

**Keel laying date** or the date on which the ship was at a similar stage of construction — for the purposes of application of the RS Rules as well as IMO Conventions and Codes (quality standards, technical standards, resolutions and circular letters) is the date (day, month, year) on which the installation at the building berth of a base section or block (island) in section or block (island) construction respectively, or such a stage of construction at which construction identifiable with a specific ship begins and assembly of that ship has commenced comprising at least 50 t or 1 % of the estimated mass of all structural materials, whichever is less.

For fibre-reinforced plastic (FRP) ships the keel laying date shall be interpreted as the date that the first structural reinforcement of the complete thickness of the approved hull laminate schedule is laid either in or on the mould.

**Date of delivery of the ship** is the completion date (day, month and year) of the survey on which the certificate is based (i.e. the initial survey before the ship is put into service and certificate issued for the first time), provided SOLAS and MARPOL mandatory requirements are applied to new ships, and as entered on the relevant statutory certificates.

**Date of build of the ship** is the date, month and year at which the new construction survey process of the Register is actually completed, and the Classification Certificate is issued to the ship.

Where there is substantial delay between completion of construction survey process and the ship commencing active service, the date of commissioning may be also specified.

**Date of build of the ship for the purpose of application of the requirements of international conventions** is the day, month and year in accordance with the definitions in international conventions.

**Contract on technical supervision** is an agreement in the written form defining rights and responsibilities of the Register and organization (firm) during technical supervision of the items of supervision.

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<sup>1</sup> Hereinafter referred as "the Rules".

**A d d i t i o n a l r e q u i r e m e n t s** are the requirements caused by the item features or its operational conditions, which are not provided for by the rules imposed by RS in writing to ensure the safety of items of technical supervision.

Under safety in this particular case is meant safe navigation of ships, fixed offshore platforms, safety of life at sea, safe carriage of goods, environmental protection.

**A p p l i c a n t** is an organization (firm) which applies to RS with a request to perform technical supervision. The Applicant can be a manufacturer, a designer, and/or other organization acting on behalf of the manufacturer.

**M a n u f a c t u r e r** is an organization (firm) that:  
manufactures materials or products, or  
performs part of operations (carries out part production) that determine the quality of the material or product, or  
carries out the final assembly of the product.

The manufacturer is responsible for the material or product compliance with the applicable RS requirements.

**S u r v e y o r** is an RS official authorized to perform certain types of the RS technical supervision.

**T e s t** is a technical operation on determination of one or more characteristics or operating parameters of an item of supervision in compliance with the established or defined procedure.

**C o m p e t e n t o r g a n i z a t i o n** is an organization recognized as having adequate knowledge and experience in the particular area.

**C o m p e t e n t p e r s o n** is a person considered as adequately qualified to do a job in the particular area, using appropriate knowledge and experience.

**M a j o r n o n c o n f o r m i t y** is a nonconformity affecting the safety of items of the RS technical supervision and a repeated (two or more times) non-compliance with the established requirements.

**M i n o r n o n c o n f o r m i t y** is a single non-compliance with some requirements of the RS normative documents, improper drawing up of records.

**N o r m a t i v e d o c u m e n t s** are standards, regulations, technical requirements, norms, calculation procedures, instructions, guidelines and other documents, which provide design, technical or production requirements for design, construction (manufacture), installation, testing and service of the items of the RS technical supervision.

**I t e m s o f t e c h n i c a l s u p e r v i s i o n ( i t e m s o f s u p e r v i s i o n )** are ships and other floating facilities, fixed offshore platforms, products, materials, works, services and processes within the RS terms of reference in compliance with the current legislation and the Charter.

**A p p r o v a l o f a m a t e r i a l , p r o d u c t o r p r o c e s s** is confirmation by branding and/or the RS document of a material, product or process compliance with the RS requirements based on the positive results of their survey.

**A p p r o v a l ( a g r e e m e n t ) o f t e c h n i c a l d o c u m e n t a t i o n** is confirmation by the RS stamp and/or document of compliance of technical documentation with the RS requirements based on the positive results of its review.

**T y p e a p p r o v a l o f a m a t e r i a l , p r o d u c t o r p r o c e s s** is an approval of a material, product, process considered by RS as a representative of the particular production without attribution to the particular item of technical supervision.

**P i l o t s p e c i m e n ( p i l o t l o t )** is a material or a product (lot) produced in accordance with newly developed technical documentation to determine a possibility of its use for the intended purpose in compliance with the RS requirements, based on review of technical documentation and checking in the course of tests or research of structural solutions as well as combination of properties and parameters.

**O r g a n i z a t i o n ( f i r m )** is a legal entity of any legal form, form of ownership and affiliation, as well as a physical person involved in business not being a legal person involved in activity related to the items of supervision.

**S u r v e y** is an integral part of technical supervision, including:

checking availability of approved technical documentation on the items of technical supervision;

checking availability of the RS documents, recognized and competent organizations or persons on the items of technical supervision;

examinations, including (where necessary) opening-up and dismantling;

participation in measurements and tests;

assessment of the measurement and test results;

drawing-up, endorsement, renewal and extension of the RS documents;

branding and sealing (where necessary) of the item of technical supervision.

**Conversion of a ship of substantial nature (major conversion)** is conversion resulting in substantial changes of the ship principal characteristics or structural parameters (such as weight characteristics, gross tonnage, overall dimensions, freeboard; power output of the main propulsion installation, ice strengthening, etc.), which can cause change of the ship type, principal dimensions, passenger capacity, cargo carrying capacity, extension of the ship service life or change in the class notation. Nature of conversion (major/minor), unless expressly provided otherwise by international conventions, shall be determined by the RS Head Office in each particular case.

**RS Branch Office** is a branch office, a district office of the branch office, a representative office, an affiliated company. Regulations for the RS Branch Office determine its legal status, tasks and functions within the certain processes, duties, rights and responsibility of the Director as well as the area of the RS Branch Office activity.

**RS rules** are a code of normative technical requirements for items of technical supervision.

**Recognition of a manufacturer** is confirmation by the RS document of capability of a manufacturer to manufacture materials and products in compliance with the RS requirements.

**Recognition of a testing laboratory** is confirmation by the RS document of technical competence of a testing laboratory in conducting tests in compliance with the RS requirements.

**Recognition of an organization (firm)** is confirmation by the RS document of capability of an organization (firm) to render services (carry out work) in compliance with the RS requirements.

**Plan approval documentation (technical detailed design)** is a set of design documents that give full understanding of the ship design in the scope sufficient for determination of its conformity with the requirements of the Register and (if applicable) of international conventions, provision of technical supervision during its construction and class assignment.

**Detailed (design) documentation** is a set of design documents intended for construction (manufacture), checking, acceptance, delivery, service and repair of the item of supervision.

**Single approval of a material, product, process** is approval of a material, product, process to be used or installed on a particular item of supervision under construction or in service.

**Review of technical documentation** is determination of an extent of documentation compliance with the RS requirements.

**Recommendations of the International Maritime Organization (IMO)** are provisions of resolutions, codes and other normative documents adopted by the governments, which have authorized the Register to supervise the fulfillment of those provisions.

**Certificate of conformity (Certificate)** is a RS document certifying the compliance of an item of supervision with the RS requirements.

**Agreement on Survey** is an agreement in a written form establishing interrelations between the Register and a firm (manufacturer), based on which technical personnel of the firm (manufacturer) is entrusted with performance of check tests or part thereof and filling-in of certificates of conformity, which are submitted to the Register for drawing-up (affirmation) together with the test reports.

**Special consideration** is determination of an extent of conformity of an item of technical supervision with the additional requirements.

**Technical documentation** is construction and production documentation as well as the normative documents on items of technical supervision, which contain the data necessary for checking the fulfillment of the RS requirements.

Technical supervision is checking of conformity of items of supervision with the RS requirements during:

review and approval (agreement) of technical documentation;  
survey of items of supervision at manufacture, construction, service stages, including conversion, modernization and repair.

Technical design is a set of design documents that give understanding of the item design and engineering solutions.

Requirements of conventions are requirements of international conventions ratified by the governments, which have authorized the Register to supervise the fulfillment of those requirements.

RS requirements are requirements of the RS rules, international conventions and agreements, recommendations of the International Maritime Organization (IMO), governments having granted RS the relevant authorization, and additional requirements.

Type production process is a production process intended for specific field and conditions of application with no reference to a particular ship or item of supervision.

Conceptual design is a set of design documents that give general understanding of the item design, operating principles, principal engineering solutions and provide data determining the item fitness for its purpose.

#### **1.1.2 Explanations.**

Measurement of distances — unless explicitly stipulated otherwise in the text of the regulations in SOLAS, Load Line and MARPOL Conventions and any of their mandatory codes and the RS rules and regulations, distances such as tank length, height, width, ship (or subdivision or waterline) length, etc. shall be measured by using moulded dimensions.

## **1.2 ABBREVIATIONS**

Register, RS — Russian Maritime Register of Shipping.

Report 6.3.18 — Report on Survey of Prototype/Serial/Pilot Specimen of Product/Material/Type Structure (form 6.3.18).

Report 6.3.19 — Report on Survey of Firm (form 6.3.19).

RHO — RS Head Office.

M — Document drawn up by the manufacturer according to the standards of the firm; it shall contain data satisfactory to RS.

MARPOL 73/78 — International Convention for Prevention of Pollution from Ships as modified by the Protocol 1978 of relating thereto, having regard to the amendments adopted by the Marine Environment Protection Committee of the International Maritime Organization (IMO).

MC — Document drawn up by the manufacturer in which the material or product compliance with the RS requirements is declared.

RS Nomenclature — Nomenclature of Items of the Register Technical Supervision.

C — Certificate filled-in and signed by the Register (form 6.5.30).

CKK Certificate — Manufacturer's Quality Control System Certificate (form 7.1.28).

CJC — Welder Approval Test Certificate (form 7.1.30).

C3 — Certificate (form 6.5.31) filled-in and signed by an official of a firm (manufacturer) and drawn up (endorsed) by the Register on the basis of the review of the product/equipment test results performed by the manufacturer and only upon signing of C3 on behalf of the manufacturer.

CO — Agreement on Survey (form 430.1.7).

COOT — Type Approval Certificate of Ballast Water Management System (forms 2.5.5, 2.5.5-1).

COCM — Certificate of Approval for Welding Consumables (form 6.5.33).

COTИ — certificates of type test (forms 2.4.13 and 2.4.19).

COTO — certificates of type approval (forms 2.4.11.1, 2.4.12, 2.4.12.1, 2.4.13.1, 2.4.13.2, 2.4.16.1, 2.4.17.1, 2.4.17.2 and 2.5.5).

- COTIIC — Welding Procedure Approval Test Certificate (form 7.1.33).
- СП — Recognition Certificate (form 7.1.4.2).
- СПИ — Recognition Certificate for Manufacturer (form 7.1.4.1).
- СПЛ — Recognition Certificate of Testing Laboratory (form 7.1.4.3).
- СПП — Certificate of Vocational Training (form 7.1.34).
- ССП — Certificate of Firm Conformity (form 7.1.27).
- СТО — Type Approval Certificate (form 6.8.3).
- СТО MR — European Union Recognized Organization (EU RO) Mutual Recognition Type Approval Certificate (form 6.8.3mr).
- СТОП — Type Approval Certificate for Software (form 6.8.5).
- СТПК — Type Approval Certificate for Fire-Proof Division (form 6.8.4).
- EIAPP Certificate — Engine International Air Pollution Prevention Certificate (form 2.4.40).
- MR — mutual recognition.
- SECC — SO<sub>x</sub> Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning Systems (form 2.4.42).
- W — document(s) issued/signed by the manufacturer and verifying the material or product compliance with the RS requirements.



## **2 GENERAL**

**2.1** The RS activity on technical supervision during manufacture of materials and products, technical supervision of services, processes and construction, conversion, modernization and repair of ships is based on the Regulations for Classification of Ships and Offshore Fixed Platforms.

**2.2** All technical supervision services are rendered by the Register based on requests and agreements with organizations, firms and individuals involved in design, manufacture of materials and products, production processes, construction, conversion, modernization and repair of ships, and rendering of services (refer to Section 4).

**2.3** Items of the RS technical supervision and technical requirements thereto are defined in the Rules and are listed in the RS Nomenclature (refer to Appendix 1).

**2.4** Items, other than provided for in the RS rules, of a non-conventional design or intended for special operating conditions, as well as materials and production processes where special requirements are placed thereupon are specified by the Register as items of technical supervision in each particular case, and technical requirements for such items are specified as additional requirements.

Later, based on the results of technical supervision during manufacture and in service, the items of technical supervision may be introduced in the relevant parts of the RS rules and the RS Nomenclature.

**2.5** New type materials, products and production processes, which are presented to RS for the first time and which are the items of technical supervision shall be approved by RS for application for the intended purpose.

**2.6** Type production processes are subject to the RS review in the following cases:

- .1 where the requirements for the particular production process are provided by the RS rules;
- .2 where the tests required by the RS rules are provided for in the type production process.

**2.7** A possibility of deviations from the RS requirements, where application of those requirements, methods and scope of supervision prescribed by RS is impracticable or unreasonable, is decided by RHO upon a request of the RS Branch Office responsible for carrying out technical supervision.

**2.8** Items subject to the Register technical supervision in accordance with the RS Nomenclature may be used for their intended purpose only in case documents of the Register or manufacturer's documents, in cases provided for in the RS rules, or other classification societies issued on behalf of the Register are available.

**2.9** Where defects are found or doubts arise in a possibility of using items of technical supervision for the intended purpose, necessary check surveys shall be conducted. If the results of check surveys are unsatisfactory, the items of technical supervision are not allowed to be used whether or not the documents required are available.

**2.10** Construction of ships classed with the Register and manufacture of materials and products for the ships classed with the Register shall be in conformity with the technical documentation approved by the Register.

**2.11** Where conformity of a material, product, ship with the requirements of conventions and IMO recommendations is required, the technical documentation shall be prepared with due regard to such requirements and recommendations and submitted to the Register for approval. After carrying out necessary surveys in compliance with these requirements and recommendations the Register issues documents prescribed by the international conventions or the Register certificates of the established form with indication of the conformity with those requirements and recommendations.

**2.12** The procedure of review and approval by the Register of technical documentation on items of technical supervision, scope of surveys in the course of technical supervision at the firm (manufacturer) and production operations to be controlled as well as documents to be issued during supervision, and branding procedure are governed by the relevant sections and parts of these Rules.

**2.13** Technical documentation on construction of ships and manufacture of materials and products is reviewed and approved in compliance with Part II "Technical Documentation".

**2.14** The scope of the Register technical supervision in the course of construction of a particular ship and manufacture of a particular product is stated in the List of Items of Technical Supervision (refer to

Sections 12 and 13), which is elaborated as a working document of technical supervision at the particular firm (manufacturer).

**2.15** Based on the agreement on mutual substitution, the Register may authorize another classification society (ACS) or competent body to perform technical supervision (totally or partially) of the construction of the ship classed with the Register and manufacture of products for the ships classed with the Register or be authorized by ACS to carry out technical supervision during construction of the ship or manufacture of materials and products.

In such cases, the scope and procedure of technical supervision and documents to be issued shall be specified in the appropriate agreements or authorizations.

**2.16** A possibility of recognition of documents for materials and products manufactured under technical supervision of ACS without the Register authorization is decided by the Register in each particular case during survey of these materials and products to an extent sufficient to confirm their compliance with the RS requirements, conventions, IMO recommendations, standards and normative documents.

**2.17** When carrying out technical supervision, the Register reserves the right to check the compliance of the design, technology and production standards, which are not required but affect the fulfillment of the RS rules.

**2.18** Standards used in elaboration of technical documentation, in construction of ships and manufacture of materials and products referred to the items of the RS technical supervision, of production processes, calculation and design standards, testing, checking and quality control procedures shall be agreed upon with the Register. The Register checks the compliance with the standards agreed upon therewith only as regards the technical requirements, which are within its terms of reference.

**2.19** Technical supervision during manufacture of materials and products is performed in relation of those properties, parameters and characteristics indicated in the approved technical documentation and regulated by the RS rules. During technical supervision the Register does not determine a grade and category of product quality or check the fulfillment of safety engineering, sanitary and labor organization requirements, or other production aspects, which are beyond the Register terms of reference.

**2.20** In its activity the Register does not substitute the prescribed activity of the state supervision authorities or officials of shipowner, shipyard or firm.

**2.21** The Register may impose in the course of technical supervision the necessary requirements for the items and production processes not supervised by the Register if it appears that application thereof has resulted or is likely to result in violation of the RS rules.

**2.22** The Register carries out technical supervision during construction of ships at the shipyard and manufacture of materials and products at the firm (manufacturer) by means of surveys. Thus all the questions shall be settled within the frames regulated by the RS requirements.

**2.23** The Register can entrust technical personnel at the firm (manufacturer) with the check tests or part thereof aiming to check the compliance of materials or products with the RS requirements (refer to Section 4).

**2.24** In case of the differences associated with requirements and decisions of the surveyor carrying out technical supervision, a designer, shipowner or firm may apply directly to the RS Branch Office to resolve the problem. In case of the differences with the RS Branch Office, an appeal containing justifications together with a copy of the RS Branch Office decision may be sent to RHO.

**2.25** The Register performs its supervision activities on condition that manufacturers and individuals meet their commitments on manufacturing adequate products. In case of any deficiencies of the item of technical supervision, unsteady production process, low technological discipline and inadequate efficiency of quality system at the firm, the Register does not admit any claims for delays in production, caused by an increase in the scope of surveys of the products because of the above reasons.

**2.26** For the services rendered the Register charges fees in accordance with the procedure established in the General Conditions for Rendering Services by Russian Maritime Register of Shipping.

### **3 SERVICES RENDERED IN TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS. DOCUMENTS ISSUED**

**3.1** When carrying out technical supervision during manufacture of materials and products, construction, conversion, modernization and repair of ships, the Register carries out:

- type approval of materials or products with issue of the Type Approval Certificate (CTO);
- recognition of the manufacturer with issue of the Recognition Certificate for Manufacturer (CПИ);
- recognition of the testing laboratory conducting tests and measurements in accordance with Table 9.1.1 with issue of the Recognition Certificate of Testing Laboratory (CПЛ);
- recognition of service suppliers performing the activity in accordance with Table 8.1.1 with issue of the Recognition Certificate (CП);
- audit of the firms performing the activity in accordance with Table 11.1.1 with issue of the Certificate of Firm Conformity (CCП);
- approval of serial materials and products with issue of C, C3;
- single approval of materials and products with issue of C;
- approval of the quality control system with issue of the CKK Certificate.

**3.2** The Register keeps records of the above services and can give relevant information thereon.

**3.3** Based on the results of technical supervision, the Register issues the following documents of the established form that certify the conformity of the item of technical supervision with the RS requirements, as well as its manufacture (construction) under the Register technical supervision:

- the certificates (C, C3) are documents certifying the conformity of the particular materials, products or groups of products with the requirements of the RS rules and normative documents;

- the Type Approval Certificate (CTO) is a document certifying the conformity of types of materials, products or groups of products, type production processes with the requirements of the RS rules (refer to Section 6);

- the EU RO Mutual Recognition Type Approval Certificate (CTO MR) is a document certifying the conformity of types of materials, products or groups of products with the requirements of European Union Recognized Organization (EU RO) Mutual Recognition Procedure for Type Approval (refer to Section 6);

- certificates of type approval (COTO), certificates of type test (COTИ) are documents certifying the conformity of the type of ship's equipment and arrangements for the prevention of environment pollution with the requirements of MARPOL 73/78 and IMO resolutions;

- the Type Approval Certificate of Ballast Water Management System (COOT) is a document certifying the conformity of the type of ballast water management system with the requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as well as with the Guidelines for Approval of Ballast Water Management Systems (G8);

- the Recognition Certificate for Manufacturer (CПИ) is a document certifying the recognition by the Register of the firm as manufacturer of materials and products for ships subject to the Register technical supervision (refer to Section 10);

- the Recognition Certificate of Testing Laboratory (CПЛ) is a document certifying the competence of the laboratory in carrying out certain types of tests of the materials and products (refer to Section 9);

- the Recognition Certificate (CП) is a document certifying the recognition of the service supplier rendering services (carrying out works) in compliance with the RS requirements (refer to Section 8);

- the Certificate of Firm Conformity (CCП) is a document certifying the conformity of the firm with the RS requirements in rendering services (carrying out works) indicated in the request (refer to Section 11);

- CKK Certificate is a document certifying the compliance of the manufacturer's quality control system with the RS rules;

- the SO<sub>x</sub> Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning Systems (SECC) is a document certifying the conformity with the requirements of Annex VI to MARPOL 73/78 for the exhaust gas cleaning systems.

**3.4** Validity period of the CKK Certificate, Recognition Certificate for Manufacturer (СПИ), Recognition Certificate of Testing Laboratory (СПЛ), and Certificate of Firm Conformity (ССП) shall not exceed five years. Certificates are subject to endorsement not less than once a year. Endorsement shall be done within the period limited by thirty (30) days before and thirty (30) days after the specified date of endorsement of the certificate.

The Recognition Certificate (СП) shall be issued for three (3) years and is not subject to endorsement. Upon expiry of the validity period the certificates are renewed on request of the firm.

RS reserves the right to carry out occasional surveys of a firm having a valid RS certificate if an item of technical supervision has been found non-compliant with the RS requirements including third party information.

**3.5** Validity of the CKK Certificate, Recognition Certificate for Manufacturer (СПИ), Recognition Certificate of Testing Laboratory (СПЛ), Recognition Certificate (СП) and Certificate of Firm Conformity (ССП) may be suspended for a period agreed upon with the firm but not more than ninety (90) days provided:

- .1 major nonconformities of the firm activity have been found;
- .2 the firm has not applied with the request to endorse the certificate within the established period;
- .3 the firm has not informed the Register of the changes in the activity specified in the certificate.

**3.6** The CKK Certificate, Recognition Certificate for Manufacturer (СПИ), Recognition Certificate of Testing Laboratory (СПЛ), Recognition Certificate (СП) and Certificate of Firm Conformity (ССП) become invalid:

- .1 upon expiry of the certificate period of validity;
- .2 in case causes of the certificate suspension have not been eliminated within the agreed period;
- .3 in case the certificate has not been endorsed within the specified period;
- .4 if the contract or agreement on technical supervision has become invalid in cases provided for in 4.6;
- .5 in case of the firm bankruptcy or liquidation;
- .6 where the firm failed to inform the Register in writing of any alterations to its quality system related to the RS area of recognition;
- .7 where the firm submits information known to be false.

**3.7** RS informs the firm in the written form of suspension and loss of validity of the certificate.

**3.8** Compliance of the equipment with the requirements of MARPOL 73/78 as amended is certified by the Certificates of Type Approval (COTO), Certificates of Type Tests (COTИ), Type Approval Certificate of Ballast Water Management System (COOT) and SO<sub>x</sub> Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (SECC). Validity period of COTO, COTИ and SECC is not specified, except for COOT (form 2.5.5) issued for 5 years.

**3.9** Compliance of the marine engine with the requirements of Annex VI to MARPOL 73/78 is confirmed by the EIAPP Certificate. The EIAPP Certificate is issued to:

- .1 the basic engine of the engine family or group;
- .2 the member engine of the engine family or group (refer to 5.2).

**3.10** Compliance of welding consumables and welding procedures with the requirements of the Rules for the Classification and Construction of Sea-Going Ships is certified by the Certificate of Approval for Welding Consumables (COCM) and Welding Procedure Approval Test Certificate (COTПC).

**3.11** In case of technical supervision on behalf of the Register, certificates and other documents of the organization carrying out of technical supervision on behalf of the Register in accordance with Section 14 are recognized.

**3.12** The documents confirming the performance of the surveys of materials and products, firms and testing laboratories and being the basis for issuance of the Type Approval Certificate (CTO), Certificate of Approval for Welding Consumables (COCM), Recognition Certificate (СП), Recognition Certificate for Manufacturer (СПИ), Recognition Certificate of Testing Laboratory (СПЛ) and Certificate of Firm Conformity (ССП) are the Report 6.3.18 and the Report 6.3.19 (refer to 1.2) drawn up by the Register upon completion of surveys.

The reports are issued to the firms in the following cases:

when upon the results of surveys the requirements are established, which shall be met by the firm;  
when the report is the only Register document confirming rendering of the Register technical supervision services.

In other cases, it is not required to issue the above reports to the firms.

**3.13** Branding of items of technical supervision in cases specified in the RS Nomenclature is made in accordance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2).

**3.14** In case of changing any detail of the valid certificate issued in compliance with the provisions of the Rules, except for the certificates (C, C3), the certificate becomes invalid. In such case, a new certificate may be issued based on the results of technical supervision, the scope of which is determined by the Register in each particular case.

## **4 REQUESTS, CONTRACTS AND AGREEMENTS ON TECHNICAL SUPERVISION**

**4.1** Where supervision of the Register is specified in the ordered (contracted) documentation on design, construction, conversion, modernization and repair of ships, manufacture of materials and products for shipbuilding and ship repairing, as well as rendering services referred to in 3.1, a firm shall apply to the Register with a written request to carry out technical supervision and to guarantee payment of the Register services, reimbursement of the Register expenses, as well as with the confirmation of familiarization and agreement with the General Conditions for Rendering Services by Russian Maritime Register of Shipping. The General Conditions for Rendering Services by Russian Maritime Register of Shipping are constituent and integral part of all the contracts concluded by the Register.

**4.1.1** If the firm is not the manufacturer of the products, the firm shall, in addition to the provisions of 4.1, be authorized by the manufacturer (which shall be documented) to do the following:

**.1** to submit technical documentation for the product for RS review and approval or to use the technical documentation approved by RS;

**.2** to arrange for survey of the product within the necessary scope;

**.3** to arrange for testing of the product within the necessary scope or to use reports of the tests earlier conducted by the manufacturer;

**.4** to supply the product, and to install and mount it if necessary.

**4.1.2** Deviations from the provisions of 4.1.1 shall be regulated with 2.7.

**4.2** The request shall provide the information to an extent sufficient for review and execution thereof. In reviewing the request for technical supervision during manufacture of the material or product, a kind of approval (single or type approval) shall be identified.

The request for type approval of ICE shall additionally provide information submitted according to the form given in Appendix 3 to Section 5 of Part IV "Technical Supervision during Manufacture of Products". The specified form in electronic format to be filled-in is posted on the RS website.

**4.3** Upon reviewing the request depending on the particular conditions of the future technical supervision (scope and item of supervision, duration, etc.), the Register, being guided by the regulations in force, decides on the necessity to conclude a contract on technical supervision or carries out technical supervision based on the request without concluding the contract.

**4.4** The contract on technical supervision of the Register at the manufacturer specifies the items of technical supervision and regulates mutual relations, rights and responsibilities of the parties in the course of the Register technical supervision during construction of ships and manufacture of materials and products, as well as when rendering services specified in 3.1.

The contract specifies cost of technical supervision, procedure and terms of payment. Where technical supervision is carried out based on the request, without concluding the contract, services are paid and expenses reimbursed according to the invoices made out by the Register.

For concluding the contract for the Register technical supervision, use is made of the established forms or the contract may be drawn up in a free form.

**4.5** The Register may entrust the firm (manufacturer) technical personnel with performance of the check tests or part thereof, to which effect the Agreement on Survey (CO) is signed with the firm (manufacturer).

For signing the Agreement on Survey (CO) use is made of the established form or the Agreement on Survey (CO) may be signed in a free form with due regard to all major provisions of the prescribed format.

The Agreement on Survey (CO) is concluded based on the results of survey of the manufacturer carried out according to Section(s) 10 and/or 16, the approved technical documentation and/or the type approval of the material or product (refer to Section 6).

Rights and responsibilities of the firm (manufacturer), responsibilities of the Register and terms of payment to the Register for technical supervision are stated in the Agreement on Survey (CO).

In order to provide the adherence to the RS requirements for products, to draw up covering documentation and to fulfill the terms and conditions of the Agreement on Survey (CO), an official

competent in production and quality control of the items of technical supervision shall be appointed at the firm (manufacturer).

Based on the Agreement on Survey (CO) concluded, the items of technical supervision shall be delivered with the Certificate (C3) to be filled in and signed by the firm (manufacturer) official and drawn up (endorsed) by the Register on the basis of the review of the product/equipment test results performed by the manufacturer and only upon signing of C3 on behalf of the manufacturer (refer to 5.2) or with the Type Approval Certificate (CTO) copy and the firm (manufacturer) document which shall contain:

- name, type and serial number of the item;
- name and address of the manufacturer;
- address of the manufacturing location;
- name of technical documentation for the item and date of its approval by the Register;
- name of the document containing data on item surveys and tests performed by the firm (manufacturer);
- the Type Approval Certificate (CTO) number, date of issue and period of validity;
- firm statement on item conformity to the approved type specified in the Type Approval Certificate (CTO);
- signature of the firm (manufacturer) authorized person.

**4.5.1** The Agreement on Survey (CO) comes into force from the date of signing and remains valid for at most 5 years subject to:

**.1** for the items delivered with the Certificate (C3) — satisfactory results of survey of the item of technical supervision and the firm (manufacturer) in accordance with the requirements of Section 16, to be carried out not less than once a year (in well-grounded cases to be carried out not less than once every 2, 5 years, unless otherwise specified);

**.2** for the items delivered with the Type Approval Certificate (CTO) copy — satisfactory results of survey of the item of technical supervision and the firm (manufacturer) in accordance with the requirements of Section 10, to be carried out not less than once a year (in well-grounded cases to be carried out not less than once every 2,5 year, unless otherwise specified);

**.3** the validity of the approval of the type item of technical supervision as certified by the RS type approval certificate, or validity of the Recognition Certificate for Manufacturer (СПИ).

**4.5.2** The validity of the Agreement on Survey (CO) is extended for the next period not exceeding 5 years subject to compliance with the requirements set out in 4.5.1.1 and 4.5.1.2.

**4.6** The contract or agreement on technical supervision becomes invalid in case of inadequate fulfilment of the commitments under the contract or agreement, including payments for the RS services as well as in the following cases:

**.1** upon expiry of type approval for material or product manufactured by the firm (manufacturer);

**.2** subject to non-compliance of the firm (manufacturer) with the requirements of survey;

**.3** if the Recognition Certificate (СП), Recognition Certificate of Testing Laboratory (СПЛ), Recognition Certificate for Manufacturer (СПИ) and Certificate of Firm Conformity (ССИ) become invalid in compliance with 3.6;

**.4** upon expiry of validity of the contract or agreement;

**.5** cancellation of the contract or agreement.

The Agreement on Survey (CO) may be cancelled if desired by the parties who signed it.

## **5 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS**

**5.1** Materials and products used in construction of ships and floating facilities classed with the Register shall be supplied to the shipyard with the certificate of conformity or other documents confirming their compliance with the RS requirements, IMO conventions and recommendations.

List of materials and products subject to mandatory technical supervision with indication of a type of the document issued thereon is given in the RS Nomenclature (refer to Appendix 1).

*Notes:* 1. In relation to items of technical supervision specified in Appendix 1, for groups of codes of radio equipment and navigational equipment, the provisions of Appendix 3 shall apply during technical supervision from 1 July 2018.

2. For the manufacturers of items of technical supervision specified in Appendix 1, for groups of codes of radio equipment and navigational equipment, the procedure for technical supervision given in Appendix 1 shall apply until the date of expiry of the Agreement on Survey (CO) provided it has been concluded by the manufactures before 1 July 2018. At the discretion of the manufacturer, the procedure for technical supervision set forth in Appendix 3 may apply.

In separate cases, at the RS discretion, technical supervision may be performed of the materials and products not contained in the RS Nomenclature, which are newly developed or are the components of the products listed in the RS Nomenclature and which functionally provide the safety of the items of technical supervision (refer to 2.4).

**5.2** For drawing up of results of the Register supervision during manufacture of the materials and products, use is made of three types of the certificates of conformity:

Certificate filled-in and signed by the Register (C). The Certificate shall be drawn up and signed with a digital signature;

Certificate filled-in and signed by a firm (manufacturer) official and drawn up (endorsed) by the Register (C3). Signing and drawing up of the Certificate are allowed to carry out by digital signature;

type approval certificate drawn up by a Surveyor and signed by the Directors/Heads of the RHO Locations or the RS Branch Offices (CTO, CTIHK).

The contents of the above certificates (C, C3, CTO) shall identify the material or product, its types, main parameters, as well as the manufacturer of materials and products.

Validity period of the certificates (C, C3) is not specified.

Validity period of the Type Approval Certificate (CTO) is up to 5 years (refer to 6.5).

The EIAPP Certificate (refer to 3.9) is filled-in and signed by the Register. Validity period of the EIAPP Certificate is not specified.

**5.3** In order to obtain the certificate of conformity, the firm (manufacturer) shall apply to the Register with a request.

Technical documentation on the materials or products within the scope regulated by the RS rules shall be submitted together with the request.

**5.4** Upon review of the technical documentation the Register sends a conclusion letter to the firm (manufacturer). Where deemed necessary, the firm (manufacturer) shall submit the testing programme to the Register to be agreed upon.

**5.5** Where in column 5 of the RS Nomenclature "C" or "C3" is indicated, then upon satisfactory results of survey of the material or product the certificates (C, C3) or a certificate of a special form for the particular type of products (if any) shall be issued.

Branding shall be made where necessary (refer to Appendix 2).

**5.6** Where in column 5 of the RS Nomenclature "CTO" is indicated, then the document to be issued may be a copy of the Type Approval Certificate (CTO). The appropriate record shall be made in section "Type of document issued for product" of the Type Approval Certificate (CTO). In such a case, the Agreement on Survey (CO) (refer to 4.5) shall be concluded with the firm/manufacturer prior to commencement of commencement of material/product deliveries with a copy of the Type Approval Certificate (CTO). In well-grounded cases, the certificates (C or C3) may be issued.



**5.7** In case of a single approval, the material or product is surveyed to the extent of the prototype.

In case the Type Approval Certificate (CTO) for the materials and products in question is available, the examination and approval of technical documentation are not required, and the test results for the type specimen are taken into account.

Where a single approval is issued to single products, approval of technical documentation and survey results for the prototype cover only the material or product, for which the certificates of conformity have been issued.

**5.8** Where the firm (manufacturer) manufactures forgings, castings, machinery and equipment components needed for its own production (further processing, assembling, construction), as well as mass-production products (ship fittings, hull fittings, etc.), technical supervision may be confirmed by the firm (manufacturer) documents endorsed by the Register.

Where the above products are fabricated by the same firm (manufacturer) for cooperation shipments or as the spare parts, supervision shall be confirmed by the certificates (C, C3, CTO) according to the RS Nomenclature.

## **6 TYPE APPROVAL OF MATERIALS, PRODUCTS, PRODUCTION PROCESSES AND SOFTWARE**

**6.1** The Type Approval Certificate (CTO) is a document of the Register, which certifies that a construction, properties, parameters, characteristics of a type material or product, found in the course of surveys and indicated in the approved technical documentation, meet the RS requirements and may be used for ships and items of technical supervision for the intended purpose.

The Type Approval Certificate (CTO) for the type production process certifies that an item of supervision manufactured according to the particular type production process and having characteristics and parameters indicated in the approved technical documentation meets the RS requirements and may be used for the intended purpose.

**6.2** The Type Approval Certificate (CTO) certifies that the approval of the technical documentation and satisfactory results of surveys of material and product prototype are accounted for by the Register in technical supervision of these materials and products manufactured under the established production conditions and intended for multiple deliveries to ships and floating facilities of various types.

**6.3** In order to obtain the Type Approval Certificate (CTO) the firm (manufacturer) shall apply to the Register with a request and submit the technical documentation on the material, product, software or production process, as well as the programme and schedule of tests. When reviewing and approving this documentation, the scope of surveys during manufacture and testing of specimens shall be specified.

**6.4** The Type Approval Certificate (CTO) is issued by the Register upon approval of the technical documentation and satisfactory results of the surveys of the material, product, software or production process submitted.

For the material or product manufactured according to the established production process the Type Approval Certificate (CTO) is issued, having regard to the data on earlier tests, production and operation experience. Account may be taken of the Type Approval Certificate (CTO) of ACS or competent body or results of the tests of a type specimen conducted with participation of the above organizations. The number of documents to be submitted is in each case specified proceeding from the type of material or product.

**6.5** The Type Approval Certificate (CTO) is issued for a period of up to 5 years.

**6.5.1** Validity of the Type Approval Certificate (CTO) shall not exceed the period of approval of the technical documentation on the item of technical supervision.

**6.5.2** After the expiry of validity, the Type Approval Certificate (CTO) is renewed on request of the manufacturer. The Type Approval Certificate (CTO) may be renewed based on documentation review without inspections and tests, provided that:

**.1** the request shall be submitted 2 months prior to the Type Approval Certificate (CTO) expiry;

**.2** the manufacturer confirms constancy of design, software and earlier specified technical characteristics of material or product, or that changes in design do not result in the change of work process, loads on the product components, resource or other significant parameters of the product operation;

**.3** unless otherwise stated in applicable sections of the Rules.

**6.6** The Type Approval Certificate (CTO) is issued by RHO or the RS Branch Offices.

The Type Approval Certificate (CTO) becomes invalid if design of the product, its properties, etc. have been changed without agreement with the Register; operational suitability of the material or product is not provided, requirements of the RS rules and international conventions, which have come into force after its issuance and which prescribe mandatory compliance with the requirements, are not met.

**6.7** For welding consumables the Certificate of Approval for Welding Consumables (COCM) is issued, being at the same time the document certifying recognition by the Register of the firm as the manufacturer of welding consumables in accordance with the requirements of the RS rules.

The Certificate of Approval for Welding Consumables (COCM) is issued for a period of up to 5 years subject to its annual endorsement.

**6.8** The Welding Procedure Approval Test Certificate (COTIIC) is a Register document certifying that a welding procedure used at a shipyard or firm (manufacturer) of welded structures has been tested and approved by the Register for application.

The Welding Procedure Approval Test Certificate (COTIIC) shall be endorsed not less than once every 2,5 years.

**6.9** For programmes for computer-aided calculations, in compliance with Section 12, Part II "Technical Documentation", the Type Approval Certificate for Software (CTOI) is issued.

**6.10** The manufacturers of items of the RS technical supervision with codes 06010100MK, 06020000, 07010008, 07010009, 0700600, 07020300, 07020301, 08011400MK, 08030000, 08120000MK, 09010000, 09020000, 09024000, 09025000, 09030000, 09040000, 09050000, 09060000, 09060100, 09070000, 09080000, 09100000, 09120000, 10010000, 10020000, 10030000, 11000000 (as regards insulation materials), 12090000 and other items listed in IACS UI SC249 shall develop the procedure for purchase and control of asbestos-free materials and components applicable to all equipment, components and spare parts. This procedure shall include the following:

- methods of assessment and selection of suppliers;
- procedures for checking of the supplied asbestos-free products;
- drawing-up of asbestos-free declarations as supporting documentation for the manufactured item of technical supervision.

**6.11** Certificate of Type Approval (COTO), Certificate of Type Test (COTI), EIAPP Certificate are certificates issued by RS in accordance with the provisions of MARPOL 73/78 and applicable IMO resolutions. The certificates shall be drawn up by the RS surveyors and signed by heads of the RS Branch Offices. Validity period of the Certificate of Type Approval (COTO), Certificate of Type Test (COTI), EIAPP Certificate is not specified.

**6.12** The EU RO Mutual Recognition Type Approval Certificate (CTO MR) shall be issued to confirm compliance of the products with the requirements of European Union Recognized Organization (EU RO) Mutual Recognition Procedure for Type Approval (hereafter referred to as "the EU RO MR Procedure")<sup>1</sup>. The Validity period of the EU RO Mutual Recognition Type Approval Certificate (CTO MR) shall not exceed five years. Terms of the EU RO Mutual Recognition Type Approval Certificate (CTO MR) validity and suspension are specified in the EU RO MR Procedure.

**6.13** Items of technical supervision for which the EU RO Mutual Recognition Type Approval Certificate (CTO MR) may be issued are specified in the RS Nomenclature. The application limitations and intended use of items of technical supervision are specified in the appropriate Technical Requirements of the EU RO MR Procedure.

**6.14** The products approved by ACS in accordance with the EU RO MR Procedure are permitted to be installed on ships being classed by RS provided they are manufactured during the period of validity of the type approval certificates issued by ACS, which confirm compliance with the requirements of the EU RO MR Procedure. The EU RO MR Procedure shall not apply, and the products may be prohibited for installation on ships if there are instructions from the Administration that the installation of products approved under the EU RO MR Procedure is not applicable.

**6.15** If it is found out during the survey that the material, product or its element do not comply with the EU RO Mutual Recognition Type Approval Certificate (CTO MR), the Register may reject the installation of this material or product on ship. In this regard, the classification society that issued the EU RO Mutual Recognition Type Approval Certificate (CTO MR) shall be immediately notified of the rejection and its reasons.

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<sup>1</sup>The EU RO Mutual Recognition Procedure and Technical Requirements for the products can be downloaded from the official website of the EU RO Mutual Recognition Group: [www.euromr.org](http://www.euromr.org).

## **7 GENERAL REQUIREMENTS FOR FIRMS**

### **7.1 GENERAL**

**7.1.1** The requirements of this Section apply to all firms, which activity is associated with the items of the RS technical supervision and is subject to the RS audit or recognition.

**7.1.2** Audit of conformity or recognition of the firm by the Register includes:

**.1** review of the documents confirming the compliance of the firm with the RS requirements;

**.2** survey of the firm, including practical demonstration of completion of the works indicated in the request, verification of the records to ascertain that the firm organization and management are in compliance with the submitted documents and that the firm is able to perform works and render services, for which the approval (recognition) is requested. During periodical or renewal survey, to comply with this requirement the results of works or services endorsed by the Register may be used instead of the practical demonstration. The works performed or services rendered after the preceding survey may be accepted for review.

**7.1.3** The firm shall submit for review:

**.1** documents or their copies confirming fulfillment of the requirements of 7.2.1, 7.2.2, 7.2.6, 7.2.7, 7.2.8.3 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

**.2** list of the activities performed (area of activity);

**.3** lists of the personnel containing information on compliance of the personnel with the requirements of 7.2.2.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

**.4** lists of the equipment and facilities indicated in 7.2.3.1, 7.2.4.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

**.5** lists of the documents indicated in 7.2.4.3, 7.2.5.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

**.6** verification of approval/recognition by other authorities, if any;

**.7** information on other activities, which may affect a conflict;

**.8** list and documentation on manufacturer's licenses, where applicable;

**.9** list of appointed agents;

**.10** firm experience in the area of services rendered.

**7.1.4** Survey of the firm aims at confirming the compliance of the firm with the requirements of 7.2. The requirements for the firms performing certain activities are set forth in the relevant sections.

**7.1.5** Duration of the firm's documentation review shall comply with that indicated in 5.10, Part II "Technical Documentation".

### **7.2 REQUIREMENTS**

#### **7.2.1 Legal status.**

**7.2.1.1** Legal status of the firm shall comply with the current legislation.

**7.2.1.2** The firm shall have organizational structure and the Head.

#### **7.2.2 Personnel.**

**7.2.2.1** Personnel of the firm shall have an appropriate education, professional and special training, qualification and experience necessary for performance of activity in the area indicated in the request.

**7.2.2.2** The firm is responsible for qualification and professional training of its personnel in compliance with the national, international and branch standards; in case of absence of these standards — in compliance with the standards of the firm. This requirement shall be established in the documents of the firm.

**7.2.3 Technique.**

**7.2.3.1** The firm shall have the technique necessary for performance of the activity in the area indicated in the request, including appropriate equipment, premises and facilities certified in the established order.

**7.2.3.2** The firm shall provide the maintenance of the equipment and facilities in compliance with their operating and maintenance documentation.

**7.2.3.3** The firm shall perform the activity on the documentation corresponding to each activity in the area indicated in the request with regard to the environmental conditions.

**7.2.4 Measurement assurance.**

**7.2.4.1** The firm shall have and apply necessary measurement assurance in compliance with the procedures for testing and checking of items of the RS technical supervision, including:

- .1 measuring equipment checked (calibrated) in the established order;
- .2 testing equipment certified in the established order;
- .3 reference and standard specimens;
- .4 appropriate consumables (chemicals, substances, etc.).

**7.2.4.2** The firm shall provide the maintenance of measuring and testing equipment in compliance with their operating and maintenance documentation.

**7.2.4.3** The firm shall have and adhere to the current standards and certified in the established order procedures:

- .1 for testing of items of technical supervision with the required accuracy;
- .2 for handling of samples.

**7.2.5 Files of the firm documents.**

**7.2.5.1** The firm shall have the valid normative and technical documents necessary to perform activity in the area indicated in the request, including:

- .1 documents containing requirements for items of technical supervision, including the RS rules;
- .2 technical documentation on items of technical supervision;
- .3 production documentation on performance, checking and control of each kind of activity.

**7.2.5.2** The documentation shall be available for the firm personnel where necessary.

**7.2.6 Reporting.**

**7.2.6.1** Form and content of reports in the area indicated in the request shall be acceptable for RS and shall include:

- .1 name and address of the firm;
- .2 identification of the report, e.g. report number;
- .3 name and address of the customer;
- .4 reference to the documents, in compliance with which the activity has been performed;
- .5 description (name) of the item, in relation to which the activity has been performed;
- .6 place where the activity has been performed;
- .7 date when the activity has been performed;
- .8 information on conditions, under which the activity has been performed;
- .9 information on deviations from the requirements of the documents, in compliance with which the activity has been performed;
- .10 entry to the effect that the activity has been performed under the RS technical supervision;
- .11 full name, position and signature of the person who approved the report;
- .12 number of every page and the total number of pages in the report.

**7.2.6.2** Reports shall be stored in the firm for not less than five years under conditions of confidentiality. This requirement shall be specified in the firm documents.

**7.2.7 Checking and control.**

**7.2.7.1** The firm shall do the checking and exercise control specified in the documentation for each kind of activity.

**7.2.7.2** The firm shall take measures on elimination and prevention of non-conformities and claims against the firm activity in the area indicated in the request. This requirement shall be specified in the firm documents.

**7.2.8 Subcontractors.**

**7.2.8.1** Subcontractors recruited by the firm for performance of activity in the area indicated in the request shall fulfill the requirements of Section 7.

**7.2.8.2** The firm shall provide the audit of subcontractors' activity in the area indicated in the request.

**7.2.8.3** The firm shall have agreements with subcontractors in the area indicated in the request.

**7.2.9 Information on alterations to the certified service operation system.**

**7.2.9.1** In case where any alteration to the certified service operation system of the supplier is made, such alteration shall be immediately informed to the Register. Re-audit may be required when deemed necessary by the Register.

## 8 RECOGNITION OF SERVICE SUPPLIERS

### 8.1 GENERAL

**8.1.1** The requirements of this Section apply to the firms involved in the activities related to the items of the RS technical supervision. Kinds of the activities are indicated in Table 8.1.1.

Table 8.1.1

Code	Kinds of activity
<b>22001000</b>	<b>Thickness measurements on ships and offshore installations under supervision of the RS surveyor:</b>
22001001	Category I: thickness measurements under supervision of RS surveyor on all ships regardless of their gross tonnage
22001002	Category II: thickness measurements under supervision of the RS surveyor on fishing vessels regardless of their gross tonnage and non-ESP ships less than 500 gross tonnage
22002000	Tightness testing of hatches, doors etc. with ultrasonic equipment
22003000	In-water survey on ships and offshore installations by diver or remotely operated vehicle (ROV)
22004000MK	Inspection and maintenance of fire-extinguishing equipment, systems and outfit
<b>22005000</b>	<b>Survey and maintenance of life-saving appliances:</b>
22005001MK	inflatable liferafts
22005002	containers for inflatable liferafts
22005003MK	hydrostatic release units
22005004	lifebuoys
22005005	position-indicating lights of life-saving appliances, self-activating smoke signals
22005006MK	inflatable lifejackets
22005007MK	inflated rescue/fast rescue boats
22005008	equipment of lifeboats and liferafts
22005009	other life-saving appliances
22005010MK	marine evacuation systems, inflatable means of rescue
22005011	weak link, automatic gas inflation system, embarkation and pilot ladders, lifelines
22005012	non-inflatable lifejackets, immersion suits, anti-exposure suits, thermal protective aids
22005013	rigid-hull/combined rescue boats/fast rescue boats
<b>22006000</b>	<b>Servicing and inspection of radio and navigational equipment:</b>
22006001	shore-based maintenance and repair of GMDSS equipment in compliance with the requirements of regulation IV/15 of SOLAS 74, as amended and IMO resolution A.702(17)
22006002MK	servicing and testing of radio equipment on board ships or mobile offshore drilling units and fixed off shore platforms for compliance with the requirements of SOLAS 74, as amended (preliminary survey of radio equipment)
22006003	installation, commissioning, maintenance and repair of radio and navigational equipment, replacement of built-in power supply components, programming of radio equipment
22006004MK	annual performance testing of voyage data recorders (VDR) and simplified voyage data recorders (S-VDR) in accordance with regulation V/18.8 of SOLAS 74, as amended
22006006MK	annual testing of EPIRBs of the satellite system COSPAS-SARSAT
22006007MK	shore-based maintenance of EPIRBs of the satellite system COSPAS-SARSAT
22006008MK	inspection, testing and maintenance of automatic identification system (AIS)
22008000MK	Inspection and maintenance of self-contained breathing apparatus
22012000	Examination of ro-ro ships bow, stern, side and inner doors
22015000MK	Inspections of low location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems
22016000MK	Sound pressure level measurements of public address and general alarm systems on board ships
22021000MK	Maintenance, repair, inspections and testing (servicing and maintenance) of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks
22022000	Underwater thickness measurements of ships and offshore installations under supervision of RS surveyor
22023000MK	Expertise of safe carriage of bulk cargoes by sea
22024000MK	Measurements of noise level onboard ships
22025000	Tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for ships in service
22025600	Survey using remote inspection technique(s) (RIT) as an alternative means for close-up survey of the structure of ships and offshore installations
22026000	Visual and/or sampling checks, development of hazardous material inventories

**8.1.1.1** For the purpose of this Section, the following definitions shall apply:

**.1 Manufacturer**<sup>1</sup> is a firm that manufactures equipment required to be periodically serviced and/or maintained;

**.2 Service supplier** (a service supplier or a category of service supplier may be referred to hereafter simply as "the Supplier") is a person or a firm not employed by the Register, who at the request or on behalf of an equipment manufacturer, a shipyard, a shipowner, an owner of offshore installation or other client (customer) provides services for a ship or an offshore installation, such as measurements, tests, repair or maintenance of safety systems and equipment, the results of which are used by the RS surveyors in making decisions affecting classification or statutory certification of a ship or an offshore installation and services provided thereto;

**.3 Agent** is a person or firm authorised to act for or to represent a manufacturer or approved/recognized service supplier;

**.4 Subsidiary** is a firm partly or wholly owned by a manufacturer or approved/recognized service supplier;

**.5 Subcontractor** is a person or firm providing services to a manufacturer or approved/recognized service supplier, with a formal contract defining the assumption of the obligations of the service supplier;

**.6 Ship and offshore installation** is any ship (including floating dock, mobile offshore drilling unit (MODU), floating offshore oil-and-gas production unit (FPU)) and fixed offshore platform (FOP).

**8.1.2** The firms that perform the activities listed in Table 8.1.1 shall be recognized by RS.

**8.1.3** The firms that perform the activities related to the items of the RS technical supervision shall comply with the applicable general requirements listed in Section 7, the requirements in 8.2, appropriate specific requirements in 8.3 and those of Maritime Administrations, if any.

**8.1.4** Recognition is conditional on a practical demonstration of the performance of the specific service as well as satisfactory reporting being carried out.

**8.1.5** Recognition of the firm by the Register shall be confirmed by the Recognition Certificate (CII) issued in compliance with 3.4 — 3.7 and with regard to specific requirements depending on the area of the firm activities. The issued Recognition Certificate (CII) shall certify that the procedure for rendering the service by the firm complies with the RS Rules in the scope prescribed by the RS Rules and that the results of rendering services prescribed by the RS Rules may be recognized and used by the Register in making decisions affecting classification or statutory certification and services, as applicable. The Recognition Certificate (CII) shall clearly indicate the type and scope of services as well as any restrictions imposed.

When an authorization, license, agreement or any other document governing relations between the service supplier and equipment manufacturer is required, these documents shall be valid and/or their validity shall be timely endorsed throughout the validity period of the Recognition Certificate (CII). In case of loss of validity of the specified documents, the service supplier shall apply to the Register to amend the Recognition Certificate (CII).

**8.1.5.1** When any alteration to the certified service operating system of the supplier is made, such alteration is to be immediately informed to the Register. Re-audit may be required when deemed necessary by the Register.

**8.1.5.2** The Register reserves the right to cancel the recognition and to inform another classification society (ACS) — IACS member accordingly.

**8.1.5.3** The firm whose recognition was cancelled may apply for re-recognition, provided it has corrected the non-conformities, which resulted in cancellation, and the Register is able to confirm it has effectively implemented the corrective action.

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<sup>1</sup>For Sections 10 and 12, the definition "Manufacturer" given in 1.1.1 shall be used.



## **8.2 REQUIREMENTS**

### **8.2.1 Extent of recognition.**

**8.2.1.1** The firm shall demonstrate, as required by 8.2.2 — 8.2.11, that it has the competence and control needed to perform the services for which recognition is sought.

**8.2.1.2** Where several servicing stations are owned by a given firm, each station shall be assessed and approved except as specified in 8.2.12.3.

### **8.2.2 Training of personnel.**

The firm is responsible for the qualification and training of its personnel to a recognised national, international or industry standard as applicable. Where such standards do not exist, the firm shall define standards for the training and qualification of its personnel relevant to the functions each is authorised to perform. The personnel shall also have adequate experience and be familiar with the operation of any necessary equipment. Operators/technicians/inspectors shall have had a minimum of one year tutored on-the-job training. Where it is not possible to perform internal training, a program of external training may be considered as acceptable.

### **8.2.3 Supervision.**

The firm shall provide supervision for all services provided. The responsible supervisor shall have had a minimum of two years of experience as an operator/technician/inspector within the activity for which the supplier is recognized. For a supplier consisting of one person, that person shall meet the requirements of a supervisor.

### **8.2.4 Personnel records.**

The firm shall keep records of the approved operators/technicians/inspectors. The record shall contain information on age, formal education, training and experience for the services for which they are recognized.

### **8.2.5 Equipment and facilities.**

The firm shall have the necessary equipment and facilities for the service to be supplied. A record of the equipment used shall be kept and available. The record shall contain information on maintenance and results of calibration and verifications. The Register shall assess and record the validity of previous measuring results when the equipment is found not to conform to requirements. The Register shall take appropriate action on the equipment affected.

### **8.2.6 Control of data.**

When computers are used for the acquisition, processing, recording, reporting, storage, measurement assessment and monitoring of data, the ability of computer software to satisfy the intended application shall be documented and confirmed by the service supplier. This shall be undertaken prior to initial use and reconfirmed as necessary.

*Note.* Commercial off-the-shelf software (e.g. word processing, database and statistical programmes) in general use within their designed application range may be considered to be sufficiently validated and do not require any subsequent confirmation.

### **8.2.7 Files of the firm documents.**

The firm shall have the valid normative and technical documents necessary for performance of the activity in the area indicated in the request, including:

- .1** outline of firm, e.g. organization and management structure, including subsidiaries to be included in the recognition/certification;
- .2** list of nominated agents, subsidiaries and subcontractors;
- .3** experience of the firm in the specific service area;
- .4** for categories of firms that require authorization from manufacturers, manufacturer's documentary evidence that the firm has been authorised or licensed to service the particular makes and models of equipment for which recognition is sought shall be provided;

.5 list of operators/technicians/inspectors documenting training and experience within the relevant service area, and qualifications according to recognised national, international or industry standards, as relevant;

.6 description of equipment used for the particular service for which recognition is sought;

.7 guides for operators of such equipment;

.8 training programmes for operators/technicians/inspectors;

.9 check lists and record formats for recording results of the services;

.10 Quality Manual and/or documented procedures covering requirements in 8.2.12;

.11 documented procedures for communication with the crew prior to commencing work, so that it is safe to decommission the equipment being maintained, and to provide a safe system of work in place;

.12 evidence of approval/recognition by other bodies, if any;

.13 information on the other activities which may present a conflict of interest;

.14 record of customer claims and corrective actions;

.15 documented procedures and instructions shall be available for the recording of damages and defects found during inspection, servicing and repair work. This documentation shall be made available upon request.

#### **8.2.8 Procedures.**

The firm shall have documented work procedures covering all services supplied.

#### **8.2.9 Subcontractors.**

The firm shall give information of agreements and arrangements if any parts of the services provided are subcontracted. Subcontractors providing anything other than equipment shall also meet the general requirements in 8.2.

#### **8.2.10 Verification.**

The firm shall verify that the services provided are carried out in accordance with approved procedures.

#### **8.2.11 Reporting.**

Reports on the results of activity performed shall contain a copy of the Recognition Certificate (CII), in addition to the information specified in 7.2.6.1. The reports shall detail the results of inspections, measurements, tests, maintenance and/or repairs carried out.

#### **8.2.12 Quality management system.**

**8.2.12.1** The firm shall have a documented system covering at least the following:

.1 the Code of Ethics to conduct the relevant activity;

.2 maintenance of equipment;

.3 measurement assurance, checking (calibration) of measuring equipment;

.4 training programmes for operators/technicians/inspectors;

.5 supervision and verification to ensure compliance with operational procedures;

.6 recording and reporting of information;

.7 quality management of subsidiaries, agents and subcontractors;

.8 job preparation;

.9 corrective and preventive actions related to complaints;

.10 periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents.

**8.2.12.2** A documented management quality system complying with the most current version of ISO 9000 series and including the above items, would be considered acceptable according to 8.2.12.1.

**8.2.12.3** If a manufacturer of equipment (and/or its service supplier) applies to the Register for inclusion of its nominated agents and/or subsidiaries in the Recognition Certificate (CII), then it shall implement a quality management system certified in accordance with the most current version of ISO 9000 series. The quality management system shall contain effective controls of the manufacturer's (and/or service supplier's) agents and/or subsidiaries. The nominated agents/subsidiaries shall also have in place an equally effective quality management system complying with the most current version of ISO 9000 series. Such recognition shall be based upon an evaluation of the quality management system

implemented by the parent company against the most current version of ISO 9000 series. The Register may require follow-up audits on such agents or subsidiaries against the most current version of ISO 9000 series to confirm adherence to this quality system.

**8.2.13 Service suppliers relations with the equipment manufacturer.**

**8.2.13.1** A firm, which works as a service station for manufacturer(s) of equipment (and as a service supplier in this field), shall be assessed by the manufacturer(s) and nominated as their agent. The manufacturer shall ensure that appropriate instruction manuals, material etc. are available for the agent as well as proper training of the agent's technicians. Such suppliers shall be recognized either on a case by case basis, or in accordance with 8.2.12.3.

### **8.3 SPECIAL REQUIREMENTS**

**8.3.1 Requirements for firms engaged in thickness measurements on ships and offshore installations (codes 22001001, 22001002).**

Firms engaged in thickness measurements on ships and offshore installations (hereinafter referred to as "the TM firm (TM service supplier)") are subdivided into the following categories:

category I: firms engaged in thickness measurements under supervision of the RS surveyor on any ship types, other floating facilities (including floating docks, mobile offshore drilling units (MODUs), floating offshore oil-and-gas production units (FPUs)) and fixed offshore platforms (FOPs) regardless of their gross tonnage;

category II: firms engaged in thickness measurements under supervision of the RS surveyor on fishing vessels, regardless of their gross tonnage, and non-ESP ships of less than 500 gross tonnage.

**8.3.1.1 Requirements for Category I firms.**

**8.3.1.1.1 Supervisor.**

The responsible supervisor shall be qualified according to the recognized national or international industrial NDT standard (e.g. Level II, ISO 9712 as amended).

The supervisor shall have adequate knowledge of ship structures and be able to assess the results of measurements performed in compliance with the RS normative documents.

**8.3.1.1.2 Operators.**

The operators carrying out the measurements shall be certified to a recognised national or international industrial standard (e.g. Level I, ISO 9712 as amended) and shall have adequate knowledge of ship structures sufficient to elect a representative position for each measurement.

**8.3.1.1.3** Operator/supervisor shall have appropriate qualification documents in ultrasonic testing (ultrasonic thickness measurements) issued by the accredited body for training and certification of NDT personnel (hereinafter referred to as the NDT training and certification body) specified in 8.3.1.1.4.

For each service provided, an operator/supervisor shall have the power of attorney duly signed and sealed by a TM firm to enable him/her carrying out thickness measurements of hull structures on a particular ship. The validity of the power of attorney shall be established by the firm management. This term shall not exceed the term of the validity of the qualification document in ultrasonic testing (ultrasonic thickness measurements) or the Recognition Certificate (CII) issued for the operator/supervisor, whichever is earlier.

**8.3.1.1.4 NDT training and certification bodies.**

Pursuant to EN ISO 9712, NDT training and certification bodies (operators/supervisors) shall be accredited by the international or national NDT certification authority for compliance with ISO/IEC 17024.

Self-declaration of compliance is not allowed.

The list of NDT accreditation bodies — members of the following international associations for NDT, can be found by the links below:

the European Federation for Non-Destructive Testing (EFNDT): <http://www.efndt.org/Members>

the International Committee for Non-Destructive Testing (ICNDT): <http://www.icndt.org/Directory>

Asia Pacific Federation for Non Destructive Testing (APFNDT): <http://apfndt.org/apfndt3.html>

Certification bodies accredited for training and certification of NDT personnel for items of the RS technical supervision (e.g. in shipbuilding and repair sector) according to EN ISO 9712 may be additionally certified by the RS in compliance with the requirements of Section 11 upon their request on the voluntary basis.

Certification bodies that are not accredited by the NDT accreditation bodies for personnel training and certification in non-destructive testing of items of the RS technical supervision according to EN ISO 9712 shall be certified by RS on a mandatory basis.

**8.3.1.1.5 Equipment.**

On coated surfaces, instruments using pulsed echo technique (either with oscilloscope or digital instruments using multiple echoes, single crystal technique) are required. Single echo instruments may be used on uncoated surfaces, which have been cleaned and ground.

**8.3.1.1.6 Procedures.**

Documented work procedures are at least to contain information on inspection preparation, selection and identification of test locations, surface preparation, protective coating preservation, calibration checks, and report preparation and content.

**8.3.1.1.7 Reporting.**

In addition to 8.2.11, the report shall be based on the requirements of Appendices 2 and 4 to the Rules for the Classification Surveys of Ships in Service.

**8.3.1.1.8 Details of Category I TM firm recognition.**

TM firm recognition and issuance of the Recognition Certificate (CII) (form 7.1.4.2) are conditional on a practical demonstration of thickness measurements on board the ship, other floating facility or fixed offshore platform (FOP) performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the results of thickness measurements.

The Register shall issue a Certificate of Vocational Training (CIII) (form 7.1.34) to the operator/supervisor who has carried out thickness measurements confirming his/her appropriate qualification for carrying out thickness measurements on ships and offshore installations in compliance with the RS normative documents.

An entry on the type of service shall be made in the Annex to the Recognition Certificate (CII) reading as follows: "22001001 — Category I: firms engaged in thickness measurements under supervision of the RS surveyor on any ship types, other floating facilities (including floating docks, mobile offshore drilling units (MODUs), floating offshore oil-and-gas production units (FPUs)) and fixed offshore platforms (FOPs) regardless of their gross tonnage". During survey of recognized TM firms for renewal of the Recognition Certificate (CII), it shall be confirmed that they fully comply with the applicable requirements of the RS normative documents concerning the TM firm recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CII) have been carried out on particular ships, other floating facilities, FOPs under supervision of the RS surveyor or under supervision of the ACS — IACS member surveyors, whose Recognition Certificates (CII) are also available at the TM firm. It shall be also confirmed that thickness measurement reports have been duly signed and stamped by the RS or ACS — IACS member surveyors. Particular attention shall be paid to the relevance of the list of the TM firm operators/supervisors and to the availability of the necessary documents confirming the NDT personnel qualification.

**8.3.1.1.9 Supervision for services rendered by a recognized TM firm.**

Thickness measurements on the RS-classed ships carried out by the TM firm shall be provided under supervision of the RS surveyor or the surveyor to ACS — IACS member if the ship is submitted in location inaccessible for survey by the Register.

**8.3.1.1.10 Information on the TM firms recognition status.**

**8.3.1.1.10.1** The IACS website provides links to the databases of official websites of classification societies participating in IACS PR No.23 (hereinafter referred to as the participating society), which contain the information on the recognized TM firms ([www.iacs.org.uk](http://www.iacs.org.uk) in "Ship/Company data/Thickness Measurement Firms" Section). Each participating society is responsible to provide information on alterations of the links in order to update the IACS website.

**8.3.1.1.10.2** ACS — IACS member, including the Register, shall notify the other classification societies (participating societies) and the IACS Permanent Secretary on cancellation of the Recognition Certificates (CII) of the TM firms due to any reasons specified in 3.6.2, 3.6.7 — 3.6.9. RHO shall send a notification of cancellation of the recognition (Recognition Certificate (CII)) in the form given in IACS PR No.23 to classification societies via e-mails posted in the "PR23 Contact Details" Section on the IACS website as well as to the IACS Permanent Secretary via e-mail: [efs@iacs.org.uk](mailto:efs@iacs.org.uk) within five (5) working days from the date of cancellation. On receipt by the Register of notification on cancellation of the recognition (Recognition Certificate (CII)) of the TM firm from ACS or other classification societies, RHO shall request ACS or other classification societies for any additional information on the reason for cancellation of the recognition (Recognition Certificate (CII)), if required. The obtained information is subject to the RHO review, and the decision is taken with regard to the possibility of maintaining the TM recognition by the Register, if any, or the possibility of issuance of the Recognition Certificate if the TM firm applies to RS for the first time.

The RHO and participating societies shall timely advise IACS Permanent Secretary on amendments made to their contact details in order to update information in the "PR23 Contact Details" Section in the IACS website accordingly.

**8.3.1.1.10.3** Prior to issuance of a new Recognition Certificate (CII) to a TM firm or renewal of a valid one, the RS surveyor shall check the information on cancellation of the TM firm recognition by ACS on the RS internal website in Section "Information Systems/Industry Database/Information on Supervision in Industry/List of TM Firms Recognized by Other Classification Societies, whose Certificates are Cancelled" by link: <http://gur.rs-head.spb.ru/win/survey/sto/tmcan.htm>. In cases where the RS surveyor reveals that the recognition of any TM firm has been cancelled by ACS, he/she (if necessary) may contact RHO for further instructions on this occasion.

**8.3.1.2** Requirements for Category II TM firms — limited recognition.

**8.3.1.2.1** The objective of this limited recognition is recognition programme is verify that the TM firm has qualified personnel that are able to measure thicknesses, recognize types of wear, understand hull structural drawings, have adequate knowledge of ship structures in addition to having the necessary technical equipment to render professional assistance.

The firm recognition by the Register with regard to 8.3.1.2.6 shall include the following:

- .1 review of the documents confirming the firm compliance with the RS requirements;
- .2 survey of the firm.

**8.3.1.2.2** Submission of documents.

The following documents shall be submitted to the Register for review:

- organization and management structure;
- list of operators supervisors having documented training tutorial, qualifications and experience;
- description of the equipment used, including maintenance and calibration procedures;
- operator's manual for such equipment.

**8.3.1.2.3** NDT personnel documents.

The TM firm shall keep NDT personnel documents. These documents shall contain information on age, education, training and experience in thickness measurements.

An operator carrying out the measurements shall be certified in non-destructive testing minimum at Level I, according to a recognized national and international standard for qualification and certification of NDT (i.e. ISO 9712, as amended). An operator shall have a minimum of one year tutored on-job, a program of external training may be considered as acceptable. An operator shall have adequate knowledge of ship structure, sufficient to select a representative position for each measurement.

An operator shall have relevant qualification documents in ultrasonic testing (ultrasonic thickness) issued by the accredited body (refer to 8.3.1.1.4).

For each of service provided, an operator shall have a power of attorney duly signed and sealed by the TM firm, to enable him/her to carry out thickness measurements of hull structures on a particular ship.

**8.3.1.2.4** Equipment.

Requirements for equipment are similar to those specified in 8.3.1.1.5.

#### **8.3.1.2.5 Reporting.**

In addition to 8.2.11, the report shall be based on Appendix 2 and Appendix 4 to the Rules for the Classification Surveys of Ships in Service.

#### **8.3.1.2.6 Details of Category II firm recognition.**

Upon reviewing the submitted documents with satisfactory results, the TM firm shall be audited to ascertain that the supplier (TM firm) is duly organized and managed in accordance with the submitted documents, and is capable of rendering the services which recognition of supplier (TM firm)/issuance of the Recognition Certificate (CII) is required.

The TM firm recognition and issuance of the Recognition Certificate (CII) are conditional on a practical demonstration of thickness measurement on board the ship performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the NDT results. Upon satisfactory completion of survey of the TM firm, the demonstration test and proper reporting, the Register shall issue relevant reports on survey and a Recognition Certificates (CII) stating that the procedures and methods for carrying out thickness measurements used by the TM firm have been recognized by the Register and may be accepted and used by the RS surveyors in making decisions during ship surveys. The following shall be specified in the Appendix to the Recognition Certificate (CII) (form 7.1.4.2): "22001002 — Category II: thickness measurements under supervision of the RS surveyor on fishing vessels, regardless of their gross tonnage, and non-ESP ships of less than 500 gross tonnage". The Register shall issue the Certificate of Vocational Training (CIII) (form 7.1.34) to the operator who has carried out thickness measurements confirming his/her training in thickness measurements on board ships as per the RS normative documents.

During survey of recognized TM firms for renewal of the Recognition Certificate (CII), it shall be confirmed that they comply with the applicable requirements of the RS normative documents concerning the TM firm recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CII) have been carried out on particular ships under supervision of the surveyors to the Register or under supervision of the surveyors to ACS — IACS member whose Recognition Certificates (CII) are also available at the TM firm. It shall be verified that thickness measurement reports are signed and sealed by the RS or ACS surveyors. Special consideration shall be given to the relevance of the list of operators employed in the TM firm and availability of required documents confirming the qualification of NDT personnel.

The Recognition Certificate (CII) shall be renewed according to Section 3.

The Register shall be immediately notified of any amendment made to the system for service rendering by the supplier, if any. The repeated check may be required as deemed necessary by the Register.

The recognition may be cancelled in cases specified in 3.6.

The Register reserves its right to cancel the recognition.

The supplier whose recognition was canceled may apply for re-recognition, provided it has corrected the non-conformances, which resulted in cancellation, and the Register is able to confirm it has effectively implemented the corrective action.

#### **8.3.1.2.7 Supervision for services provided by the recognized TM firm.**

The fact of supervision and performance of works in compliance with the requirements of the RS normative documents shall be certified by signature and stamp of the RS surveyor on the cover page of thickness measurement report (refer to 8.3.1.2.5).

### **8.3.2 Requirements for firms engaged in tightness testing of closing appliances such as hatches, doors etc. with ultrasonic equipment (code 22002000).**

**8.3.2.1** Extent of engagement — ultrasonic tightness testing of closing appliances such as hatches, doors etc.

#### **8.3.2.2 Operators.**

The operator shall have the following qualifications:

have knowledge of different closing appliances, including their design, functioning and sealing features;

have experience with the operation and maintenance of different closing appliances;

be able to document theoretical and practical training onboard in using the ultrasonic equipment specified.

**8.3.2.3 Equipment.**

It shall be demonstrated for the RS surveyor that the equipment is fit for the purpose of detecting leakages in losing appliances such as hatches, doors etc.

**8.3.2.4 Procedures.**

The supplier shall have documented work procedures, which shall include the manual for the ultrasonic equipment specified, its adjustment, maintenance, operation and approval criteria.

**8.3.3 Requirements for firms carrying out an in-water survey on ships and offshore installations by diver or remotely operated vehicle (ROV) (code 22003000).**

**8.3.3.1** Extent of engagement — in-water survey in lieu of a docking survey and/or the internal hull survey of compartments filled with water on ships and offshore installations by diver or ROV.

**8.3.3.2 Training of personnel.**

The firm is responsible for the qualification of its divers, ROV operators and supervisors and for their training in the use of the equipment utilised when carrying out inspection. Knowledge of the following shall be documented:

- ship's underwater structure and appendages, propeller shaft, propeller, rudder and its bearings, etc.;

- non-destructive testing in accordance with a recognized national or international industrial NDT standard. This requirement only applies if an in-water survey firm performs non-destructive testing (visual testing (VT), ultrasonic testing (UT) (ultrasonic thickness measurements), etc.);

- certification as a firm when conducting thickness measurements under water on ships and offshore installations;

- bearing clearance measurements on rudders and propeller shaft;

- underwater video monitoring with TV-monitors on deck, as well as still picture work;

- operation of underwater communication system;

- any special equipment necessary for the work carried out.

**8.3.3.3** A plan for training of personnel in the reporting system, minimum requirements of the RS rules for relevant ship and offshore installation types, ship's and offshore installation's underwater structure, measuring of bearing clearances, the recognition of corrosion damage, buckling and deteriorated coatings, etc. shall be included.

**8.3.3.4 Supervisor.**

**8.3.3.4.1 Diving supervisor.**

Diving supervisor shall be qualified according to the firm's general requirements and shall have a minimum of two years' experience as a diver carrying out inspection.

**8.3.3.4.2 ROV supervisor.**

ROV supervisor shall have a minimum of two (2) years of experience conducting inspections with ROVs.

**8.3.3.5 Divers and operators.**

**8.3.3.5.1 Divers carrying out inspection.**

The diver carrying out the inspection shall have had at least one year's experience as an assistant diver carrying out inspections (including participation in a minimum of 10 different assignments).

**8.3.3.5.2 ROV operators.**

ROV operators shall have at least one year of experience working with ROVs conducting inspections on ships and offshore installations.

**8.3.3.6 Equipment.**

**8.3.3.6.1** The following shall be available for firms:

- closed circuit colour television with sufficient illumination equipment;

- two-way communication between diver and surface staff;

- video recording device connected to the closed circuit television;

- still photography camera;

- equipment for carrying out thickness gauging, non-destructive testing and measurements (e.g. clearances, indents, etc., as relevant to the work to be performed);

- equipment for cleaning of the hull.

**8.3.3.6.2** In addition to above 8.3.3.6.1, the following shall be available for firms carrying out survey by ROV:

ROV;

adequate controls or programming for the ROV functions required.

**8.3.3.7** Procedures and guidelines.

**8.3.3.7.1** The firm shall have documented operational procedures and guidelines for how to carry out the inspection and how to handle the equipment. These shall include:

two-way communication between diver and surface;

video recording and closed circuit television operation;

guidance of the diver along the hull to provide complete coverage of the parts to be inspected.

**8.3.3.7.2** In addition to above 8.3.3.7.1, documented operational procedures and guidelines for firms carrying out in-water survey by ROV shall also include:

guidance for the operation and maintenance of ROV, if applicable;

methods and equipment to ensure the ROV operator can determine the ROV's location and orientation in relation to the ship or offshore installation.

**8.3.3.8** Verification of services rendered by the recognized firm.

All in-water surveys of ships and offshore installations shall be performed by the firm under supervision of the RS surveyor. The firm shall have the surveyor's verification of each separate job performed in accordance with the RS normative documents, documented in the report of the firm by the attending surveyor(s) signature and stamp.

**8.3.4 Requirements for firms engaged in inspection and maintenance of fire-extinguishing equipment and systems (code 2200400MK).**

**8.3.4.1** Extent of engagement.

Inspections and maintenance of fire-extinguishing equipment and systems such as fixed fire extinguishing systems, portable fire extinguishers and fire detection and alarm systems.

**8.3.4.2** Files of the firm documents.

**8.3.4.2.1** The firm shall have access to the following documents:

.1 manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

.2 Type Approval Certificates showing any conditions that may be appropriate during the servicing and/or maintenance of fire-extinguishing equipment and systems;

.3 SOLAS, MSC.1/Circ.1318 "Guidelines for the Maintenance and Inspections of Fixed Carbon Dioxide Fire-Extinguishing Systems", International Code for Fire Safety Systems (FSS Code), ISO 6406 "Periodic Inspection and Testing of Seamless Steel Gas Cylinders", and any documentation specified in the authorization or license from the equipment manufacturer;

.4 MSC/Circ.670 "Guidelines for the Performance and Testing Criteria and Surveys of High Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems";

.5 MSC/Circ.798 "Guidelines for the Performance and Testing Criteria and Surveys of Medium Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems";

.6 MSC/Circ.799 "Guidelines for the Performance and Testing Criteria and Surveys of Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems of Chemical Tankers";

.7 MSC.1/Circ.1312 "Revised Guidelines for the Performance and Testing Criteria and Surveys of Foam Concentrates for Fixed Fire-Extinguishing Systems as corrected by MSC/Circ.1312/Corr.1";

.8 MSC.1/Circ.1432 "Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances";

.9 IMO resolution A. 951(23) "Improved Guidelines for Marine Portable Fire Extinguishers";

.10 MSC.1/Circ.1370 "Guidelines for the Design, Construction and Testing of Fixed Hydrocarbon Gas Detection Systems";

.11 Guidelines adopted by IMO for fire-extinguishing equipment and systems specifically intended for service by service suppliers.



**8.3.4.2.2** In addition to the documents listed in 8.3.4.2.1, the firm shall have applicable documents specified in 4.3, Part IV "Technical Supervision during Manufacture of Products" as well as recognized international and/or national standards prescribing the requirements and test procedures for items under technical supervision.

**8.3.4.3** Extent of recognition.

**8.3.4.3.1** Representatives of the firm shall have professional knowledge of fire theory, fire-fighting and fire-extinguishing appliances sufficient to carry out the maintenance and/or inspections, and to make the necessary evaluations of the condition of the equipment.

**8.3.4.3.2** In demonstrating professional knowledge, representatives of the firm shall have an understanding of the various types of fires and the extinguishing media to be used on them.

**8.3.4.3.3** For fixed fire-extinguishing systems, representatives of the firm shall demonstrate an understanding of the principles involved with gas, foam, deluge, sprinkler and water-mist systems, as relevant for the approval being sought.

**8.3.4.4** Procedures.

The firms shall have documented procedures and instructions on how to carry out the servicing of the equipment and/or system. These are to either contain or make reference to the manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate, and to international requirements. Additionally they shall make reference to valid requirements (e.g. what markings shall be appended to the equipment/system).

**8.3.4.5** Equipment and facilities.

**8.3.4.5.1** General requirements.

If the firms undertake shore-based inspecting and maintenance, they shall maintain and implement procedures for workshop cleanliness, ventilation and arrangement, with due cognizance of the spares and extinguishing media being stored, to ensure safe and effective working procedures. The firms undertaking inspecting and maintenance of equipment and systems onboard shall provide the appropriate facilities to either complete the work onboard or remove the necessary items to their workshops.

**8.3.4.5.2** Equipment.

Sufficient and appropriate spares and tools shall be available as applicable, which shall include:

- .1 various scales to weigh items;
- .2 means to hydrostatically pressure test components/systems/storage bottles;
- .3 liquid/gas, flow meters, as appropriate;
- .4 pressure gauges;
- .5 in the cases of foam concentrates and portable fire-extinguishers, chemical analysis equipment and a testing bay, respectively; and
- .6 specific equipment/spares as may be specified by the manufacturer;
- .7 level measuring equipment for bottles;
- .8 recharging facilities for pressurized bottles, extinguishers and cartridges.

**8.3.5 Requirements for firms engaged in survey and maintenance of life-saving appliances (codes 22005001MK, 22005002, 22005003MK, 22005006MK, 22005007MK, 22005008, 22005009, 22005010MK).**

**8.3.5.1** Extent of engagement.

.1 servicing of inflatable liferafts, inflatable lifejackets, hydrostatic release units and/or inflated rescue boats;

.2 servicing of marine evacuation systems.

**8.3.5.2** Equipment and facilities.

IMO resolution A.761(18) as amended by IMO resolution MSC.55(66) gives recommendations on conditions for the approval of servicing stations for inflatable liferafts which shall be observed as relevant.

Where inflatable liferafts are subject to extended service intervals, MSC.1/Circ.1328 shall also be followed.

**8.3.5.3** Procedures and instructions.

The firm shall have documented procedures and instructions for how to carry out service of equipment. Where inflatable liferafts are subject to extended service intervals in accordance with the requirements of

SOLAS Regulation III/20.8.3, MSC.1/Circ.1328 shall be followed in addition to IMO resolution A.761(18) as amended by IMO resolution MSC.55(66).

**8.3.5.4** The firm shall provide evidence that it has been authorised or licensed to service the particular makes and models of equipment for which recognition is sought by the equipment's manufacturer.

**8.3.5.5** Reference documents.

The firm shall have access to the following documents:

**.1** IMO resolution A.761(18) "Recommendation on Conditions for the Approval of Servicing Stations for Inflatable Liferafts" (adopted on 4 November 1993), amended by IMO resolution MSC.55(66);

**.2** IMO resolution MSC.55(66);

**.3** MSC.1/Circ.1328 "Guidelines for the Approval of Inflatable Liferafts Subject to Extended Service Intervals Not Exceeding 30 Months";

**.4** manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

**.5** Type Approval Certificates, showing any conditions that may be appropriate during the servicing and/or maintenance of inflatable liferafts, inflatable rescue boats, inflatable lifejackets, and hydrostatic release units;

**.6** International Life-Saving Appliances Code (LSA Code) Chapter IV, 1995 SOLAS Conference Resolution 4 regarding marine evacuation systems.

**8.3.6 Requirements for firms engaged in survey and maintenance of life-saving appliances (codes 22005004, 22005005, 22005011, 22005012, 22005013).**

**8.3.6.1** The firms engaged in activities with codes 22005011 (weak link, automatic gas inflation system), 22005013, shall meet applicable requirements of IMO resolution A.761(18) as amended by IMO resolution MSC.55(66).

**8.3.6.2** The firm shall have documented procedures and instructions on methods of equipment maintenance. The procedures shall include requirements to record the nature and dimensions of damages as well as defects revealed during maintenance and repair. The shipowner shall be notified of all revealed defects affecting the further use of this equipment. In case of differences, relevant information from the firm (service supplier) shall be forwarded to the nearest RS Branch Office to settle the differences. These data shall be made available to the Register upon request.

**8.3.6.3** The firm engaged in servicing and maintenance of rigid-hull/combined rescue boats/fast rescue boats (code 22005013) shall provide evidence that it has been authorised or licensed to serve the particular types and models of equipment by the equipment manufacturer.

**8.3.7 Requirements for firms engaged in servicing and inspection of radio and navigational equipment with codes 22006000 (22006001 — 22006008MK).**

**8.3.7.1** Special requirements for firms engaged in activities with codes 22006001, 22006003, 22006004MK and 22006007MK.

**8.3.7.1.1** Legal status.

The firm shall submit agreements with the equipment manufacturers entitling the firm to perform specific kinds of activities and laying down the procedure for providing the firm with spare parts.

**8.3.7.1.2** Personnel.

The firm shall submit documents certifying that the firm's personnel have completed training in the equipment manufacturer's premises entitling them to perform specific kinds of activity.

**8.3.7.2** Requirements for firms engaged in inspection of radio and navigational equipment (codes 22006002MK, 22006008MK).

**8.3.7.2.1** Extent of engagement.

Inspection and tests of radio equipment and automatic identification system (AIS) on board ships or mobile offshore drilling units for compliance with SOLAS 74/78 as amended.

**8.3.7.2.2** Reference documents.

The firm shall have access to the following documents:

**.1** SOLAS 74, as amended;

**.2** IMO resolution A.789(19) "Specification on the Survey and Certification Functions of Recognised Organisations Acting on Behalf of the Administration";

.3 MSC.1/Circ.1252 "Guidelines on Annual Testing of the Automatic Identification System (AIS)";

.4 SN/Circ.227, SN/Circ.227/Corr.1 and SN/Circ.245 "Guidelines for the Installation of a Shipborne Automatic Identification System (AIS)" and amendments thereto;

.5 ITU Radio Regulations;

.6 IMO Performance Standards for radio communication equipment;

.7 Flag State Administration requirements;

.8 relevant parts, if any, of the Register rules and guidelines.

**8.3.7.2.3 Supervisor.**

The supervisor shall have a minimum two years education from a technical school, experience as inspector, and shall preferably hold a General Operator's Certificate (GOC) or a GMDSS Radioelectronic Certificate (REC), recognised by the ITU, to operate or test radio transmitters. He shall be aware of any local conditions for radio signal propagation, of regional radio stations and their facilities, and of the GMDSS infrastructure.

**8.3.7.2.4 Radio inspector.**

The inspector carrying out the inspection shall have passed the internal training of the supplier in Radiotelephony, GMDSS, and initial and renewal surveys, as applicable. The inspector shall also have at least one year's technical school training or as alternative hold evidence that he followed a technical course approved by the relevant Administration, at least one year's experience as an assistant radio inspector and should preferably hold an appropriate National Radio Operators Certificate, recognised by the ITU, such as a GMDSS General Operator's Certificate (GOC) or a GMDSS Radioelectronic Certificate (REC). He shall be aware of any local conditions for radio signal propagation, of regional radio stations and their facilities, and of the GMDSS infrastructure.

**8.3.7.2.5 Equipment.**

**8.3.7.2.5.1** The firm shall have the major and auxiliary equipment required for correctly performing the inspection. A record of the equipment used shall be kept. The record shall contain information on manufacturer and type of equipment, and a log of maintenance and calibrations.

**8.3.7.2.5.2** A standard which is relevant to the radio equipment to be tested shall be available for the equipment and shall be cited in the inspection report.

**8.3.7.2.5.3** For equipment employing software in conjunction with the testing/examination, this software shall be fully described and verified.

**8.3.7.2.5.4 Minimum required instruments:**

.1 equipment for measuring frequency, voltage, current and resistance;

.2 equipment for measuring output and reflect effect on VHF and MF/HF;

.3 equipment for measuring modulation on MF/HF and VHF;

.4 acid tester for checking specific gravity of lead batteries;

.5 equipment for testing the performance of automatic identification system (AIS).

**8.3.7.2.6 Procedures and instructions.**

The firm shall have documented procedures and instructions for how to carry out testing and examination of radio equipment. Procedures and instructions for operating each item of the testing/inspection equipment shall also be kept and be available at all times.

**8.3.7.3 Firms engaged in annual performance testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR) in accordance with SOLAS Chapter V Regulation 18.8 (code 22006004MK).**

**8.3.7.3.1 Extent of engagement.**

Testing and servicing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR) in accordance with SOLAS Chapter V Regulation 18.8 and MSC.1/Circ.1222 "Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)", as applicable.

**8.3.7.3.2** The firm shall provide evidence that he has been authorised or licensed by the equipment's manufacturer to service the particular makes and models of equipment for which recognition is sought.

**8.3.7.3.3** Where the firm is also the manufacturer of VDR or S-VDR and has elected to apply MSC.1/Circ.1222 in its entirety for the purpose of acting as a service supplier engaged in annual performance testing, the following shall apply:

**.1** the manufacturer is responsible for appointing manufacturer's authorised service stations to carry out annual performance testing;

**.2** the manufacturer is required to be a recognized service supplier and shall satisfy the requirements for the firms engaged in annual performance testing of VDR and S-VDR, as applicable;

**.3** the manufacturer's authorised service station is not required to be a recognized service supplier;

**.4** the manufacturer shall demonstrate that MSC.1/Circ.1222 is applied in its entirety.

**8.3.7.3.4** Procedures.

**8.3.7.3.4.1** The firm shall have documented procedures and instructions.

**8.3.7.3.4.2** Where the firm is also the manufacturer of VDR or S-VDR and has selected to apply MSC.1/Circ.1222 in its entirety for the purpose of acting as a service supplier engaged in annual performance testing, the following shall apply:

**.1** the manufacturer shall have documented procedures for the assessment and authorization of manufacturer's authorised service stations who carry out annual performance testing;

**.2** the manufacturer shall have documented procedures for the review of manufacturer's authorised service stations annual performance test reports, analysis of the VDR/S-VDR 12-hour log and the issue of annual performance test certificates to the shipowner/operator;

**.3** the manufacturer shall maintain a list of manufacturer's authorised service stations that can be accessed (by any available means, e.g. via a nominated contact point or from the manufacturer's website) upon request.

**8.3.7.3.5** Reference documents.

**8.3.7.3.5.1** The service supplier shall have access to the following documents:

**.1** IMO — SOLAS 74/78, Chapter V, Regulation 18.8 "Approval, Surveys and Performance Standards of Navigational Systems and Equipment and Voyage Data Recorder";

**.2** MSC.1/Circ.1222 "Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)" (11 December 2006);

**.3** IMO resolution A.861(20) as amended by IMO resolutions MSC.214(81) and MSC.333(90);

**.4** IMO resolution MSC.163(78) "Performance Standards for Shipborne Simplified Voyage Data Recorders (S-VDRs)" (adopted on 17 May 2004) as amended by IMO resolution MSC.214(81).

**8.3.7.3.5.2** The service supplier shall have access to applicable industry performance standards, e.g.:

**.1** IEC 61996 "Maritime Navigation and Radio Communication Equipment and Systems — Shipborne Voyage Data Recorder (VDR)";

**.2** IEC 61996-2 "Maritime Navigation and Radio Communication Equipment and Systems — Shipborne Voyage Data Recorder (VDR) — Part 2: Simplified Voyage Data Recorder (S-VDR) — Performance Requirements, Method of Testing and Required Test Results".

**8.3.7.3.5.3** The service supplier shall also have access to any documentation specified in the authorization or license from the equipment manufacturer.

**8.3.7.3.6** Equipment and facilities.

The service supplier shall have equipment as specified in the authorization or license from the equipment manufacturer.

**8.3.7.3.7** Reporting — Test Report.

**8.3.7.3.7.1** The firm shall issue a certificate of compliance as specified in SOLAS 74, as amended, Chapter V, Regulation 18.8.

**8.3.7.3.7.2** Annual performance test of VDR and S-VDR shall be recorded in the form of the model test report given in the Appendix to MSC.1/Circ.1222, signed and stamped by the firm and attached to the annual performance test certificate.

**8.3.7.3.7.3** Where the service supplier is also the manufacturer of VDR/S-VDR and has selected to apply MSC.1/Circ.1222 "Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified

Voyage Data Recorders (S-VDR)" in its entirety for the purpose of acting as a service supplier engaged in annual performance testing, the manufacturer shall make arrangements for the following:

- .1 review of the manufacturer's authorised service station annual performance test report;
- .2 analysis of the recorder's 12-hour log;
- .3 checking of the master record/database for the recorder.

**8.3.7.3.7.4** Issue of the annual performance test certificate to the shipowner/operator within 45 days of completion of the annual performance test.

**8.3.7.4** Requirements for firms engaged in shore-based servicing and testing of EPIRBs of COSPAS-SARSAT satellite system (code 22006006MK, 22006007MK).

**8.3.7.4.1** Extent of engagement.

Shore-based servicing emergency radio beacons (EPIRB-406) of the COSPAS-SARSAT satellite system. Annual tests of EPIRBs of COSPAS-SARSAT satellite system.

**8.3.7.4.2** Operator.

The firm personnel shall undergo the relevant training and hold the Certificate for EPIRB manufacturer confirming its right for EPIRB-406 shore-based servicing performance.

**8.3.7.4.3** Equipment.

The firm shall have the following:

.1 set of calibrated equipment for servicing the EPIRB-406 in accordance with the provisions of MSC/Circ.1039;

.2 screened room or the relevant screening equipment preventing the transmission of a signal from the EPIRB-406 being checked to a satellite;

.3 set of spare parts, spare supply units approved by the manufacturer, as well as the reserve stock of EPIRB-406 in amounts agreed with the manufacturer (for a temporary EPIRB-406 replacement on a ship for a period of servicing).

**8.3.7.4.4** Procedures and guidelines.

The firm shall have the following:

.1 documented operating procedures and guidelines regulating EPIRB-406 servicing performance;

.2 log of servicing with details of the scope of inspections carried out and the components replaced;

.3 set of technical documentation for those types of EPIRB-406, which the firm is authorised to service;

.4 service-bulletins distributed by the EPIRB-406 manufacturer;

.5 last version of the software provided by the EPIRB-406 manufacturer or the manufacturer of the equipment used during inspection, as well as access to the renewal of that software.

**8.3.7.4.5** Confirmation of authorities.

Firms shall present the confirmation of authority, i.e. contractual relations with the manufacturer for supply of spare parts, power supply units and consumables, as well as the document authorizing shorebased servicing performance for the specific EPIRB-406 type(s) on behalf of the EPIRB-406 manufacturer.

**8.3.7.4.6** Annual testing of EPIRB-406.

Annual tests of EPIRB-406 shall be performed according to IMO circulars MSC.1/Circ.1040/Rev.1 and/or MSC.1/Circ.1123.

**8.3.8 Requirements for firms engaged in surveys and maintenance of self-contained breathing apparatus (code 22008000MK).**

**8.3.8.1** Extent of engagement.

Inspections and maintenance of self-contained breathing apparatus and emergency escape breathing devices (EEBD).

**8.3.8.2** The firm shall document and demonstrate that it has knowledge of the equipment and systems sufficient to carry out the inspections and testing of self-contained breathing apparatus to identify standards and to make the necessary evaluation of the condition of the equipment.

In demonstrating professional knowledge, firms shall have an understanding of the operational requirements involved with self-contained breathing apparatus and how these shall be maintained.

Additionally, the firms shall demonstrate the necessary safety requirements applicable to such equipment.

**8.3.8.3 Files of the firm documents.**

The firm shall have documented procedures and instructions on how to carry out the servicing of the equipment and/or system. These are to either contain or make reference to the manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate.

Additionally they shall make reference to any requirements (e.g. what markings shall be appended to the equipment/system) and how they shall be applied.

**8.3.8.4 Reference documents.**

The firm shall have access to the following documents:

manufacturers' servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

Type Approval Certificates showing any conditions, which may be appropriate during the servicing and/or maintenance of self-contained breathing apparatus.

**8.3.8.5 Equipment and facilities.**

**8.3.8.5.1 General requirements.**

If firms undertake shore-based inspecting and maintenance, they shall maintain and implement procedures for workshop cleanliness, ventilation and arrangement, with due cognisance of the spares and pressurised bottles being stored, to ensure safe and effective working procedures.

The firms undertaking inspecting and maintenance of equipment and systems onboard shall provide the appropriate facilities to either complete the work onboard or remove the necessary items to their workshops.

**8.3.8.5.2 Equipment.**

Sufficient and appropriate spares and tools shall be available for repair, maintenance and servicing of self-contained breathing apparatus in accordance with the requirements of the manufacturers.

These shall include, as required by the self-contained breathing apparatus equipment and/or systems:

- .1 various scales to weigh items;
- .2 means to hydrostatically pressure test components/systems/storage bottles;
- .3 flow meters;
- .4 pressure gauges;
- .5 equipment for checking air quality;
- .6 recharging facilities for breathing apparatus.

**8.3.9 Requirements for firms engaged in examination of ro-ro ships bow, stern, side and inner doors (code 22012000).**

**8.3.9.1 Extent of engagement.**

Inspection of securing and locking devices, hydraulic operating system, electric control system for the hydraulics, electric indicator systems, and supporting, securing and locking devices and tightness testing.

**8.3.9.2 The firm shall be certified to the most current version of ISO 9000 series.**

**8.3.9.3 Reference documents.**

The firm shall have access to the following reference documents:

SOLAS 74/78, as amended;

ISO 9001 "Quality systems — Model for quality assurance in production, installation and servicing";

IACS Unified Requirement (UR) Z24 "Survey Requirements for Shell and Inner Doors of Ro-Ro Ships";

the Register normative documents related to inner doors.

**8.3.9.4 Supervisor.**

In addition to 8.2.3, a technician/supervisor shall have a minimum two years related education from a technical school.

**8.3.9.5 Training of personnel.**

Operators carrying out non-destructive testing shall be qualified to a recognised national or international standard for the methods used.

**8.3.9.6 Required equipment.**

**8.3.9.6.1** For inspection of supporting securing and locking devices, hinges and bearings, the equipment for measuring clearances (i.e. feeler gauges, vernier calipers, micrometers) shall be provided.

Inspection shall be performed by non-destructive testing (i.e. dye penetrant, magnetic particle inspection).

**8.3.9.6.2** For tightness testing ultrasonic leak detector or equivalent shall be provided.

**8.3.9.6.3** For inspection of hydraulic operating system, the following shall be provided:

pressure gauges;

particle counter for analysing the quality of hydraulic fluid.

**8.3.9.6.4** For inspection of electric control system and indication system, the following shall be provided:

digital multi-meter;

earth fault detector.

**8.3.9.7 Procedures and instructions.**

**8.3.9.7.1** The supplier shall have access to drawings and documents, including the Operating and Inspection Manual.

**8.3.9.7.2** The firm shall have access to access to the service history of the doors.

**8.3.9.7.3** The supplier shall use, complete and sign a checklist which has been found acceptable by the Register.

**8.3.10 Requirements for firms engaged in inspections of low location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems (code 22015000MK).**

**8.3.10.1 Extent of engagement.**

Luminance measurements on board ships of low location lighting systems using photo luminescent materials.

**8.3.10.2 Operators.**

The operator shall have the appropriate qualification, adequate knowledge of the applicable international requirements (namely SOLAS 74/78/00, regulation II-2/13.3.2.5, IMO resolution A.752(18), ISO 15370-2010, FSS Code Chapter 11), shall be able to document theoretical and practical training onboard in using equipment specified.

**8.3.10.3 Equipment.**

The measuring instrument shall incorporate a fast-response photometer head with CIE (International Commission on Illumination) photopic correction and have a measurement range of at least  $10^{-4}$  to  $10 \text{ cd/m}^2$ .

**8.3.10.4 Procedures.**

Documented work procedures are at least to contain information on inspection preparation, selection and identification of test locations.

**8.3.10.5 Reporting.**

The report shall conform to Annex C of ISO 15370-2010.

**8.3.10.6 Verification.**

The supplier shall have the RS surveyor's verification of each separate job, documented in the report by the attending surveyor's signature.

**8.3.10.7 Reference documents.**

The service supplier shall have access to the following documents:

**.1** IMO — SOLAS 74/78, Chapter II-2, Part D, Regulation 13.3.2.5 "Marking of escape routes";

**.2** IMO — Fire Safety Systems (FSS Code), Chapter 11 "Low-location lighting systems";

**.3** IMO resolution A.752(18) "Guidelines for the Evaluation, Testing and Application of Low-Location Lighting on Passenger Ships" (adopted on 4 November 1993);

**.4** ISO 15370:2010 "Ships and Marine Technology — Low-Location Lighting on Passenger Ships — Arrangement";

**.5** MSC/Circ.1168 "Interim Guidelines for the Testing, Approval and Maintenance of Evacuation Guidance Systems Used as an Alternative to Low-Location Lighting Systems".

**8.3.11 Requirements for firms engaged in sound pressure level measurements of public address and general alarm systems on board ships (code 22016000MK).**

**8.3.11.1** Extent of engagement.

Sound pressure level measurements of public address and general alarm systems on board ships.

**8.3.11.2** Operators.

The operator shall have the appropriate qualification, have adequate knowledge of the applicable international requirements (namely, regulations III/4 and III/6 of SOLAS 74/78, as amended, LSA Code, Chapter VII/7.2, Code on Alarms and Indicators, 1995), shall be able to document theoretical and practical training onboard in using equipment specified.

**8.3.11.3** Equipment.

The measuring instrument shall be an integrating sound level meter with frequency analyser capabilities complying with IEC 60651 and IEC 691672, type 1 precision class with, at least an A-weighting frequency response curve and 1/3 octave and 1 octave band filters, complying to IEC 61260, as appropriate for the measurements to be carried out. In addition, microphones shall be of the random incidence type, complying with IEC 60651.

**8.3.11.4** Procedures.

Documented work procedures are at least to contain information on inspection preparation, calibration, selection and identification of test locations.

**8.3.11.5** Reporting.

The report shall describe, as a minimum, the environmental conditions of the tests and, for each test location, the ambient noise level or the speech interference level, as appropriate for the measurements to be carried out. The report shall conform to any other specific requirement of the Register.

**8.3.11.6** Verification.

The supplier must have the RS surveyor's verification of each separate job, documented in the report by his signature.

**8.3.11.7** Reference documents.

The service supplier shall have access to the following documents:

- .1 SOLAS 74/78, Chapter III, Part A, Regulation 4 "Evaluation, Testing and Approval of Life-Saving Appliances and Arrangements";
- .2 SOLAS 74/78, Chapter III, Part B, Regulation 6 "Communications";
- .3 LSA Code, Chapter VII, Regulation 7.2 "General Alarm and Public Address System";
- .4 Code on Alarms and Indicators, 1995 as amended;
- .5 IEC 60651 (2001-10) "Sound Level Meters";
- .6 IEC 61672 "Electroacoustics — Sound Level Meters";
- .7 IEC 61260 "Electroacoustics — Octave-Band and Fractional-Octave-Band Filters".

**8.3.12 Requirements for firms engaged in the servicing and maintenance of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks (code 22021000MK).**

**8.3.12.1** Extent of engagement.

Thorough examination, maintenance, repair and testing of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks.

**8.3.12.2** Extent of recognition.

**8.3.12.2.1** The contents of this procedure apply equally to manufacturers when they are acting as service suppliers.

**8.3.12.2.2** Any firm engaged in the thorough examination, maintenance, repair, inspections and testing of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks carried out in accordance with SOLAS 74 regulation III/20 shall be qualified in these operations for each make and type of the equipment for which they provide the service, and provide RS with the manufacturer's documentary evidence that they have been so authorized or they are certified in accordance with IMO circular MSC.1/Circ.1277, as amended.



**8.3.12.3** In cases where an equipment manufacturer is no longer in business or no longer provides technical support, the firm may be authorised for the equipment on the basis of prior authorization for the equipment and/or long term experience and demonstrated expertise as an authorized service provider.

**8.3.12.4** Qualifications and training of personnel.

The firm personnel shall be trained and qualified in the operations, for which they are authorised, for each make and type of equipment, for which they provide the service. Such training and qualification shall include the following, as a minimum.

**8.3.12.4.1** Employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification program. In either case, the certification program shall be based on the guidelines in the appendix for each make and type of equipment, for which service shall be provided.

**8.3.12.4.2** The education and training for initial certification of personnel shall be documented and address, as a minimum:

- .1 causes of lifeboat accidents;
- .2 relevant rules and regulations, including international conventions;
- .3 design and construction of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks;
- .4 education and practical training in the procedures specified in Annex 1 of IMO circular MSC.1/Circ.1206/Rev.1, for which certification is sought;
- .5 detailed procedures for thorough examination and inspection, maintenance, testing and repair of lifeboats, including launching appliances and on-load release gear, as well as on-load release gear and davit-launched liferaft automatic release hooks, as applicable;
- .6 procedures for issuing a report of service and statement of fitness for purpose based on IMO circular MSC.1/Circ.1206/Rev.1 (Annex 1, paragraph 15).

**8.3.12.5** The education and training for the personnel shall include practical technical training on actual inspection, maintenance, repair and testing using the equipment (lifeboats, launching appliances and/or on-load release gear), for which the personnel shall be certified. The technical training shall include disassembly, reassembly, correct operation and adjustment of the equipment.

Classroom training shall be supplemented by field experience in the operations, for which certification is sought, under the supervision of an experienced senior certified person.

**8.3.12.6** At the time of initial certification and at each renewal of certification, the firm shall provide documentation to verify personnel's satisfactory completion of a competency assessment using the equipment, for which the personnel are certified.

**8.3.12.7** The service supplier shall require refresher training as appropriate to renew the certification.

**8.3.12.8** Reference documents.

The service supplier shall have access to the following documents:

- .1 IMO circular MSC.1/Circ.1206/Rev.1, as amended, "Measures to Prevent Accidents with Lifeboats";
- .2 IMO circular MSC.1/Circ.1277, as amended, "Interim Recommendation on Conditions for Authorization of Service Providers for Lifeboats, Launching Appliances and On-Load Release Gear";
- .3 IMO resolution A.689(17) "Recommendation on Testing of Life-Saving Appliances" and, for life-saving appliances installed on board on or after 1 July 1999;
- .4 IMO resolution MSC.81(70) "Revised Recommendation on Testing of Life-Saving Appliances", as amended;
- .5 for servicing and repair work involving disassembly or adjustment of on-load release mechanisms, availability of the equipment manufacturer's specifications and instructions;
- .6 Type Approval Certificate showing any conditions that may be appropriate during the servicing and/or maintenance of lifeboats, launching appliances and on-load release gear.

**8.3.12.9** Equipment and facilities.

**8.3.12.9.1** The firm shall have access to the following:

- .1 sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;

.2 sufficient materials, spare parts and accessories as specified by the equipment manufacturer for repairing lifeboats, launching appliances and on-load release gear, as applicable;

.3 for servicing and repair work involving disassembly or adjustment of on-load release mechanisms, availability of genuine replacement parts as specified or supplied by the equipment manufacturer.

**8.3.12.10 Reporting.**

The report shall conform to the requirements of IMO circular MSC.1/Circ.1206/Rev.1 (Annex 1, paragraph 15). When repairs, thorough examinations and annual servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the firm.

**8.3.13 Requirements for firms engaged in underwater thickness measurements of ships and offshore installations under supervision of RS surveyor (code 22022000).**

**8.3.13.1 Firm.**

The firm shall comply with requirements for firms engaged in in-water surveys of ships and offshore installations (code 22003000) and in thickness measurements of ships under supervision of RS surveyor (code 22001000).

**8.3.13.2 Personnel.**

**8.3.13.2.1** In addition to the requirements in 8.3.1, the personnel involved in underwater thickness measurements of ships shall be qualified both as a diver and an operator/supervisor on thickness measurements (refer to 8.3.3).

**8.3.13.2.2** In addition to applicable requirements in 8.3.1.1, divers-operators/supervisors on thickness measurements shall have a Certificate of Vocational Training (form 7.1.34), confirming that they are trained in thickness measurements on board ships.

**8.3.13.2.3** For underwater thickness measurements, special-purpose instruments shall be used capable of providing at least the following:

metal thickness measurements without preliminary preparation of the surface and removal of protective coating;

option to use the equipment together with the data display and storage unit on board the ship such as digital repeater or personal computer with customized software. The thickness gauge data shall be transmitted to the ship through a connecting cable and displayed on a digital repeater or a personal computer to facilitate monitoring of thickness measurements by the RS surveyor.

**8.3.14 Special requirements for firms engaged in expertise of safe carriage of bulk cargoes by sea (code 22023000MK).**

**8.3.14.1** Recognition Certificate (CII) is issued for a period of up to 5 years and is subject to annual endorsement.

**8.3.14.2** The firm whose recognition was cancelled due to major nonconformities of the firm activity with the RS requirements, may apply for re-recognition, provided it complies with the requirements of 8.1.5.3. With this regard, the Register shall carry out direct supervision of the firm activity for 5 years.

**8.3.14.3** In making a decision on the possibility of service rendering by the firm in compliance with the RS requirements for safe navigation, the following shall be considered:

.1 competence and qualification of the firm's personnel in compliance with the requirements of 8.2.2 — 8.2.11 and 8.3.14;

.2 previous activity of the firm in the area indicated in the request;

.3 review results of the current activity of the firm on implementation of provisions of the international contracts of the Russian Federation (RF) and the RF legislation in the area of merchant shipping and marine environment protection;

.4 results of control and supervision over the firm activity by the authorized RF bodies;

.5 complaints by citizens, public organizations and other interested persons, including foreign ones, as regards the firm activity.

**8.3.14.4 Legal status.**

**8.3.14.4.1** The firm and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. The firm and its personnel involved in this

kind of activity shall not interact with the developer, manufacturer, supplier, purchaser, owner, user or accompanying person (forwarder/agent), shipowner and underwriter or any representative thereof.

**8.3.14.4.2** The firm activities on expertise of safe carriage of bulk cargoes by sea shall be independent on any other kind of commercial activities.

**8.3.14.4.3** The firm shall have representatives in all sea basins to ensure the possibility of service rendering in all RF ports for handling bulk cargoes.

**8.3.14.5** Personnel.

**8.3.14.5.1** The firm shall have a sufficient number of technical, managing and attending personnel capable of providing up-to-date expertise of safe carriage of bulk cargoes by sea including those specialized in the following areas:

- .1 cargo carriage by sea;
- .2 analysis of physical and chemical properties of bulk cargoes;
- .3 general ship design and arrangement.

**8.3.14.5.2** The firm personnel involved in development of Declarations of the Transportation Characteristics and Conditions for the Safe Shipment of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading as well as in development and implementation of the procedures for sampling, testing and controlling the moisture content shall have:

- .1 higher education and field-specific continuing professional education corresponding to the area of recognition;
- .2 appropriate skills and competence with regard to the expertise of safe carriage of bulk cargoes by sea and monitoring of safety precautions during the cargo carriage by sea;
- .3 confirmed work experience in expertise of safe carriage of bulk cargoes by sea and development of Declarations on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading not less than 3 years.

**8.3.14.5.3** The firm shall have at least five employees involved in full-time activities complying with 8.3.14.5.2.

**8.3.14.5.4** Employees not complying with 8.3.14.5.2 may be involved in activities, provided that they perform these activities under supervision of the employees complying with these requirements.

**8.3.14.5.5** The firm shall submit the following documents confirming fulfilment of the established requirements:

- .1 employment agreements (or their copies);
- .2 civil law agreements (or their copies);
- .3 certificates on higher education, secondary vocational education or continuing professional education (or their copies);
- .4 employment record books or their copies.

**8.3.14.6** Measurement assurance.

The firm shall incorporate a testing laboratory complying with 9.3.9 and accredited by the Federal Accreditation Service (RusAccreditation) or the International Laboratory Accreditation Cooperation (ILAC). The scope of laboratory accreditation shall cover transportable moisture limit tests (flow moisture tests).

**8.3.14.7** Files of the firm documents.

**8.3.14.7.1** The firm shall develop and keep its own register and information files of national and international rules and regulations applicable to the expertise of safe carriage of bulk cargoes by sea including cargo handling operations in ports.

**8.3.14.7.2** The firm shall have valid normative and technical documents required for performance of activities in the expertise of safe carriage of bulk cargoes by sea including the following:

- .1 national and international normative documents regulating carriage of bulk cargoes by sea;
- .2 technical regulations, interstate, state and industry standards, technical specifications, safety data sheets for materials to be declared and certified;
- .3 international and national standards regulating sampling, sample preparation and laboratory tests of materials to be declared and certified.

**8.3.14.7.3** The firm shall keep, store for a period of 10 years and submit to the Register the following records both in Russian and English:

- .1 list of the personnel authorized to perform bulk cargo sampling with their specimen signatures;
- .2 training record books for the personnel involved in sampling and sample preparation;
- .3 reports on internal review of procedures for sampling and sample preparation;
- .4 records of increments (subsamples) and representative samples;
- .5 records of calibration and maintenance of equipment for sampling and sample preparation;
- .6 reports on deviations from the approved sampling and sample preparation procedures and any modification to the procedures.

**8.3.14.8** Quality management system.

**8.3.14.8.1** The firm shall develop, implement and maintain as well as certify the quality management system for compliance with the effective version of ISO 9001 by the certification authority accredited in compliance with the effective version of ISO/IEC 17021 or its national equivalent.

**8.3.14.8.2** The firm shall develop and implement the procedures prescribing the following:

.1 development of Declaration on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading with regard to international and national normative documents as well as the Register procedures;

.2 development and implementation of procedures for sampling, testing and controlling the moisture content as per International Maritime Solid Bulk Cargoes (IMSBC Code), IMO circular MSC.1/Circ.1454;

.3 sampling and sample recording, preparation of bulk cargo samples. The procedures shall be approved by the Register, comply with the effective edition of the IMSBC Code and provide for liability of a person, involved in sampling and sample preparation, for compliance with applicable procedures and liability of the head of the firm for fulfilment of the sampling and sample preparation procedures by the personnel and assignment of only qualified personnel for the sampling. The sampling documents (reports, certificates) shall be signed by a person having directly performed the sampling.

The sampling procedure shall take into account the following:

at taking samples from each stockpile, the stockpile plan shall be drawn up and kept for a certain period of time (it may be stored in electronic form to avoid the loss and misinterpretation of information), such plan shall indicate the following:

- identification number of the stockpile plan;
- name of the ship into which the lot is loaded;
- stockpile location;
- identification of cargo (mark, grade);
- quantity of cargo in the stockpile;
- date and time of sampling commencement and completion;
- required number and size of increments (subsamples);
- location (in the stockpile) where the increment shall be taken;
- sample packaging method, seal number (during sealing), or another label identification;
- sampler's full name.

Period of storage of stockpile plans shall be not less than 1 year. The plans shall be kept at the firm division directly involved in sampling, their copies shall be made available at the firm's office;

maintenance of records of increments (subsamples) and representative samples. The records of increments (subsamples) and representative samples shall include the following information, but may not be limited to:

- terminal attendance time;
- number and size of obtained increments;
- performance location of sample preparation;
- mass of representative sample;
- stockpile plan number;
- number of seal or label on the sample.

The period of storage of records of increments (subsamples) and representative samples shall be not less than 10 years. These records shall be kept at the firm division directly involved in sampling, their copies shall be made available at the firm's office;

in case of sampling outside of the laboratory, the transport documents (contracts, delivery notes, waybills) for transportation of samples shall be kept for at least 1 year;

photographic evidence (unless prohibited by port regulations) of sampling with automatic indication of photographing date and time and automatic geotagging: photo of the filled-in stockpile plan against the stockpile from where the samples are taken, stockpile location with reference to landmarks, a general view of the stockpile, selected samples;

.4 liability of the firm management and personnel for failure to comply with international and national documents and the Register procedures when carrying out the activities on the expertise of safe carriage of bulk cargoes by sea;

.5 development and implementation of measures to prevent and settle the conflict of interest;

.6 guarantees of the firm independence from commercial, financial, administrative or other pressures that may affect the quality of the activities performed;

.7 responsibility for impartial decision-making of the firm when performing works/rendering services as well as methods to provide impartiality;

.8 disclosure of information on affiliates of the recognized firm as per antitrust laws of the Russian Federation;

.9 identification of risks related to impartiality during work, elimination and minimization of the specified risks;

.10 assurance of the firm independence from the manufacturers, sellers, executors and purchasers including consumers;

.11 requirements to firm employees regarding the obligation to notify the firm on the previous and actual relations with designers, developers, manufacturers, sellers, product (work/service) operators, or other circumstances, which may result in a potential conflict of interest.

**8.3.15 Special requirements for firms engaged in measurements of noise level onboard ships (code 22024000MK).**

**8.3.15.1** Extent of engagement.

Sound pressure level measurements onboard ships.

**8.3.15.2** Supervisor.

The supervisor shall have a minimum of 2 years of experience as an operator in sound pressure level measurements.

**8.3.15.3** Operators.

The operator shall have the following qualifications:

.1 knowledge in the field of noise, sound measurements and handling of measurement equipment;

.2 adequate knowledge of the applicable international requirements (SOLAS regulation II-1/3-12, as amended, and Code on Noise Levels on Board Ships, as amended);

.3 at least 1 year's experience, including participation in a minimum of 5 measurement campaigns as an assistant operator;

.4 training concerning the procedures specified in the Code on Noise Levels on board Ships;

.5 be able to document theoretical and practical training onboard in using a sound level meter.

**8.3.15.4** Equipment.

**8.3.15.4.1** Sound level meters.

Measurement of sound pressure levels shall be carried out using precision integrating sound level meters. Such meters shall be manufactured to IEC 61672-1(2002-05) "Recommendation for Sound Level Meters", as amended, type/class 1 standard as applicable, or to an equivalent standard acceptable to the Administration. At that sound level meters class/type 1 manufactured according to IEC 651/IEC 804 may be used until 1 July 2016.

**8.3.15.4.2 Octave filter set.**

When used alone, or in conjunction with a sound level meter, as appropriate, an octave filter set shall conform to IEC 61260 (1995) "Octave-Band and Fractional-Octave-Band Filters", as amended, or an equivalent standard acceptable to the Administration.

**8.3.15.4.3 Sound calibrator.**

Sound calibrators shall comply with IEC 60942 (2003-01), as amended, and shall be approved by the manufacturer of the sound level meter used.

**8.3.15.4.4 Calibration.**

Sound calibrator and sound level meter shall be verified at least every two years by a national standard laboratory or a competent laboratory accredited according to ISO 17025 (2005), as amended. A record with a complete description of the equipment used shall be kept, including a calibration log.

**8.3.15.4.5 Microphone wind screen.**

A microphone wind screen shall be used when taking readings outside, e.g. on navigating bridge wings or on deck, and below deck where there is any substantial air movement. The wind screen shall not affect the measurement level of similar sounds by more than 0,5 dB(A) in "no wind" conditions.

**8.3.15.5 Procedures and instructions.**

**8.3.15.5.1** The firm shall have documented procedures and instructions to carry out service of the equipment. Documented work procedures shall at least contain information on inspection preparation, selection and identification of sound level measurement locations, calibration checks and report preparation.

**8.3.15.5.2** The supplier shall have access to the following documents:

- .1 SOLAS 1988, as amended (regulation II-1/3-12);
- .2 IMO resolution A.468(XII) and IMO resolution MSC.337(91) "Code on Noise Levels on Board Ships";
- .3 IMO resolution A.343(IX) "Recommendation on Methods of Measuring Noise Levels at Listening Posts";
- .4 the Register rules and guidelines.

**8.3.15.6 Reporting.**

A noise inspection report shall be made for each ship. The report shall comprise information on the noise levels in the various spaces on board. The report shall show the reading at each specified measuring point. The points shall be marked on a general arrangement plan, or on accommodation drawings attached to the report, or shall otherwise be identified.

The format for noise inspection reports is set out in Appendix 1 of the Code on Noise Levels on Board Ships and may conform to any other specific requirement of the society (refer to IMO resolution MSC.337(91)).

**8.3.15.7 Verification.**

The supplier shall have the surveyor's verification of each separate job, documented in the report by his signature.

**8.3.16 Requirements for firms engaged in tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for ships in service (code 22025000MK).**

**8.3.16.1 Extent of engagement.**

- .1 global vacuum testing of primary and secondary barriers;
- .2 acoustic emission (AE) testing;
- .3 thermographic testing.

**8.3.16.2 Requirements for firms engaged in global testing of primary and secondary barriers.**

**8.3.16.2.1 Testing procedures.**

Testing shall be carried out in accordance with cargo containment system designer's procedures as approved by the Register.

**8.3.16.2.2 Authorization.**

The supplier shall be authorized by the system designer to carry out the testing.

**8.3.16.2.3 Equipment.**

Equipment shall be maintained and calibrated in accordance with recognized national or international industrial standards.

**8.3.16.2.4 Reporting.**

The report shall contain the following:

- .1 date of testing;
- .2 identity of test personnel;
- .3 vacuum decay data for each tank;
- .4 summary of test results.

**8.3.16.3 Requirements for firms engaged in AE testing.**

**8.3.16.3.1 Testing procedures.**

The firm shall have documented procedures based upon recognized national or international industrial standards to perform ultrasonic leak test using AE sensors for the secondary barrier of membrane cargo containment systems. The procedures shall include details of personnel responsibilities and qualification, instrumentation, test preparation, test method, signal processing, evaluation and reporting.

Note. The differential pressure during testing shall not exceed the containment system designer's limitations.

**8.3.16.3.2 Supervisor.**

The responsible supervisor shall be certified to a recognized national or international industrial standard (e.g. Level II, ISO-9712 as amended or SNT-TC-1A as amended) and have one year experience at Level II.

**8.3.16.3.3 Operators.**

The operators carrying out the AE testing shall be certified to a recognized national or international industrial standard (e.g. Level I, ISO-9712 as amended or SNT-TC-1A as amended) and shall have adequate knowledge of ship structures sufficient to determine sensor placement.

**8.3.16.3.4 Equipment.**

Equipment shall be maintained and calibrated in accordance with recognized national or international industrial standards or equipment manufacturer's recommendations.

**8.3.16.3.5 Evaluation of AE testing.**

Evaluation of AE testing shall be carried out by the supervisor or individuals certified to a recognized national or international industrial standard (e.g. Level II, ISO-9712 as amended or SNT-TC-1A as amended) and have one year experience at Level II.

**8.3.16.3.6 Reporting.**

The report shall contain the following:

- .1 date of testing;
- .2 supervisor and operator(s) certifications;
- .3 description of time and pressure of each cycle of test;
- .4 list and sketch detailing location of possible defects.

**8.3.16.4 Requirements for firms engaged in thermographic testing.**

**8.3.16.4.1 Testing procedures.**

Testing shall be carried out in accordance with the cargo containment system designer's procedures as approved by the Register.

**8.3.16.4.2 Authorization** — The firm shall be authorized by the system designer to carry out the testing.

**8.3.16.4.3 Supervisor.**

The responsible supervisor shall be certified to a recognized national or international industrial standard (e.g. Level II, ISO-9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing. SNT-TC-1A certified personnel shall provide evidence that training on Level II or above has been administered by an independent training body centrally certified to ASNT or comparable nationally recognized certification scheme.

**8.3.16.4.4 Operators.**

The operators carrying out the imaging shall be certified to a recognized national or international industrial standard (e.g. Level I, ISO-9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing and shall have adequate knowledge of ship structures sufficient to

determine position for each identified image, and of the containment system to understand the basis of the testing. SNT-TC-1A certified personnel shall provide evidence that training on Level I or above has been administered by an independent training body centrally certified to ASNT or a comparable nationally recognized certification scheme.

**8.3.16.4.5 Equipment.**

Thermal cameras and sensors shall be in accordance with the system designer's procedures with regards to sensitivity, accuracy and resolution.

Equipment shall be in accordance with recognized standard (IEC, etc.) with regard to their safety characteristics for the use in hazardous areas (in gas explosive atmosphere), maintained and calibrated in accordance with the manufacturer's recommendations.

**8.3.16.4.6** Evaluation of thermographic images shall be carried out by the supervisor or individuals certified to a recognized national or international industrial standard (e.g. Level II, ISO-9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing. SNT-TC-1A certified personnel shall provide evidence that training on Level II or above has been administered by an independent training body centrally certified to ASNT or a comparable nationally recognized certification scheme.

**8.3.16.4.7 Reporting.**

The report shall contain the following:

- .1 date of testing;
- .2 supervisor and operator(s) certifications;
- .3 differential pressures of all phases;
- .4 list and sketch detailing location of thermal indications;
- .5 thermographic images of all phases of testing for thermal indications;
- .6 evaluation of thermal images indicating possible leaks.

**8.3.17 Requirements for firms engaged in survey using remote inspection techniques (RIT) as an alternative means for close-up survey of the structure of ships and offshore installations (code 22025600).**

**8.3.17.1 Terms and definitions.**

Close-up survey is a survey where the details of structural components are within the close visual inspection range of the RS surveyor i.e. normally within reach of hand.

Remote inspection techniques (RIT) is a means of survey that enables examination of any part of the structure without the need for direct physical access of the RS surveyor (refer to IACS Rec. No. 42 — the latest revision). RIT may include the use of:

- unmanned robot arms;
- remotely operated platforms, including ROV;
- unmanned aerial vehicles (UAV/drones);
- climbers;
- other means acceptable to RS.

**8.3.17.2** Extent of engagement — close-up survey of ships' structure and offshore installations' structure by RIT. For in-water close-up survey of the internal compartments by ROV, firms shall also hold separate approval as a "Firm carrying out an in-water survey on ships or offshore installations by diver or ROV" (refer to 8.3.3).

**8.3.17.3 Training and qualification of operators.**

The firm is responsible for the training and qualification of its operators to undertake the remote inspections. UAV and drone pilots shall be qualified and licensed in accordance with applicable national requirements or an equivalent industrial standard acceptable to RS.

Knowledge of the following shall be documented:

- marine and offshore nomenclatures;
- the structural configuration of relevant ships types, other floating facilities and offshore installations including internal structure;
- the remote inspection equipment and its operation;



survey plans for examination of hull spaces of various configurations, including appropriate flight plans if using a UAV or drones;

thickness measurement (TM) and non-destructive testing (NDT) in accordance with a recognized national or international industrial NDT standard when these are part of the service. Firms undertaking TMs shall hold separate approval as a "Firm engaged in thickness measurements on ships and offshore installations".

**8.3.17.4 Training plan.**

The firm shall maintain a documented training plan for personnel. The plan shall include requirements for training in the minimum RS rules requirements for the structure of relevant ships types and offshore installations, the recognition of structural deterioration (including corrosion, buckling, cracking and deteriorated coatings) and use of the reporting system.

**8.3.17.5 Supervisor.**

The supervisor shall be certified according to the recognized national requirements or an equivalent industrial standard (e.g. XXX Level) if that is required by national legislation and shall have a minimum of two years' experience in the inspection of ship's and offshore installation's structure.

**8.3.17.6 Operators.**

The operator carrying out the inspection shall be certified according to the recognized national requirements or an equivalent industrial standard (e.g. YYY Level) if that is required by national legislation and have had at least one year's experience as an assistant carrying out inspections of ship's and/or offshore installation's structure (including participation in a minimum of five different assignments). The operators of those RIT which require, according to the international and national legislations, to be licensed for their use shall hold valid documentation issued by the appropriate bodies (e.g. UAV and drone pilots shall be qualified and licensed in accordance with applicable national requirements).

**8.3.17.7 Equipment.**

The following shall be available for the firm:

remotely operated platform with data capture devices capable of operation within an enclosed space;  
means of powering the platforms with sufficient capacity to complete the required inspections, including spare batteries if applicable;

data collection devices which may include cameras capable of capturing in high definition both video images and still images;

illumination equipment;

high definition display screen with live high definition feed from inspection cameras (when this is part of the RIT);

means of communication;

data recording devices, as applicable;

equipment for carrying out thickness gauging and/or NDT, as relevant to the work to be performed (when this is part of the service).

**8.3.17.8 Procedures and guidelines.**

The firm shall have documented operational procedures and guidelines for how to plan, carry out and report inspections; how to handle/operate the equipment; collection and storage of data. These shall include:

requirements for preparation of inspection plans when UAV or drones are part of the equipment.

operation of the remotely operated platforms;

operation of lighting;

calibration of the data collection equipment;

operation of the data collection equipment;

two-way communication between the operator, platform, RS surveyor, other personnel such as support staff and ships officers and crew;

guidance of the operator to provide complete coverage of the structure to be inspected;

guidance for the maintenance of the remotely operated platforms, data capture and storage devices and display screens, as applicable;

- requirements for the collection and validation of data;
- if data shall be stored, then requirements for location attribution (geo-tagging), validation and storage of data;

- requirements for the reporting of inspections, including the recording of damages and defects found during inspection and repair work.

**8.3.17.9 Documentation and records.**

The firm shall maintain the following:

- records of training;
- operator statutory and regulatory certificates and licenses;
- equipment register for UAVs, robots, data collection devices, data analysis devices and any associated equipment necessary to perform inspections;
- equipment maintenance manuals and records/logbook;
- records of calibration;
- UVA/Drone/Robot operation logbook.

**8.3.17.10 Verification.**

The firm shall have the RS surveyor's verification of each separate job, documented in the report by the RS attending surveyor(s) signature.

**8.3.18 Requirements for firms engaged in visual and/or sampling checks, development of hazardous material inventories (code 22026000).**

**8.3.18.1 Extent of engagement.**

Visual and/or sampling checks for hazardous materials onboard ships as specified in the 2015 Guidelines for the Development of the Inventory of Hazardous Materials (IMO resolution MEPC.269(68)) and Appendix 1 and 2 of the Annex to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, in the Regulation (EU) No 1257/2013 of the European Parliament and the Council of 20 November 2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC, as well as evaluation of checks results and development of hazardous material inventories for a specific ship at the shipowner's request. The above-mentioned documents can advise on quantities and locations of samples, taking of samples in a safe manner as well as prepare reports on the quantities, locations and estimates of these onboard materials.

**8.3.18.2 Personnel qualifications.**

Visual and/or sampling checks onboard ships shall be executed by persons with professional knowledge of hazardous materials licensed as required and, who are trained and equipped experts, in particular with regards to the evaluation and sampling of hazardous materials and materials containing hazardous materials.

Personnel carrying out visual and/or sampling checks of relevant hazardous materials onboard ships, developing hazardous material inventories shall have professional knowledge of ship structures, equipment, machinery and arrangements, as well as hazardous materials and materials used for ship structures and equipment, taking of samples and handling of such materials.

**8.3.18.3** Sample analysis shall be carried out in appropriate laboratories accredited or certified according to recognized standards and competent to perform testing of samples by specific test methods provided in Appendix 9 of IMO resolution MEPC.269(68). Specific equipment used on-board the ship for the purpose of sampling checks shall be duly calibrated and/or certified according to recognized standards.

**8.3.18.4** Work shall be executed in accordance with documented work and safety procedures that contain at least the following:

- information on survey preparation;
- safety procedures relevant to the hazards;
- selection and identification of visual and/or sampling check locations;
- material preparation;
- sample removal;
- reinstatement of safe conditions for the material once the sample is taken;

sample storage, identification and transport requirements; and  
report preparation and content.

**8.3.18.5** Reports shall be based on the 2015 Guidelines for the Development of the Inventory of Hazardous Materials (IMO resolution MEPC.269(68)).

**8.3.18.6** Each job on visual and/or sampling checks shall be documented by including the signatures of the operator or the operator's designated responsible person in the final report.

## 9 RECOGNITION OF TESTING LABORATORIES

### 9.1 GENERAL

**9.1.1** The requirements of this Section apply to the testing laboratories conducting tests and measurements specified in Table 9.1.1.

Table 9.1.1

Codes	Tests and measurements
21001000	Vibroacoustic measurements and tests
21001100	Physical and chemical measurements and tests
21001101MK	Sampling and check tests (analysis) of anti-fouling system in accordance with AFS Convention
21001200	Fire tests of products and materials
21001300	Electromagnetic measurements and tests:
21001301	electrical measurements and tests
21001302	electromagnetic compatibility (EMC) tests
21001400	Ionizing measurements
21001500	Mechanical measurements and tests
21001600	Radio measurements
21001700	Non-destructive tests
21001800	Optical measurements
21001900	Heat engineering measurements and tests
21002000	Equipment protection tests
21002100	Climatic tests
21002200	Oily water analysis
21002300	Fuel and oil analysis
21002400	Analysis of gaseous emissions from marine diesel engines
21002500	Checking of software and/or performance algorithms of radio and navigational equipment
21002600	Tests of fire-fighting systems and fire-fighting outfit
21002700	Tests and periodical checks of foam concentrates
21002800	Oil product cargo analysis
21002900MK	Sampling and check test (analysis) of ballast water in compliance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention)
21003000MK	Testing of coating systems in accordance with IMO resolution MSC.215(82) and/or MSC.288(87)
21003100	Full-scale tests during survey of onshore facilities: GMDSS sea areas A1 and A2; NAVTEX service; vessel traffic service (VTS)
21004000MK	Testing of bulk cargoes to determine transport performance
21004100	Testing of bulk cargoes to determine transport performance carried out by testing laboratories of the firms having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea"

**9.1.2** Tests of items of the RS technical supervision shall be conducted by the testing laboratories recognized by RS.

**9.1.3** The testing laboratory shall meet general requirements listed in Section 7, requirements of 9.2, relevant special requirements of 9.3 and the requirements of Administrations (if any).

**9.1.4** Recognition of the testing laboratories by the Register shall be confirmed by the Recognition Certificate of Testing Laboratory (CIIJ) issued in accordance with 3.4 — 3.7.

**9.1.5** In individual cases, at the RS discretion, tests may be conducted in the testing laboratories not recognized by RS. At that prior to performance of tests, compliance of the testing laboratory with the requirements of Section 7 and requirements of 9.2.1.1, 9.2.2.1, 9.2.2.2, 9.2.4.1, 9.2.4.2, 9.2.5, 9.2.6 shall be verified.

**9.1.6** The testing laboratories carrying out activities with code 21003000MK shall comply with the requirements of Section 7, Part I "General Provisions" of the Rules for the Classification Surveys of Ships in Service.

## **9.2 REQUIREMENTS**

### **9.2.1 Personnel.**

**9.2.1.1** Personnel of testing laboratory shall have not less than two years of practical training.

**9.2.1.2** The testing laboratory shall have documents on its personnel containing the following information:

- .1 functional duties;
- .2 education;
- .3 experience;
- .4 re-training and terms of its validity;
- .5 certification and terms of its performance.

**9.2.1.3** The testing laboratory shall have the regular staff of specialists.

**9.2.1.4** The testing laboratory shall have and adhere to the plans (schedules) of the following:

- .1 training and re-training;
- .2 refresher training;
- .3 certification of the personnel with respect to performance of certain tests.

### **9.2.2 Technique.**

**9.2.2.1** The technique of testing laboratories shall comply with the testing procedures, according to which tests specified in the RS requirements are conducted for items of technical supervision.

**9.2.2.2** Tests shall be conducted in accordance with the relevant testing procedures, including those having regard to the environmental conditions, corresponding to each type of tests in the area indicated in the request. Use shall be made of the following:

- .1 measuring equipment checked (calibrated) in the established order;
- .2 certified testing equipment;
- .3 ancillary equipment;
- .4 references and standard specimens for technical support and measurement assurance of measuring equipment;
- .5 appropriate consumables (chemicals, substances, etc.).

**9.2.2.3** The testing laboratory shall have valid contracts for rented measuring and testing equipment.

**9.2.2.4** The testing laboratory shall have the lists of the following:

- .1 measuring equipment, including those used for certification of the testing equipment;
- .2 testing and ancillary equipment;
- .3 references and standard equipment.

**9.2.2.5** The testing laboratory shall have and adhere to the schedules of the following:

- .1 maintenance of measuring and testing equipment;
- .2 checking (calibration) of measuring equipment;
- .3 certification of testing equipment.

### **9.2.3 Files of the testing laboratory documents.**

**9.2.3.1** The testing laboratory shall have the valid normative and technical documents necessary for performance of tests in the area of recognition indicated in the request, including:

- .1 list of activities performed (area of recognition);
- .2 the Quality Manual or another similar document;
- .3 duty regulations;
- .4 operating and maintenance instructions on measuring and testing equipment;
- .5 documents on records keeping and archives maintenance.

### **9.2.4 Reporting.**

**9.2.4.1** In addition to the information specified in 7.2.6.1, test reports shall contain the following:

- .1 designation: "Test Report" or "Conclusion";
- .2 name and address of the testing laboratory;

.3 designation of the testing method with reference to the documents, in accordance with which the tests have been conducted;

.4 reference to the Sampling Report;

.5 test results with indication of units of measurements in accordance with the testing procedures;

.6 indication that the test results are valid only for the products tested;

.7 entry that the tests have been witnessed by the RS representative.

**9.2.4.2** Sampling reports, where applicable, shall contain:

.1 date of the specimen selection (sampling);

.2 information that allows for unambiguous identification of specimens (samples) taken;

.3 place of the specimen selection (sampling);

.4 information on conditions of the specimen selection (sampling);

.5 reference to the documents, in accordance with which the specimens have been taken (sampling has been done).

**9.2.4.3** Data (documents) confirming performance of tests (sampling reports, test reports, etc.) shall be kept in the testing laboratory for not less than five years under conditions of confidentiality. This requirement shall be established in the documents of the testing laboratory.

### **9.2.5 Checking and control.**

**9.2.5.1** The testing laboratory shall do the checking and exercise control over the performance of tests and their results.

**9.2.5.2** The personnel of the testing laboratory responsible for checking (control) shall have not less than two years of experience as a performer in the area of activity indicated in the request.

**9.2.5.3** The testing laboratory shall conduct check tests in compliance with the area of recognition indicated in the request witnessed by the RS representative.

### **9.2.6 Conditions of taking, transport and storage of samples.**

**9.2.6.1** Conditions of taking, transport and storage of samples shall meet the requirements of the testing procedures.

**9.2.6.2** The testing laboratory shall identify the samples.

## **9.3 SPECIAL REQUIREMENTS**

**9.3.1 Special requirements for testing laboratories engaged in penetrant testing (PT), radiographic testing (RT), ultrasonic testing (UT), magnetic particle testing (MT) of materials, products, weld quality (code 21001700).**

**9.3.1.1** Non-destructive testing (NDT) and quality assessment shall be performed by the specialists who have passed the appropriate training, have the proper qualification and practical experience in a particular NDT method which shall be documented.

Assessment of the qualification level and certification of personnel involved in NDT shall be performed in accordance with the requirements of the national standards (GOST R ISO 9712) unified with ISO 9712, as well as other requirements recognized by the Register.

Bodies operating certification of persons in NDT shall comply with the requirements of the international standard ISO/IEC 17024.

### **9.3.1.2 Reporting.**

**9.3.1.2.1** The testing laboratory shall have and maintain examination results logs.

**9.3.1.2.2** A Statement (Test Report), in addition to the information specified in 9.2.4.1, and examination results logs shall contain:

.1 a reference to the RS rules or other normative document as agreed with RHO regarding the use of criteria for assessing the quality of welds at radiographic examination;

.2 a reference to normative documents regarding the use of criteria for assessing the quality of welds at ultrasonic examination, dye penetrant examination, and magnetic particle examination;

.3 thickness of components at ultrasonic examination and radiographic examination (refer to Part XIV "Welding" of the Rules for the Classification and Construction of Sea-Going Ships);

.4 description of defects in accordance with applicable national or international standards.

**9.3.1.2.3** Designation of checked lengths for duplicating radiographic examination shall correspond to the designation of the checked lengths used at ultrasonic examination.

**9.3.1.3** Files of the testing laboratory documents.

**9.3.1.3.1** The testing laboratory shall have instructions on performing assessment of the quality of welds taking into account the RS requirements.

**9.3.1.4** The recognition certificates of testing laboratory (CIIJI) are subject to endorsement not less than once a year.

**9.3.2 Special requirements for testing laboratories carrying out fire tests of products and materials (code 21001200).**

**9.3.2.1** In general, the testing laboratory shall be recognized by the Register. The Recognition Certificate of Testing Laboratory (CIIJI) is issued to the testing laboratory, carrying out fire tests, by RHO or the RS Branch Offices on behalf of RHO.

Fire tests carried out by the testing laboratories not recognized by RS shall be witnessed by the RS surveyor.

**9.3.2.2** Legal status.

**9.3.2.2.1** The testing laboratory, as its routine activity, carries out checks and tests identical to those in the relevant parts of the International Code for Application of Fire Test Procedures (FTP Code) (refer to 1.2, Part VI "Fire Protection" of the Rules for the Classification and Construction of Sea-Going Ships) or similar to them.

**9.3.2.2.2** The testing laboratory shall not belong to the manufacturer, seller or supplier of the product/material to be tested and shall not be under their control.

**9.3.2.3** Facilities.

**9.3.2.3.1** The testing laboratory has access to arrangements, equipment, personnel and calibrated instrumentation needed for checks and tests performance.

**9.3.2.4** Checking and control.

**9.3.2.4.1** The testing laboratory shall use the quality control system being audited by competent bodies.

**9.3.3 Special requirements for testing laboratories carrying out tests of fire-fighting systems and fire-fighting outfit (code 21002600).**

**9.3.3.1** Facilities.

**9.3.3.1.1** The testing laboratory facilities shall be consistent with the test procedures specified in applicable documents mentioned in Chapter 4.3, Part IV "Technical Supervision during Manufacture of Products".

**9.3.4 Special requirements for testing laboratories carrying out tests and periodical checks of foam concentrates (code 21002700).**

**9.3.4.1** Facilities.

**9.3.4.1.1** The testing laboratory facilities shall be consistent with the test procedures specified in the guidelines for performance and testing criteria and surveys of foam concentrates (refer to IMO circulars MSC.1/Circ.1312, MSC/Circ.670, MSC/Circ.798).

**9.3.5 Special requirements for the testing laboratories carrying out sampling and check tests (analysis) of anti-fouling system in accordance with AFS Convention (code 21001101MK).**

**9.3.5.1** Facilities.

**9.3.5.1.1** The testing laboratory facilities shall be consistent with the procedures for sampling and check tests (analysis) of anti-fouling system specified in IMO resolution MEPC.104(49) "Guidelines for Brief Sampling of Anti-Fouling Systems on Ships".

**9.3.6 Special requirements for the testing laboratories carrying out oily water analysis (code 21002200).**

**9.3.6.1** Legal status.

**9.3.6.1.1** While carrying out oily water analysis the testing laboratory with the status of the legal entity shall be independent of the parties interested in the analysis results.

**9.3.6.1.2** The testing laboratory carrying out analysis during tests of equipment, systems and arrangements for the prevention of pollution by oily water shall not belong to the manufacturer, seller or supplier and shall not be under their control.

**9.3.6.1.3** The testing laboratory shall bear responsibility for the impartiality and objectivity of the oily water analysis results.

**9.3.6.2** Technique.

**9.3.6.2.1** The testing laboratory technique shall comply with the methods of oily water analysis prescribed by the international and national documents regarding the environment pollution prevention (IMO resolutions MEPC.60(33), MEPC.107(49), etc.).

In some cases on agreement with RS provisional application of other time-tested methods and relevant measuring and testing equipment is allowed. Meanwhile, the analysis results shall comply with the requirements of the international documents in respect of the reliability and accuracy.

**9.3.6.2.2** Measuring and testing equipment belonging to other firms, organizations or individuals as well as being the property of the testing laboratory shall be identified and registered in the documents of the testing laboratory (passport, record sheet or card).

**9.3.6.3** Files of the testing laboratory documents.

**9.3.6.3.1** The testing laboratory shall have instructions on the procedure of sampling, testing, issue of testing results and normative documentation on oily water analysis (bilge water, dirty ballast and flushing water).

**9.3.7 Special requirements for the testing laboratories carrying out fuel and oil analysis (code 21002300), oil product cargo analysis (code 21002800).**

**9.3.7.1** Legal status.

**9.3.7.1.1** While carrying out fuel, oil and oil product cargo analysis the testing laboratory with the status of the legal entity shall be independent of the parties interested in the analysis results.

**9.3.7.1.2** The testing laboratory shall bear responsibility for the impartiality and objectivity of the results of fuel, oil and oil product cargo analysis.

**9.3.7.2** Personnel.

**9.3.7.2.1** Besides the relevant qualification, training, experience and satisfactory knowledge in respect of the analysis carried out, the personnel responsible for the contents of the protocols (reports, conclusions) on the analysis results shall have necessary knowledge as regards:

.1 possible consequences of the onboard use of fuel and oil of degraded quality (not complying with the relevant technical specifications, standards) and of the transport of oil product cargo with inappropriate characteristics;

.2 possible reasons for change of physical and chemical properties of the oil used in machinery and equipment in operation.

**9.3.7.3** Technique.

**9.3.7.3.1** The testing laboratory technique shall provide for laboratory testing and quick analysis to monitor quality characteristics of oil products within the area of recognition indicated in the request.

The testing laboratory shall be equipped with its own measuring and testing equipment providing for the required types of fuel, oil and oil product cargo analysis:

.1 bunker oil;

.2 new oil loaded onboard;

.3 oil used in machinery and equipment in operation, to evaluate their fitness for use against defect criteria and to assess technical condition of the ship items within survey systems on the basis of condition monitoring.

**9.3.7.3.2** The testing laboratory technique shall provide for evaluation of at least the following quality characteristics of oil products.

**9.3.7.3.2.1** For bunker oil:

.1 density;

.2 viscosity;

.3 sulphur fraction of total mass;



- .4 water content;
- .5 ash content;
- .6 flashpoint;
- .7 chilling point;
- .8 coking ability;
- .9 mechanical impurities content;
- .10 vanadium, aluminium, silicon contents.

**9.3.7.3.2.2 For new lubricating oil:**

- .1 flashpoint;
- .2 viscosity;
- .3 water content;
- .4 alkali neutralization number;
- .5 insoluble residue content.

**9.3.7.3.2.3 For new hydraulic oil:**

- .1 viscosity;
- .2 water content;
- .3 acid number.

**9.3.7.3.2.4 For lubricating and hydraulic oil used in machinery and equipment in operation:**

- .1 physical and chemical properties indicating change of the quality of analysed oils and technical condition of the ship technical means (usually measured by the monitoring system);
- .2 wear debris.

**9.3.7.3.2.5 For lubricating oil used in propeller and stern tube shafts in operation:**

- .1 water content;
- .2 chlorides content;
- .3 content of bearing metal particles;
- .4 oil aging (resistance to oxidation).

**9.3.7.3.3** Measuring and testing equipment belonging to other firms, organizations or individuals as well as being the property of the testing laboratory shall be identified and registered in the documents of the testing laboratory (passport, record sheet or card).

**9.3.7.4** Files of the testing laboratory documents.

**9.3.7.4.1** The testing laboratory shall have instructions on the procedure of sampling, testing, issue of testing results and normative documentation on fuel, oil and oil product cargo analysis.

**9.3.7.5** Reporting.

**9.3.7.5.1** The testing laboratory shall have and maintain the analysis results logs.

**9.3.7.5.2** Records (conclusions, test protocols and results logs) on analysis of test samples of bunker oil and new oil loaded onboard shall contain values of the physical and chemical properties specified in passports (delivery notes) for ordered fuel and oil.

**9.3.7.5.3** The testing laboratory shall immediately notify the customer of each case of the bunker oil properties non-compliance with the requirements of regulations 14 and 18 of Annex VI to MARPOL 73/78 identified within the scope of the analysis carried out.

**9.3.8 Special requirements for testing laboratories carrying out sampling and check test (analysis) of ballast water in accordance with International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 (BWM Convention) (code 21002900MK).**

**9.3.8.1** Technique.

**9.3.8.1.1** The testing laboratories shall be consistent with methods for sampling and analysis of ballast water, as specified in IMO resolution MEPC.173(58) and MEPC.174(58).

**9.3.8.1.2** The analysis results shall comply with the requirements of the BWM Convention.

**9.3.8.1.3** The testing laboratories technique shall enable evaluation of the following quality characteristics of the ballast water at least.

**9.3.8.1.3.1** Quantity of viable organisms:

- .1 per cubic meter;

.2 per milliliter.

**9.3.8.1.3.2** Indicator microbes content:

.1 toxicogenic *Vibrio cholerae*;

.2 *Escherichia coli*;

.3 intestinal Enterococci.

**9.3.9 Special requirements for testing laboratories carrying out testing of bulk cargoes to determine transport performance (code 21004000MK).**

**9.3.9.1** Sample preparation and testing procedures shall comply with the requirements of the IMSBC Code, IMO resolution MSC.354(92) and IMO circular MSC.1/Circ.1454, and shall be approved by the Register.

**9.3.9.2** A testing laboratory shall keep and store for a period of 10 years and submit to the Register the following documents both in Russian and English:

.1 training record books for the personnel involved in sample preparation and testing;

.2 reports on internal review to ensure that the procedures for sample preparation and testing are applied correctly;

.3 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;

.4 test reports;

.5 record books for maintenance, calibration and testing of any testing equipment;;

.6 reports on deviations from the approved sample preparation and testing procedures and any modification to the procedures.

**9.3.9.3** The testing laboratory shall provide identification and recording of representative samples; identification, recording and storage of test samples prepared from representative samples. Storage conditions shall ensure sample property maintenance so as to enable carrying out of check tests. The minimum sample storage period shall be as follows:

.1 for representative samples for flow moisture tests — at least 9 months;

.2 for representative samples for testing for moisture content — prior to ship discharge but not less than 3 months;

.3 for representative samples for other tests (for determination of the particle size distribution, stowage factor, etc.) — prior to ship discharge but not less than 1 month.

**9.3.9.4** The testing laboratory and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. The testing laboratory and its personnel shall not be under any commercial, financial or other pressure from the cargo manufacturer, purchaser, shipper, owner, user or accompanying person (forwarder/agent), shipowner or underwriter, or any representative thereof, that may impair their independence and impartiality in respect of services rendered.

**9.3.10 Special requirements for testing laboratories carrying out full-scale tests during survey of onshore facilities: GMDSS sea areas A1 and A2; NAVTEX service; vessel traffic service (VTS) (code 21003100).**

**9.3.10.1** Testing procedure shall be submitted for the Register approval as part of the testing laboratory documentation.

**9.3.10.2** Testing procedure shall include, at least, the following information:

.1 appropriate identification;

.2 scope of application;

.3 description of an item subject to testing or calibration;

.4 parameters and quantitative indices and ranges to be specified;

.5 facilities and equipment, including requirements to technical specifications;

.6 required environmental conditions and stabilization time;

.7 procedures, including:

checks prior to commencement of works;

checks of proper functioning and, where required, calibration and adjustment of the equipment prior to use;

method of observations and results recording;

safety measures to be met;

.8 criteria and/or requirements for acceptance or rejection of results;

.9 data to be recorded, method of analysis and data reporting form.

**9.3.10.3** Prior to test, the testing laboratory shall develop the program of onshore facility tests. The test program shall comply with the approved testing procedure and consider the technical specification requirements for full-scale tests and environmental conditions, in which the tests are carried out. The test program shall be approved by an authorized body and agreed with the customer.

**9.3.10.4** The testing laboratory shall have the facilities necessary for testing in accordance with the approved testing procedure.

**9.3.10.5** Measuring and testing equipment being the property of the testing laboratory as well as belonging to other firms, organizations or individuals, shall be calibrated in the established order, identified and registered in the testing laboratory passport.

**9.3.10.6** In case the software is used to control measuring and testing equipment, to accumulate, process, recording and storage of the test data, it shall be detailed, identified and submitted for the Register approval as part of the testing laboratory documentation. The software for the data storage shall be backed up and protected against an unauthorized access.

**9.3.10.7** Possible adjustment of the testing and calibration equipment, including the hardware and software, which may invalidate the test results, shall be eliminated.

**9.3.10.8** The testing laboratory personnel shall consist of, at least, 3 specialists with higher professional education proved by a nationally recognized document, having, at least, 3 years of practical experience in testing specified by the applicant.

**9.3.10.9** In case the testing laboratory subcontracts another laboratory, the latter shall have the Recognition Certificate issued by the Register. The area of recognition of the testing laboratory-subcontractor shall correspond to code 21003100. The contract with the laboratory-subcontractor shall be concluded on a long-term basis and included in the testing laboratory documentation.

**9.3.10.10** The testing laboratory shall not belong to the firms-owners of onshore facilities as well as to the manufacturers, suppliers of the equipment used in construction of onshore facilities, and shall not be under their control. The testing laboratory being part of the organization carrying out, in addition, the activities other than testing, shall demonstrate that the duties of the organization top management, participating or influencing the testing laboratory activities, shall be clearly defined to eliminate the potential conflicts of interest. The testing laboratory shall be capable of demonstrating its impartiality and that neither the testing laboratory itself, nor its employees do not experience commercial or other pressures to compromise their technical solutions.

**9.3.10.11** The Test Report shall comply with the approved testing program and contain the list of the measuring and testing equipment applied during the tests.

**9.3.11 Special requirements for firms engaged in testing of coating systems in accordance with IMO resolution MSC.215(82), as amended, and IACS UI SC223 and/or IMO resolution MSC.288(87), as amended (code 21003000MK).**

**9.3.11.1** Extent of engagement — testing of coatings systems according to IMO resolution MSC.215(82), as corrected by IMO circular MSC.1/Circ.1381 and amended by IMO resolution MSC.341(91) and IACS UI SC223 and/or IMO resolution MSC.288(87), as corrected by IMO circular MSC.1/Circ.1381 and amended by IMO resolution MSC.341(91).

**9.3.11.2** The testing laboratory shall provide to the Register the following information:

.1 a detailed list of the laboratory test equipment for the coating approval according to IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended;

.2 a detailed list of reference documents comprising a minimum those referred to in IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended for the coating approval;

.3 details of test panel preparation, procedure of test panel identification, coating application, test procedures and a sample test report;

.4 details of exposure method and site for weathering primed test panels;

.5 a sample daily or weekly log/form for recording test conditions and observations including unforeseen interruption of the exposure cycle with corrective actions;

.6 details of any sub-contracting agreements, if applicable;

.7 comparison test reports with an approved coating system or laboratory if available.

**9.3.11.3 Reporting.**

Reference shall be made to the following IACS recommendations:

Recommendation No. 101 "Model Report for IMO Resolution MSC.215(82) Annex 1 "Test Procedures for Coating Qualification"";

Recommendation No 102 "IACS Model Report for IMO Resolution MSC.215(82) Annex 1 "Test Procedures for Coating Qualification", Section 1.7 — Crossover Test".

**9.3.11.4** Audit of the test laboratory shall be based on the requirements of this Section and the standards listed in IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended for the coating approval.

**9.3.11.5** For the testing laboratories engaged in testing of coating systems in accordance with IMO resolution MSC.215(82), as amended, and IACS UI SC223 and/or IMO resolution MSC.288(87), as amended, the definitions given in 8.1.1.1 shall be used.

**9.3.12 Special requirements for testing laboratories of the firms having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea" and carrying out tests of bulk cargoes to determine transport performance (code 21004100MK).**

**9.3.12.1** Testing laboratory is a structural unit of the firm having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea".

**9.3.12.2** Sample preparation and testing procedures shall comply with the requirements of IMSBC Code, IMO resolution MSC.354(92) and IMO circular MSC.1/Circ.1454, and shall be approved by the Register.

**9.3.12.3** A testing laboratory shall keep and store for a period of 10 years and submit to the Register the following documents both in Russian and English:

.1 training record books for the personnel involved in sample preparation and testing;

.2 reports on internal review to ensure that the procedures for sample preparation and testing are applied correctly;

.3 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;

.4 test reports;

.5 record books for maintenance, calibration and testing of any testing equipment;

.6 reports on deviations from the approved sample preparation and testing procedures and any modification to the procedures.

**9.3.12.4** The testing laboratory shall provide identification and recording of representative samples; identification, recording and storage of test samples prepared from representative samples. Storage conditions shall ensure sample property maintenance so as to enable carrying out of check tests. The minimum sample storage period shall be as follows:

.1 for representative samples for flow moisture tests — at least 9 months;

.2 for representative samples for testing for moisture content — prior to ship discharge but not less than 3 months;

.3 for representative samples for other tests (for determination of the particle size distribution, stowage factor, etc.) — prior to ship discharge but not less than 1 month.

**9.3.12.5** The testing laboratory and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. The testing laboratory and its personnel shall not be under any commercial, financial or other pressure from the cargo manufacturer, purchaser, shipper, owner, user or accompanying person (forwarder/agent), shipowner or underwriter, or any representative thereof, that may impair their independence and impartiality in respect of services rendered.

## **10 RECOGNITION OF MANUFACTURERS**

### **10.1 GENERAL**

**10.1.1** The requirements of this Section apply to the manufacturers of materials and products listed in the RS Nomenclature.

**10.1.2** The firms (manufacturers) manufacturing materials and products in compliance with the requirements of 1.3.1.3, Part X "Boilers, Heat Exchangers and Pressure vessels" and Part XIII "Materials" of the Rules for the Classification and Construction of Sea-Going Ships shall be recognized by the Register. In other cases, manufacturers may be recognized on the voluntary basis.

**10.1.3** The manufacturer shall meet general requirements listed in Section 7, requirements of 10.2 and requirements of the Administrations (if any).

**10.1.4** Recognition of the manufacturer by the Register is confirmed by the Recognition Certificate for Manufacturer (CIII), which is issued in compliance with 3.4 — 3.7.

### **10.2 REQUIREMENTS**

#### **10.2.1 Personnel.**

**10.2.1.1** The manufacturer shall have documents on the personnel containing the following information:

- .1 functional duties;
- .2 re-training and its terms of validity;
- .3 certification and terms of its performance.

**10.2.1.2** The manufacturer shall have the regular staff of specialists.

**10.2.1.3** The manufacturer shall have and adhere to the plans (schedules) of the following:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to performance of certain activities.

#### **10.2.2 Technique.**

**10.2.2.1** The manufacturer shall have the lists of equipment, premises and facilities necessary for performance of activity in the area indicated in the request.

**10.2.2.2** The manufacturer shall have and adhere to the schedules of maintenance of equipment and instrumentation.

#### **10.2.3 Measurement assurance.**

**10.2.3.1** When tests of materials and products shall be conducted in a testing laboratory, this laboratory shall meet the requirements of Section 9.

#### **10.2.4 Files of the manufacturer's documents.**

**10.2.4.1** The manufacturer shall have the valid normative and technical documents necessary for performance of activities in the area indicated in the request, including:

- .1 list of activities performed (area of activity);
- .2 operating and maintenance documentation on equipment;
- .3 operating and maintenance documentation on measuring and testing equipment;
- .4 duty regulations;
- .5 documents on records keeping and archives maintenance.

**10.2.5 Quality management system.**

**10.2.5.1** The firm shall have the documented quality management system covering at least the following:

- .1** the Code of Ethics to conduct the relevant activity;
- .2** maintenance of equipment;
- .3** measurement assurance, checking (calibration) of measuring equipment;
- .4** training programmes for operators/technicians/inspectors;
- .5** supervision and verification to ensure compliance with operational procedures;
- .6** recording and reporting of information;
- .7** quality management of subsidiaries, agents and subcontractors;
- .8** job preparation;
- .9** corrective and preventive actions related to complaints;
- .10** periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents.

## 11 AUDITS OF FIRMS

### 11.1 GENERAL

**11.1.1** The requirements of this Section apply to the firms performing the activity in connection with items of the RS technical supervision, the kinds of which are specified in Table 11.1.1.

Table 11.1.1

Code	Kinds of activity
22009000	Diagnostics of devices, installations, machinery, equipment, hull structures and other items of technical supervision
22013000	Shore-based centre for damage stability and residual structural strength calculation
22014000	Conversion, modernization and repair of items of technical supervision (ships, hull structures, ship equipment, products, etc.)
22014001	Installation and commissioning of electrical and automation equipment
22014002	Maintenance and repair of electrical and automation equipment
22014004	Constructions of ships, including mobile offshore drilling units (MODU) and fixed offshore platforms (FOP)
22014005	Repair of items of technical supervision using composite and polymer materials
22017000	Theoretical training and welders' practical qualification tests (at certification centers)
22017010	Training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector
22017020	Training and examination of coating inspectors
22020000	Inclining test and light-weight check of ships
22024000	Manufacture of NSSS equipment of 1, 2 and 3 safety classes

**11.1.2** Where technical supervision is conducted in the firms engaged in the activity with codes 22009000, 22013000, 22014000, 22014001, 22014002, 22014004, 22014005, 22017000, 22017010, 22017020, 22020000, 22024000, these firms shall be audited by RS for compliance with the requirements in Section 7, relevant special requirements in 11.3, and requirements of the Administration (if any).

In future, the Register reserves the right to audit the firm for compliance with the requirements in Section 7, relevant special requirements in 11.3, where necessary.

In addition to requirements in Section 7, the firm may be audited on a voluntary basis against the requirements in 11.2.

**11.1.3** Compliance of the firm with the requirements of Section 7, requirements of 11.2, relevant special requirements and Administrations' requirements (if any) is confirmed by the Certificate of Firm Conformity (CCFI), which is issued in accordance with 3.4 — 3.7. In case the Certificate of Firm Conformity (CCFI) is available, the audits are conducted in accordance with the conditions for its issue.

**11.1.4** The firm shall demonstrate that its activity is performed in the area indicated in the request.

### 11.2 REQUIREMENTS

#### 11.2.1 Personnel.

**11.2.1.1** The firm shall have documents on the personnel containing the following information:

- .1 functional duties;
- .2 professional and special training and its terms of validity;
- .3 certification and terms of its performance (if necessary).

**11.2.1.2** The firm shall have the regular staff of specialists.

**11.2.1.3** The firm shall have and adhere to the plans (schedules) of the following:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to certain activities.

### **11.2.2 Technique.**

**11.2.2.1** The firm shall have the lists of equipment, premises and facilities necessary for performance of activity in the area indicated in the request.

**11.2.2.2** The firm shall have and adhere to the schedules of maintenance of equipment and facilities.

### **11.2.3 Measurement assurance.**

**11.2.3.1** The firm shall have the lists of the following:

- .1 measuring equipment, including those for certification of testing equipment;
- .2 testing and ancillary equipment;
- .3 references and standard specimens.

**11.2.3.2** The firm shall have and adhere to the schedules of the following:

- .1 maintenance of measuring and testing equipment;
- .2 testing (calibration) of measuring equipment;
- .3 certification of testing equipment.

### **11.2.4 Files of the firm documents.**

**11.2.4.1** The firm shall have the valid normative and technical documents necessary for performance of activity in the area indicated in the request, including:

- .1 list of activities performed (area of activity);
- .2 operating and maintenance documentation on equipment;
- .3 operating and maintenance documentation on measuring and testing equipment;
- .4 duty regulations;
- .5 documents on records keeping and archives maintenance.

## **11.3 SPECIAL REQUIREMENTS**

**11.3.1 Special requirements for the firms that perform activity "Training and examination of coating inspectors" (code 22017020)** are specified in 3.2.9.3.1.1 — 3.2.9.3.1.3, Part III "Technical Supervision during Manufacture of Materials".

**11.3.2 Special requirements for the firms that perform activity "Training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector" (code 22017010).**

**11.3.2.1 Legal status.**

**11.3.2.1.1** The firm shall have documents confirming its competence in the kind of activity indicated in the request, issued by an organization authorized in accordance with the current legislation.

**11.3.2.1.2** The firm shall be guided in its activity by the requirements of ISO/IEC 17024 "Conformity assessment — General requirements for bodies operating certification of persons".

**11.3.2.2 Personnel.**

**11.3.2.2.1** The firm shall have documents on the personnel containing the following information:

- .1 full name;
- .2 education;
- .3 qualification level according to EN 473 or ISO 9712 or a corresponding level in the national system;
- .4 number and date of issue of a certificate according to EN 473 or ISO 9712 or to a corresponding document in the national system;
- .5 non-destructive examination sector(s);
- .6 functional duties;
- .7 working experience in methods and sectors of non-destructive examination.

**11.3.2.2.2** The members of the examination board shall have qualification Level III according to EN 473 or ISO 9712 or, a corresponding level in the national system.

**11.3.2.2.3** Place of work of members of the examination board shall be specified in addition to information given in 11.3.3.2.1.



**11.3.2.2.4** The firm shall have and adhere to the personnel training, re-training and certification programmes.

**11.3.2.2.5** The firm shall have and adhere to plans (schedules) of:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to performance of certain activities.

**11.3.2.3** Technique.

**11.3.2.3.1** The firm shall have examination samples as regards non-destructive examination, in accordance with items of the firm area of activity.

**11.3.2.4** Measurement assurance.

**11.3.2.4.1** Measurements shall be performed in the testing laboratory complying with the requirements of Section 9.

**11.3.2.4.2** The testing laboratory shall be authorized to perform measurements in accordance with the current legislation.

**11.3.2.5** Files of the firm documents.

**11.3.2.5.1** The firm shall have programs for training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector and sets of examination questions by the following topics:

.1 main information on the items of examination, their production technology, repair, operating conditions (cargo handling gear, MODU, FOP, sea-going ships, ships of river-sea navigation, river ships, pipelines, heat exchangers, welded joint connections of structural elements, welding materials);

.2 materials applied in items, non-destructive examination methods;

.3 requirements of the RS rules for the hull structure of ships, MODU, FOP etc. (ship types and their structural particulars, name and designation of ship's hull members etc.);

.4 RS requirements for use and interpretation of results of thickness measurement on ships (ultrasonic examination) (normative base, types of wear and methods of their identification, norms of wear, preparation of reports on thickness measurement, preparation of items for the examination, safety precautions during works).

**11.3.2.5.2** The firm shall have examination samples list as regards thickness measurement on ships (ultrasonic examination) with passports issued for every examination sample in accordance with EN 473 or a corresponding document in the national system.

**11.3.2.5.3** The firm shall have the valid normative and technical documents necessary for performance of activity in the area indicated in the request, including:

.1 list of activities performed (area of activity);

.2 the Quality Manual or a similar document;

.3 description of process for the training and certification of personnel for non-destructive examination;

.4 operating and maintenance documentation on technical equipment;

.5 operating and maintenance documentation on measuring and testing equipment;

.6 duty regulations;

.7 documents on records keeping and archives maintenance.

**11.3.2.6** Reporting.

**11.3.2.6.1** In addition to the information specified in 7.2.6.1, reports on the results of activity performed, shall contain:

.1 information on trainers;

.2 information on members of the examination board;

.3 the programs for training of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector;

.4 list of sets of examination questions including shipbuilding and shiprepair sector;

.5 the examination samples list for shipbuilding and shiprepair sector;

.6 information on trainees.

**11.3.2.7 Checking and control.**

**11.3.2.7.1** Personnel of the firm responsible for the checking (control) shall have qualification Level II or III according to EN 473 or ISO 9712 or a corresponding level in the national system.

**11.3.2.7.2** The firm shall conduct control checks in the area indicated in the request witnessed by the RS representative.

**11.3.3 Special requirements for the firms that perform activity "Manufacture of NSSS equipment of 1, 2 and 3 safety classes" (code 22024000).**

**11.3.3.1 Legal status.**

**11.3.3.1.1** The firm shall have a license of the state safety regulatory body in the field of nuclear energy use to perform the activity "Design and manufacture of nuclear plant equipment" as provided by applicable law.

**11.3.3.2 File of the firm documents.**

**11.3.3.2.1** The firm shall have and maintain the procedures for development and agreement of the quality plans. The recommended content of the quality plan is given in Appendix 1 to federal codes and rules NP-071-06 "Regulations for Assessment of Conformity of Equipment, Materials and Semi-Finished Products to be Delivered to Nuclear Facilities".

**11.3.4 Special requirements for the firms that perform activity "Repair of items of technical supervision using composite and polymer materials" (code 22014005).**

**11.3.4.1 Personnel.**

**11.3.4.1.1** Personnel of the firm involved in repair works using composite and polymer materials shall have sufficient documented experience to perform repair works using such materials, as well as qualification documents confirming possible repair of the items of technical supervision (hull structures, shipboard equipment, products, etc.) using composite and polymer materials.

**11.3.4.2 Technique.**

**11.3.4.2.1** The firm shall have the technique necessary for performance of the activity related to repair of the items of technical supervision using composite and polymer materials, including equipment and instruments to perform the following production operations:

- .1 chipping and grinding of the surfaces under repair;
- .2 preparation of polymer and concrete compositions;
- .3 application of detergent and oxidizing compounds, paint and polymer materials.

**11.3.4.3 Measurement assurance.**

**11.3.4.3.1** The firm shall have and apply the necessary measurement assurance, including:

- .1 ambient temperature and humidity, dew point meters;
- .2 scales for weighing components of polymer components;
- .3 viscosity gauges of liquid polymer components;
- .4 wet film coating thickness gauges;
- .5 dry film coating thickness gauges.

**11.3.4.4 Files of the firm documents.**

**11.3.4.4.1** The firm shall have the valid normative and technical documents necessary for performance of the activity related to repair using composite and polymer materials, agreed with RS, including type production processes and specifications for polymer materials used.

**11.3.4.5 Checking and control.**

**11.3.4.5.1** The firm shall exercise incoming check and operational control, fulfil work acceptance conditions according to the requirements of the type production processes approved by RS and confirmed by the following documents:

- .1 brief process instructions for specific repair items agreed upon by RS;
- .2 quality certificates (passports) for the batches of polymer materials used from the firms (manufacturers) having the Register/ACS Type Approval Certificate (CTO) or certificate of another competent organization;
- .3 inspection report on compliance of the repair performed with the process instruction for repair of hull structures or machinery components;
- .4 tightness test results of the repaired hull structures (if required).

## **12 TECHNICAL SUPERVISION AT THE FIRM (MANUFACTURER)**

**12.1** The Register performs technical supervision at the firm (manufacturer) on the basis of the contract or request on technical supervision (refer to Section 4).

When concluding the contract the firm (manufacturer) shall be audited for conformity with the requirements of Sections 10 or 11. Where deemed necessary, check tests of the firm (manufacturer) products may be required.

In performing technical supervision on a single request at the firm (manufacturer), fulfillment of the requirements of 7.2.2.1, 7.2.3, 7.2.4, 7.2.5, 7.2.7, 7.2.8 regarding the production process of the item of technical supervision shall be preliminarily verified.

In compliance with the provisions of Sections 10 or 11, the Recognition Certificate for Manufacturer (CPII) or the Certificate of Firm Conformity (CCFI) may be issued to the firm (manufacturer). The firm (manufacturer) shall be regularly audited for compliance with the requirements of Sections 10 or 11 within the terms agreed upon with the Register, which are established when the contract is concluded; in case the Recognition Certificate for Manufacturer (CPII) or Certificate of Firm Conformity (CCFI) is available, the audits are carried out in accordance with the conditions of their issuance.

**12.2** Before commencement of the technical supervision the firm (manufacturer) shall draw up a list of the items of technical supervision in order to specify the scope and procedure of the item surveys and tests of the items of the Register technical supervision. The list shall be based on the requirements of the RS rules and these Rules and shall be agreed upon with the RS Branch Office. The items of technical supervision, detailed technical documentation on manufacture of the material or product, or construction of the ship, surveys and tests to be performed in the course of technical supervision, their procedure, as well as the documents to be issued and a necessity for branding shall be indicated therein.

**12.3** The items of technical supervision are generally surveyed by the Register at the final stage of production (finished products) after acceptance of the products by the firm (manufacturer) technical control body and issue of the appropriate documents.

In separate cases, where it is required by the production process and/or design of the product, at the discretion of the Register, surveys may be performed on a step-by-step basis and simultaneously with the manufacturer's control.

Surveys at the intermediate stages of production of the items of technical supervision are carried out in the cases prescribed by the Register after completion of manufacturer's functional control or at the discretion of the Register, if determined by the particular conditions of production.

**12.4** The Register may require incoming check of materials and component parts at the firm (manufacturer), if it is found that they do not meet the RS requirements, or, if they are used, the items of technical supervision will not meet those requirements. In case of unsatisfactory results of the incoming check use of such materials is not allowed, regardless of availability of the certificates and other documents certifying their conformity with the RS requirements.

**12.5** In the course of technical supervision at the firm (manufacturer) the Register checks the maintenance of the conditions, under which firms (manufacturers) and laboratories have been recognized and/or the contract on technical supervision concluded.

**12.6** In carrying out technical supervision the Register may allow deviations from the approved technical documentation only within its authorities.

**12.7** The firm (manufacturer) shall provide all the conditions necessary for the Register to carry out technical supervision at the firm (manufacturer), namely:

- to present the required technical documentation, in particular, manufacturer's documents on quality control of the products;

- to prepare the items of technical supervision for survey in the scope required;

- to provide for safety of surveys;

- to provide for availability of the officials authorized to present the items of technical supervision for surveys and tests;

to timely inform the Register of the time and place of surveys and tests of the items of technical supervision.

Where the conditions required for performance of surveys are not fulfilled by the firm (manufacturer), the Register has the right to refuse to carry out surveys or to witness tests.

**12.8** Upon satisfactory results of surveys and tests, the Register issues the appropriate documents for the items of technical supervision and puts the brands in the prescribed cases (refer to Sections 3, 4 and Appendices 1, 2).

### **13 TECHNICAL SUPERVISION AT THE SHIPYARD DURING CONSTRUCTION OF SHIPS**

**13.1** Technical supervision during construction of ships is performed on the basis of the contract signed between the Register and the shipyard (refer to Section 4).

For the purpose of technical supervision the shipyard is audited for conformity with the requirements of Section 11. Based on the audit results, the Certificate of Firm Conformity (CCF) (refer to Section 11) may be issued to the shipyard. In case the Certificate of Firm Conformity (CCF) is available, the audits are conducted in accordance with the conditions of its issuance.

Construction facilities of the shipyard and the shipyard subcontractor companies performing manufacture of hull structures and coating application at their own facilities or at other remote locations and where the technical supervision will be carried out during construction of ships/series of ships, shall be reviewed in accordance with the provisions of 2.6 (considering 2.3) of the Guidelines on Technical Supervision of Ships under Construction (hereinafter referred to as "the Guidelines").

**13.2** Scope and procedure of the technical supervision, types of checks, tests and control are determined according to the Guidelines and indicated in the Inspection and Test Plan (the List of Items of Technical Supervision (hereinafter referred to as "the List")).

Along with surveys performed under the List, additional patrols (periodical inspections) shall be conducted (refer to 13.4 and 13.5).

The List is the basic working document used in the course of technical supervision at the shipyard.

**13.3** The List shall be developed by the shipyard and agreed upon with the RS Branch Office. The List is compiled in accordance with the provisions of the appropriate sections of the Guidelines for each prototype (single) ship, as well as ships of a series.

**13.3.1** The List shall specify hull structure items of technical supervision and hull construction processes, machinery, equipment and outfit, electrical and radio equipment.

The items of technical supervision are also production processes and particular works subject to the RS technical supervision.

The shipyard and the RS Branch Office shall take measures to minimize the number of inspections.

**13.3.2** On agreement with the RS Branch Office, use may be made as the List of one or several documents elaborated by the shipyard in accordance with its existing practice, such as the shipyard's standard on submission to RS of hull structures or a list of sections, the NDT Plan, Tank Tightness Test Plan, etc. Shipyard's documents shall contain the data indicated in the List.

The RS Branch Office reserves the right, in justified cases, to demand the agreed List to be updated.

**13.3.3** Surveys under the List are performed by the RS surveyor upon submission by the technical control body of the item of technical supervision or completed works together with the documents issued, finally verified by the shipyard and prepared for survey.

The main target of surveys under the List is verifying the compliance of item of technical supervision with the RS requirements. If defects or deficiencies to be eliminated are found, the RS surveyor shall require the item of technical supervision to be submitted repeatedly for survey.

**13.3.3.1** The shipyard's documents on the readiness of the item of supervision for survey by the Register according to the List (application form, Inspection report, record book, etc.) shall contain:

hull number;

the item of supervision submitted for survey or the scope of the work according to the List;

numbers of drawings and other technical documentation related to the item of supervision;

conclusion of the shipyard technical control body on the item quality and its readiness for survey by the Register;

date and place of the survey.

The above documents shall be signed by a representative of the shipyard technical control body and submitted to the RS surveyor for each survey in accordance with the List. Upon results of survey:

the remarks, if any, shall be recorded by the RS surveyor in the Inspection report;

the Inspection report shall be signed by the RS surveyor.

**13.3.4** The RS surveyor shall keep records of surveys carried out under the List. The records shall be kept in such a way as to provide traceability of works accepted by the Register.

**13.4** In addition to the surveys performed according to the List, the RS surveyor carries out the following patrols (periodical inspections) not associated with the official inspections by the shipyard technical control body: quality of control operations conducted by the shipyard and manufacture of separate parts (components) and structural elements (members), being parts of the items of technical supervision, which are submitted under the List.

In so doing, special attention shall be given to identification of deficiencies and defects, which cannot be revealed in the course of surveys under the List upon completion of the appropriate works.

Patrols may relate to the certain items of technical supervision indicated in the List, to the ship as well as to the production workshop, laboratory, production process, etc. The RS surveyor shall determine periodicity of such patrols depending on the nature of the item of technical supervision, quality of works performed by the shipyard and its subcontractors as well as production conditions.

**13.4.1** The results of patrols and the shipyard's notifications of their results are drawn up according to the procedure established by the Register or, on agreement with the RS Branch Office, by the shipyard.

**13.5** The RS surveyor may perform surveys not associated with the technical supervision during construction of particular ships, but arising from the RS functions on technical supervision at the manufacturer or prescribed by the RS rules, guidelines and other normative documents, as well as stipulated by the Agreement on classification of ship under construction (form 430.1.6).

**13.6** The shipyard shall immediately notify the RS surveyor of all cases where the situations resulting in damage to hull structures, machinery, equipment, floodings and other cases (including emergency) occur during construction of a ship, which can cause diminution of quality or danger of such diminution, replacement of machinery, equipment and outfit.

The RS surveyor performs the survey, places requirements on the shipyard to provide elimination of the defects (or their causes) and agrees the scope and methods for elimination thereof.

**13.7** During inspection of machinery, arrangements, equipment and outfit installation, the RS surveyor shall check that all items of technical supervision are provided with the documents confirming their production under the RS technical supervision.

**13.8** The documents on all amendments allowed by the Register to the RS previously approved (agreed) technical documentation as well as on fulfilment of remarks of the RS surveyor made at the previous stages of the technical supervision shall be submitted to the RS surveyor.

**13.9** The RS technical supervision during mooring and sea trials of equipment and the ship aims at checking their conformity with the approved (agreed) technical documentation, the RS rules and standards as well as with the provisions of international conventions applicable to the ship under construction.

**13.9.1** The scope of surveys at trials of ships and testing of ship equipment is specified in the appropriate sections of the Guidelines.

**13.9.2** Unless other terms of delivery are specified, the shipyard building the ship is responsible for safety during trials and safety of the ship itself.

The shipyard building the ship organizes performance of trials and conditions preventing any influence on trials results as well as ensures compliance with the requirements for safe navigation.

**13.9.3** The shipyard building the ship provides all necessary conditions for technical supervision by the RS surveyor in the course of mooring and sea trials of the ship in compliance with the requirements of the applicable RS rules and the Guidelines.

The equipment provided by the shipyard for use during the trials shall be operated in conformity with the technical operation regulations and maintenance instructions.

The RS surveyor is not entitled to operate the equipment himself/herself or interfere with the actions of the attending personnel. In case actions of the personnel may cause an accident or damage to the equipment, the RS surveyor is entitled to demand, via representatives of the technical control body, elimination of violations (up to the refusal to participate in the ongoing tests).

**13.9.4** During the testing of the equipment, any works that interfere with the normal conduct of tests or endanger the personnel involved in the tests, shall be stopped. The equipment subjected to the tests and the surrounding area shall be clean, readily accessible; provision shall be made for adequate lighting and ventilation of the spaces.

**13.9.5** Mooring and sea trials are conducted according to the approved programme.

**13.9.6** The items of technical supervision, which trials results do not meet the requirements of the applicable RS rules or the approved documentation, shall be subjected to repeated trials after elimination of causes of unsatisfactory trials results.

**13.9.7** Elimination of defects and repeated trials shall be agreed upon with the RS surveyor. Repeated trials shall not affect further trials or interfere with their safety.

**13.9.8** Measurements, which are taken by the technical control body and ascertain that the item of technical supervision is in good working order, shall be processed by the body upon completion of the trials of the item of technical supervision and submitted to the RS surveyor.

In case of satisfactory results the RS surveyor signs the shipyard's document on completion of trials of the items of technical supervision, to which the tables of measurements are appended, where necessary.

**13.9.9** An interruption in the trials of items of technical supervision under continuous modes shall be indicated in the test report, and a matter of continuation of the trials and the conditions of their performance (extension of time period and scope) shall be agreed upon with the RS surveyor, having regard to the causes of trials termination.

**13.9.10** In case of the second forced interruption of the same continuous testing mode, the tests shall be terminated and the causes eliminated. Then repeated tests shall be conducted in full or extended scope, where necessary. The time for tests performance shall be agreed upon with the RS surveyor.

**13.9.11** The items of technical supervision may be installed on board the ship, which have not been totally tested, provided the tests have been carried out under a special programme agreed upon with the Register with subsequent tests according to the programme of mooring and sea trials.

**13.9.12** The items of technical supervision shall be submitted for tests upon completion of all installation works and completion of main construction works, which are likely to affect the testing of the item.

**13.9.13** The technical control body shall timely inform the RS surveyor of the readiness of the items of technical supervision for trials and of the date of their performance.

**13.9.14** Surveys and trials of the item of technical supervision are carried out by the RS surveyor upon acceptance of the item by the technical control body.

**13.9.15** Fulfilment of the requirements for certain items of technical supervision, on agreement with the RS Branch Office, may be transferred to the period of the sea trials or some other time, provided these requirements do not interfere with the sea trials or affect the safety of ship navigation and people on board.

**13.9.16** In case the ship is not ready for sea trials according to the RS Branch Office, the RS Branch Office, prior to sea trials, shall send a notification addressed to the shipyard which contains the objective justification for such opinion.

**13.9.17** In case the RS confirmation of the ship readiness for sea trials is required by port authorities to issue a sea trial permit, the Register may issue an appropriate confirmation, on the shipyard's written inquiry in which preparation the following shall be considered:

**.1** confirmation shall be drawn up in an arbitrary form on the RS official letter form (using form 6.3.10 or 3.1.11, or on the letter form upon agreement with the shipyard);

**.2** confirmation shall include the statement that in accordance with specific contract on technical supervision, all new construction surveys of the Register have been completed and, according to the Register, the ship may be considered ready for sea trials.

**13.9.18** Upon completion of the sea trials or tests under operating modes without ship movement, using simulation methods, the RS surveyor informs the shipyard of his/her remarks, which shall be eliminated before the Register issues the ship's documents.

**13.10** Satisfactory results of surveys performed under the List, no violation of the RS requirements upon results of the patrols (periodical inspections), mooring and sea trials shall be the basis for drawing up the report (acts) on survey of the ship, on which basis the ship's documents are drawn up by the Register.

**13.11** In technical supervision of the prototype ship trials account shall be taken of the following;

**.1** the prototype ship trials are carried out under an enhanced programme, including checking of the ship characteristics and determination of the parameters, which can be used for series ships without this checking;

**.2** in case a list of arrangements to be made or recommended for use in the following ships of the series is elaborated upon completion of the prototype ship trials, such list shall be agreed upon with the Register;

**.3** where deemed necessary, having regard to the purpose of the ship and in case of using prototypes of materials, products, machinery and equipment, the Register may demand operational tests to be carried out according to the programme approved by the Register.



## **14 TECHNICAL SUPERVISION ON BEHALF OF THE REGISTER**

**14.1** The Register can authorize ACS to carry out technical supervision on its behalf.

**14.2** Technical supervision on behalf of the Register is performed by ACS on the basis of the agreement on mutual substitution and under a particular authorization of the Register or an agreement made between the Register and ACS.

**14.3** Where an authorization is given by the Register: items and scope of technical supervision, procedure of the technical documentation approval, documents to be issued shall be specified. Besides, the procedure of payment for technical supervision services can also be indicated.

**14.4** Unless provided otherwise, certificates and other documents issued by ACS in charge of technical supervision on behalf of the Register shall have the following notice: "Under authorization of the Register, No. \_\_\_\_\_ of \_\_\_\_\_ 20\_\_\_\_".

**14.5** Unless expressly provided otherwise, technical supervision is performed according to the procedures used by ACS.

**14.6** The authorizations for technical supervision are issued by RHO.

**14.7** The Register reserves the right to cancel the authorization for technical supervision issued.

## **15 TECHNICAL SUPERVISION ON BEHALF OF ANOTHER CLASSIFICATION SOCIETY**

**15.1** Technical supervision on behalf of another classification society is performed by the Register on the basis of the agreement on mutual substitution and under a particular authorization of another classification society or an agreement made between the Register and another classification society.

**15.2** When the Register is authorized by another classification society, items and scope of technical supervision, procedure of the technical documentation approval, documents to be issued shall be specified. Besides, the procedure of payment for supervision services can also be indicated.

**15.3** Unless expressly provided otherwise, certificates or other documents issued by the Register on behalf of another classification society shall have the following notice: "Under authorization of (name of another classification society)".

**15.4** Unless expressly provided otherwise, technical supervision is performed according to the Register practice.

**15.5** Authorization for technical supervision from ACS shall be forwarded to RHO. The RS Branch Offices may render services on behalf of another classification society only upon written confirmation by RHO.

**15.6** ACS has the right to cancel authorization for technical supervision issued.

## **16 ALTERNATIVE CERTIFICATION SCHEME**

### **16.1 DEFINITIONS**

**16.1.1** Alternative certification scheme is a certification scheme involving a manufacturer (and associated sub-suppliers, if needed) in the inspection, testing and certification of the manufacturer's products.

**16.1.2** The alternative certification scheme shall clarify:

the extent of the required inspection and testing;

to which extent and under which conditions the manufacturer may perform all or parts of the required inspection and testing without the presence of the RS surveyor when the RS Certificate (C3) is required.

**16.1.3** The extent to which the manufacturer is given permission to carry out inspections and testing without the presence of the RS surveyor shall be agreed on a case by case basis, e.g. for a specific product production line or for specific parts.

### **16.2 SCOPE**

**16.2.1** The alternative certification scheme may be arranged with product manufacturers and/or sub-suppliers.

**16.2.2** The alternative certification scheme with a manufacturer shall define the handling of subcontracted parts (those that require the RS or work Certificates or in any other way are addressed in the RS rules). The sub-supplier may be included in the alternative certification scheme of the manufacturer or have his own alternative certification scheme or deliver parts that are inspected and certified by the Register.

**16.2.3** The alternative certification scheme that permits the manufacturer to carry out all or parts of required inspection and testing without the presence of a surveyor may be arranged in two versions with regard to traceability):

the alternative certification scheme describes inspection, testing and certification additional to the manufacturer's standard quality control in order to meet the RS rules. The components shall be stamped with a special stamp supplied by the Register or identified as required by the Register;

the manufacturer has a standard quality control that covers all required inspection, testing and certification in compliance with the RS rules. Traceability and the required type of product document for components or products shall be defined in the alternative certification scheme.

### **16.3 CONDITIONS**

**16.3.1** The conditions for the manufacturer to be granted the permission to carry out inspection and testing without the presence of a surveyor are that:

**.1** the manufacturer has an implemented quality management system according to a national or international standard approved by an accredited certification body or recognized by the Register. The availability of the quality management system certified for compliance with the current version of ISO 9001 is sufficient to meet this condition;

**.2** the manufacturer has a quality control system, current drawings, and rules and standards that cover the materials and product to be certified;

**.3** the inspection and testing required by the RS rules are either standard procedures in the quality management system or those that are specified in detail in the alternative certification scheme;

.4 RS shall initially ascertain the manufacturer's compliance with the requirements of the alternative certification scheme by verifying the required product and process approvals and performing an initial survey. Follow-up and renewal audits are conducted by the Register on a regular basis to verify that conditions of the alternative certification scheme are continuously maintained by the manufacturer;

.5 if work certificates (W) or test reports (TR) are found not to fulfil the standards agreed with the Register, the component may not be accepted;

.6 the Register may carry out unscheduled inspections at the manufacturer and/or subcontractor at its own discretion;

.7 the manufacturers commit themselves to involve the Register when changes to the design, manufacturing process or testing are made as well as when any major production problems or any major product delivery problems have occurred;

.8 the Agreement on Survey (CO) issued in compliance with the alternative certification scheme may be renewed subject to the survey. The scope of the renewal survey shall:

verify the conditions of the alternative certification scheme are still met;

verify that the current products and processes are appropriately controlled.

#### **16.4 INFORMATION TO BE SUBMITTED**

**16.4.1** For admission to the alternative certification scheme for a product, the manufacturer shall submit an application enclosing the following documentation:

.1 product details;

.2 existing RS approvals of the manufacturer's products as far as required;

.3 the procedures relevant to the manufacturing process;

.4 a list of material suppliers with an indication of their approval by the Register (as far as required by the RS rules) and the type of technical supervision in each case;

.5 quality control plans relevant to the products and relevant components to be certified through the alternative certification scheme. Said plans shall detail the inspections and tests required by the RS rules with an indication of which inspections and tests are delegated to the manufacturer and which shall be done in the presence of the RS surveyor;

.6 the procedures relevant to the quality control and inspections, their methods, frequency and certification;

.7 the quality management system details;

.8 list of nominated personnel:

for marking/stamping of products;

for tests and inspection (responsible persons);

for provision of data and information (e.g. declaration of conformity, test reports etc.);

.9 any other additional documents that the Register may require in order to evaluate the manufacturing processes and product quality control.

#### **16.5 PROCEDURE FOR THE MANUFACTURER SURVEY**

**16.5.1** Upon satisfactory examination of the complete documentation for application an initial audit shall be carried out at the manufacturer's works. This audit shall verify that the manufacture of the product and the relevant controls are performed in accordance with the documents submitted and are in compliance with the requirements laid down in the alternative certification scheme documentation and the RS rules.

**16.5.2** Upon satisfactory outcome of the audits, the extent, duration and conditions of the alternative certification scheme are documented.

## **NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION**

1. Nomenclature of Items of the Register Technical Supervision is a list of materials, products, production processes and software regulated by the RS rules.

2. Definitions and abbreviations given in Section 1 of Part I "General Regulations for Technical Supervision" of these Rules are used in the RS Nomenclature, as well as:

P — technical supervision performed directly by the Surveyor;

CTO\* (Type Approval Certificate), C\* (Certificate filled-in and signed by the Register) or C3\* (Certificate filled-in and signed by an official of a manufacturer and drawn up (endorsed) by the Register) — only upon the RHO authorization;

K — branding of items of technical supervision;

K\* — branding of each rolled product;

MK — item subject to technical supervision in compliance with the requirements of international conventions.

3. The RS Nomenclature is presented in the form of the table comprising nine columns.

Column 1: "Code of item of technical supervision" — identification code of the material, product, production process or software is indicated, which consists of eight characters grouped in the following groups, each group consisting of two characters:

1st group — part of the RS rules, serial number;

2nd group — groups of machinery, systems, constructions, materials, production processes, software;

3rd group — types of machinery, systems, constructions, materials;

4th group — parts, assemblies;

5th group ("letter group") items of technical supervision covered by the international conventions.

Column 2 "Item of technical supervision" — name of the material, product, production process or software according to the RS rules is indicated.

Columns 3 — 9 "Technical supervision of the Register" — types of technical supervision are indicated:

supervision performed by the surveyor (P), the Certificate (C) is issued;

supervision performed by the firm (manufacturer) technical personnel and RS in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part), the Certificate (C3) is issued;

supervision performed through type approval of the item of technical supervision, Type Approval Certificate (CTO), Type Approval Certificate for Fire-Proof Division (CTPIK), Certificate of Approval for Welding Consumables (COCM), Type Approval Certificate for Software (CTOII), Welding Procedure Approval Test Certificate (COTIIC) are issued.

Column 3 "of the prototype" — necessity of supervision of the prototype performed directly by the surveyor (P) is indicated.

Column 4 "type approval/recognition of manufacturer" — obligation of type approval of the item of technical supervision is indicated to be confirmed by Type Approval Certificate (CTO), Type Approval Certificate for Fire-Proof Division (CTPIK), Certificate of Approval for Welding Consumables (COCM), Type Approval Certificate for Software (CTOII), Welding Procedure Approval Test Certificate (COTIIC) as well as necessity of recognition of manufacturer to be confirmed by Recognition Certificate for Manufacturer (CPII). In separate cases, at the discretion of the Register, where a single approval is given for the material or product, the Certificate (C) may be issued without issuing the document on type approval, as well on recognition of the manufacturer.

Column 5 "document issued" — the RS document is indicated, which is issued in case of the particular type of supervision providing the minimum permissible control for the particular material or product over fulfillment of the RS requirements.

In separate cases, at the RS discretion, types of supervision may be changed by RS.

Column 6 "branding" — obligation of branding of items of technical supervision in compliance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2) is indicated.

Columns 7, 8, 9 "installation, application", "mooring trials", "sea trials" — necessity of technical supervision during construction of ships performed directly by the Surveyor is indicated.

4. RS Nomenclature contains the following sections:

01000000 Hull

02000000MK Life-saving appliances

03000000 Arrangements, equipment, outfit

03000000MK Signal means

04000000MK Radio equipment

05000000MK Navigational equipment

06000000 Fire protection

07000000 Machinery installations

08000000 Systems and piping

09000000 Machinery

10000000 Boilers, heat exchangers and pressure vessels

11000000 Electrical equipment

12000000 Refrigerating plants

13000000 Materials

14000000 Welding consumables

14000000MK Cargo handling gear

15000000 Automation

16000000 Glass-reinforced plastic ships and boats

17000000 Ships carrying liquified gases in bulk (LG carriers)

18000000 Nuclear ships and nuclear support vessels

19000000MK Equipment and appliances for prevention of pollution from ships

20000000 Computer software (computer calculation programs)

5. Firms (manufacturers) supply materials or products with the originals of the certificates (C, C3) or Type Approval Certificate (CTO), Certificate of Approval for Welding Consumables (COCM), certificates of type approval (COTO), certificates of type test (COTИ), Type Approval Certificate of Ballast Water Management System (COOT), Type Approval Certificate for Computer Program (CTOИ), Type Approval Certificate for Fire-Proof Division (CTИK) as indicated in column 5.

Shipboard internal combustion engines covered by regulation 13 of Annex VI to MARPOL 73/78 shall be supplied with EIAPP Certificate and approved NO<sub>x</sub> Technical File. Exhaust gas cleaning systems to reduce SO<sub>x</sub> emissions shall be supplied with the SO<sub>x</sub> Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (form 2.4.42).

## NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Code of item of technical supervision	Item of technical supervision	Technical supervision of the Register						
		of prototype	type approval/ recognition of manufacturer	at the firm (manufacturer)		during construction of ship		
				document issued	branding	installation, application	mooring trials	sea trials
1	2	3	4	5	6	7	8	9
01000000	<b>HULL</b>	—	—	—	—	P	—	—
01010000	Hull structures	—	—	—	—	P	—	—
01020000	Structures of superstructures and deckhouses	—	—	—	—	P	—	—
01030000	Seatings of machinery and arrangements	—	—	—	—	P	—	—
02000000MK	<b>LIFE-SAVING APPLIANCES</b>							
02010000MK	<b>Lifeboats and launching appliances:</b>							
02010002MK	release mechanisms and free-fall launching appliances for lifeboats	P	CTO	C	K	P	—	—
02010100MK	<b>Launching appliances for lifeboats, rescue boats, fast rescue boats and liferafts:</b>							
02010101MK	launching appliances using falls and winches for lifeboats	P	CTO	C	K	P	P	—
02010102MK	free-fall launching appliances for lifeboats	P	CTO	C	K	P	P	—
02010103MK	launching appliances for rescue boats	P	CTO	C	K	P	P	—
02010104MK	launching appliances for fast rescue boats	P	CTO	C	K	P	P	—
02010105MK	launching appliances for liferafts	P	CTO	C	K	P	P	—
02010200MK	<b>Lifeboats:</b>							
02010201MK	partially enclosed lifeboats	P	CTO	C	K	P	P	—
02010202MK	totally enclosed lifeboats	P	CTO	C	K	P	P	—
02010203MK	totally enclosed lifeboats with a self-contained air support system	P	CTO	C	K	P	P	—
02010204MK	fire-protected totally enclosed lifeboats	P	CTO	C	K	P	P	—
02010305MK	free-fall lifeboats	P	CTO	C	K	P	P	—
02010306MK	free-fall lifeboats with a self-contained air support system	P	CTO	C	K	P	P	—
02010307MK	fire-protected free-fall lifeboats	P	CTO	C	K	P	P	—
02020000MK	<b>Liferafts, rescue boats, fast rescue boats:</b>							
02020100MK	Containers for inflatable liferafts	P	CTO	C3	—	P	—	—
02020200MK	Arrangements for launching and raising for liferafts, lifeboats and rescue/fast rescue boats	P	CTO	C	K	P	P	—
02020300MK	Hydrostatic release units	P	CTO	C3	—	P	—	—
02020400MK	Weak link of life raft	P	CTO	C3	—	P	—	—
02020500MK	Automatic gas inflation system for inflatable liferafts, marine evacuation systems, means of rescue, inflatable lifejackets	P	CTO	C3	K	P	—	—
02020600MK	<b>Liferafts:</b>							
02020601MK	inflatable liferafts	P	CTO	C, C3 <sup>7</sup>	K	P	—	—
02020602MK	rigid liferafts	P	CTO	C, C3 <sup>7</sup>	K	P	—	—
02020603MK	self-righting liferafts	P	CTO	C, C3 <sup>7</sup>	K	P	—	—
02020604MK	canopied reversible liferafts (with two canopies)	P	CTO	C, C3 <sup>7</sup>	K	P	—	—
02020700MK	<b>Rescue boats:</b>							
02020701MK	rigid rescue boats	P	CTO	C	K	P	P	—
02020702MK	inflated rescue boats	P	CTO	C	K	P	P	—
02020703MK	combined rescue boats	P	CTO	C	K	P	P	—
02020800MK	<b>Fast rescue boats:</b>							
02020801MK	rigid fast rescue boats	P	CTO	C	K	P	P	—
02020802MK	inflated fast rescue boats	P	CTO	C	K	P	P	—
02020803MK	combined fast rescue boats	P	CTO	C	K	P	P	—
02030000MK	Means for bringing lifeboats and liferafts against ship's side and holding them alongside, skates	—	—	—	—	P	P	—
02040000MK	Embarkation ladders, lifelines	P	CTO	C3	—	P	—	—
02050000MK	Lifebuoys	P	CTO	C3	K	P	—	—
02050100MK	Self-igniting lights	P	CTO	C3	—	P	—	—
02050200MK	Self-activating smoke signals	P	CTO	C3	—	P	—	—
02050300MK	Buoyant lifelines	—	CTO	CTO	—	P	—	—

1	2	3	4	5	6	7	8	9
02060000MK	<b>Lifejackets, immersion suits, anti-exposure suits and thermal protective aids</b>							
02060100MK	<b>Lifejackets:</b>							
02060101MK	non-inflatable lifejackets	P	CTO	C3	K	P	—	—
02060102MK	inflatable lifejackets	P	CTO	C3	K	P	—	—
02060200MK	<b>Immersion suits:</b>							
02060201MK	immersion suits with thermal insulation	P	CTO	C3	K	P	—	—
02060202MK	immersion suits without thermal insulation	P	CTO	C3	K	P	—	—
02060300MK	Anti-exposure suits	P	CTO	C3	K	P	—	—
02060400MK	Thermal protective aids	P	CTO	C3	—	P	—	—
02070000MK	Lifejacket lights	P	CTO	C3	—	P	—	—
02080000MK	Line-throwing appliances	P	CTO	C	—	P	—	—
02090000MK	<b>Equipment of survival craft, rescue boats/fast rescue boats:</b>							
02090001MK	lifeboat steering gears	—	—	—	—	P	—	—
02090002MK	masts with sails and stays	—	—	—	—	P	—	—
02090003MK	oars, thole pins or crutches, buoyant oars	—	—	—	—	P	—	—
02090004MK	cap or plug of drain valves of lifeboats	—	—	—	—	P	—	—
02090005MK	lifelines, handrails	—	—	—	—	P	—	—
02090006MK	boarding ladder of lifeboat and boarding ramp of liferaft	—	—	—	—	P	—	—
02090007MK	buoyant rescue quito of liferafts with buoyant line	P	—	C3	—	P	—	—
02090008MK	lifeboat manual draining pumps	P	—	C3	—	P	—	—
02090009MK	protective covers	P	—	—	—	P	—	—
02090010MK	searchlights of lifeboats and rescue boats	P	CTO	C3	—	P	—	—
02090011MK	life-saving signals table	—	—	—	—	P	—	—
02090012MK	signal whistles	P	CTO	C3	—	P	—	—
02090013MK	boat compasses	P	CTO	C3	—	P	—	—
02090014MK	internal and external lights of liferafts and lifeboats, lights of rescue/fast rescue boats	P	CTO	C3	—	P	—	—
02090015MK	repair outfit (with instructions) for inflatable liferafts	—	—	—	—	P	—	—
02090016MK	waterproof electric torch	P	—	C3	—	P	—	—
02090017MK	food ration	P	CTO	C3	—	P	—	—
02090018MK	fresh water	P	CTO	C3	—	P	—	—
02090019MK	valves for inflatable liferafts and inflated rescue/fast rescue boats	P	CTO	C3	—	P	—	—
02090020MK	first-aid outfit	P	CTO	C	—	P	—	—
02110000MK	Sea activated power sources for lifejacket and liferaft lights and lifebuoy self-igniting lights	P	CTO	C3	—	P	—	—
02120000MK	Marine evacuation systems	P	CTO	C	K	P	—	—
02130000MK	Symbols for use in accordance with SOLAS-74 as amended	P	CTO	C3	—	P	—	—
02140000MK	Means of rescue	P	CTO	C, C3 <sup>7</sup>	K	P	P	—
02150000MK	Type production processes	—	—	—	—	—	—	—
03000000	<b>ARRANGEMENTS, EQUIPMENT, OUTFIT</b>							
03010000	<b>Rudder and steering gear:</b>	—	—	—	—	P	P	P
03010100	rudder stocks including their flanges	P	—	C	K	P	—	—
03010101	rudder stock bearings	P	—	C3	—	P	—	—
03010102	parts of roller laying of steering gears	P	—	CTO	—	P	—	—
03010103	chains of steering ropes	P	—	CTO	—	P	—	—
03010200	rudder axles including their flanges	P	—	C	K	P	—	—
03010201	parts of connections of rudder axles with sternframe	P	—	C3	—	P	—	—
03010300	<b>Nozzle rudder in assembly:</b>	P	—	C	K	P	P	P
03010301	pintles	P	—	C3	K	P	—	—
03010302	pintle bushes	—	—	C3	—	P	—	—
03010303	parts for coupling rudder stock with nozzle rudder	P	—	C3	—	P	—	—
03010304	limiters of putting nozzle rudder over either side	P	—	—	—	P	—	—
03010400	rudder blade	P	—	C	K	P	—	—
03010401	pintles	P	—	C3	K	P	—	—
03010402	pintle bushes	P	—	C3	—	P	—	—
03010403	couplings	—	—	C3	—	P	—	—
03010404	limiters of putting rudder blade over either side	—	—	—	—	P	—	—
03010500	tillers	P	—	C3	—	P	—	—
03010501	parts of coupling tiller with rudder stock	—	—	C3	—	P	—	—



1	2	3	4	5	6	7	8	9
03010600	rudder quadrants	P	—	C3	—	P	—	—
03010601	parts for coupling quadrant with rudder stock	—	—	C3	—	P	—	—
03010700	<b>Hull and foundation of main steerable podded electrical propulsion units:</b>	—	—	—	—	P	P	P
03010701	parts of hull and propulsion block hull	P	—	C	K	—	—	—
03010702	parts of mounting block	P	—	C	K	—	—	—
03020000	<b>Anchor arrangement:</b>	—	—	—	—	P	P	P
03020005	anchor hawses	—	—	—	—	P	—	—
03020100	anchors	P	СПИ	C3	K	P	—	—
03020300	anchor stoppers	P	—	C3	—	P	P	—
03020400	device for securing and releasing the inboard end of the chain cable or rope	P	—	C3	—	P	P	—
03030000	<b>Mooring arrangement:</b>	—	—	—	—	P	P	—
03030001	bollards, cleats, fairleaders, hawses, rollers and stoppers	—	—	C3	—	P	P	—
03040000	<b>Towing arrangements:</b>	—	—	—	—	P	P	P
03040001	bits, bollards, fairleaders, rollers and stoppers	—	—	C3	—	P	—	—
03040002	tow hooks, tow line releasing devices	P	—	C3	—	P	—	—
03040003	snatch-blocks	—	—	C3	—	P	—	—
03040004	towing rails	—	—	—	—	P	—	—
03040100MK	<b>Emergency towing arrangement:</b>	P	—	C	—	P	P	—
03040101	chain devices	P	—	C3	—	P	—	—
03040102	tow lines	P	—	C3	—	P	—	—
03040103	tow securing arrangements	P	—	C3	—	P	—	—
03050000	<b>Signal masts:</b>	P	—	—	—	P	—	—
03050001	metal, wooden and glass-reinforced plastic rigging fixed gear of masts and their standing rigging	P	—	—	—	P	—	—
03050002	loose gear of standing rigging	P	—	—	—	P	—	—
03060000	<b>Openings in hull, 1st and 2nd tiers of superstructures and deckhouses and their closing appliances:</b>	—	—	—	—	P	P	—
03060100	side and flush deck scuttles round and square, wheelhouse windows (refer also to code 06010006MK)	P	CTO	C3	—	P	P	—
03060101	glasses for side and flush deck scuttles, round and square, wheelhouse windows	—	CTO	CTO	—	—	—	—
03060200	in bottom side shell plating doors	P	—	C3	—	P	P	—
03060300	outside doors in superstructures and deckhouses	P	CTO	CTO	—	P	P	—
03060400	covers of companion hatches, skylights and ventilation trunks	P	CTO	CTO	—	P	P	—
03060500	ventilation pipes	P	—	—	—	P	P	—
03060700	doors in watertight bulkheads	P	CTO	C3	—	P	P	—
03060800	hatch covers of dry cargo holds, holds fitted for alternate carriage of bulk liquid and dry cargoes, tweendecks, cargo tanks	P	—	C3	—	P	P	—
03060801	tank manhole covers	P	—	—	—	P	P	—
03070000	<b>Equipment of spaces:</b>	—	—	—	—	P	—	—
03070001	plating, hold battens, linings in cargo holds	—	—	—	—	P	—	—
03070005	cellular guide members in holds of container carriers	—	—	—	—	P	—	—
03070200	doors in ship's spaces on escape routes	—	—	—	—	P	—	—
03070300	stairways and vertical ladders	—	—	—	—	P	—	—
03070400	guard rails, bulwark and catwalk bridges	—	—	—	—	P	—	—
03070600	devices for securing movable decks, platforms, ramps and similar structures	P	—	C3	—	P	P	P
03070700	low-location lighting systems (photoluminescent, electrically powered)	P	—	C3	—	P	—	—
03070800	Seats for HSC passengers and crew	P	CTO	C3	—	P	—	—
03080000	<b>Grain fittings:</b>	—	—	—	—	—	—	—
03080001	removable metal bulkheads	—	—	C3	—	—	—	—
03080003	shroud wire ropes	—	—	C3	—	—	—	—
03080004	gears of shrouds	—	—	C3	—	P	—	—
03090000	Arrangement for attachment of timber deck cargo	—	—	C3	—	P	—	—
03100000	<b>Items made of ropes for all applications</b>	P	—	C3	—	P	P	—
03110000	<b>Emergency outfit:</b>	—	—	—	—	P	—	—
03110001	thrummed mats, armoured mats with outfit	—	—	C3	—	P	—	—
03110002	tools	—	—	—	—	P	—	—
03110003	materials	—	—	—	—	P	—	—

1	2	3	4	5	6	7	8	9
03120000	<b>MODU jacking frame of self-elevating system:</b>	—	—	—	—	P	P	P
03120001	sliders and their guides	P	—	C	K	P	—	—
03120002	catches and their bearers	P	—	C	K	P	—	—
03120003	yokes and their latches	P	—	C	K	P	—	—
03120004	securing plates of hydraulic cylinders	P	—	C	—	P	—	—
03120005	support screws with nuts	P	—	C	K	P	—	—
03120006	jack frames	P	—	C	—	P	—	—
03120007	rack-and-pinion shafts	P	—	C	—	P	—	—
03120008	pinions and wheels	P	—	C	K	P	—	—
03120009	shafts	P	—	C	K	P	—	—
03120010	fastenings	P	—	C3	—	P	—	—
03130000	<b>MODU arrangements for lifting and lowering columns of submersible sea water pumps:</b>	—	—	—	—	P	P	—
03130001	columns and guides	P	—	C3	—	P	—	—
03130002	column support	P	—	C3	—	P	—	—
03130003	stoppers	P	—	C3	—	P	—	—
03140000	<b>MODU fixing arrangements:</b>	—	—	—	—	P	P	P
03140001	plates	P	—	C3	—	P	—	—
03140002	sliders	P	—	C3	—	P	—	—
03140003	screws and nuts	P	—	C3	—	P	—	—
03150000	Parts of lifting appliances for shipborne barges (lugs, eye plates, eyes, shackles, grips)	—	—	—	—	P	P	—
03160000	<b>Securing devices of general cargo on board the ships:</b>	—	—	—	—	—	—	—
03160100	lashings (rope, chain, bar, belt, wire)	P	CTO	C3	K	P	—	—
03160200	tension devices (turnbuckles, bridge fittings)	P	CTO	C3	K	P	—	—
03160300	burtresses and shores	P	CTO	C3	K	P	—	—
03160400	locks (automatic and semi-automatic stoppers, stacking cones with locking pin)	P	CTO	C3	K	P	—	—
03160500	stacking cones (single, double, etc.)	P	CTO	C3	K	P	—	—
03160600	penguin hooks	P	CTO	C3	—	P	—	—
03160700	joint rings, lashing plates	P	CTO	C3	—	P	—	—
03160800	pedestal and flush sockets, dove-tail type sockets	P	CTO	C3	—	P	—	—
03170000MK	<b>Pilot transfer arrangements:</b>	—	—	—	—	—	—	—
03170001MK	pilot ladders	—	—	C3	—	P	—	—
03170002MK	mechanical pilot hoists	—	—	C3	—	P	—	—
03180000MK	<b>Means of embarkation and disembarkation:</b>	—	—	—	—	—	—	—
03180001MK	accommodation ladders and gangways	P	—	C	K	P	P	—
03200000	Type production processes	—	—	—	—	—	—	—
03000000MK	<b>SIGNAL MEANS</b>	—	—	—	—	—	—	—
03010000MK	Navigation lights	P	CTO	C3	K	P	P	P
03020000MK	Flashing lights	P	CTO	C3	K	P	P	P
03030000MK	Sound signal means	P	CTO	C3	K	P	P	P
03040000MK	Pyrotechnic signal means	P	CTO	C3	—	P	—	—
03050000MK	Signal shapes	—	CTO	CTO	—	P	P	—
03100000MK	Type production processes	—	—	—	—	—	—	—
04000000MK	<b>RADIO EQUIPMENT</b>	—	—	—	—	—	—	—
04020000	<b>Radiotelephone communication facilities:</b>	—	—	—	—	—	—	—
04020900	VHF radiotelephone station	P	CTO	CTO	—	P	P	P
04021100	UHF radiotelephone station	P	CTO	CTO	—	P	P	P
04021200MK	two-way VHF radiotelephone apparatus for communications with aircraft	P	CTO	C3*	—	P	P	P
04030500	portable two-way radiotelephone station	P	CTO	CTO	—	P	P	P
04040000MK	Command broadcast facilities (command broadcast apparatus of public address system, microphone posts)	P	CTO	C3	—	P	P	P
04070000	Aerial	P	CTO	CTO	—	P	P	P
04080000	Marine clocks for radio rooms	P	CTO	CTO	—	P	P	P
04090000	Satellite radio communication equipment	P	CTO	C3	—	P	P	P
04110000MK	<b>GMDSS radio equipment:</b>	—	—	—	—	—	—	—
04110100MK	digital selective calling (DSC) encoder	P	CTO	C3	—	P	P	P
04110200	facsimile device	P	CTO	CTO	—	P	P	P
04110300MK	terminal printing device	P	CTO	C3	—	P	P	P
04110400MK	telephony and NBDP receiver	P	CTO	C3	—	P	P	P
04110500MK	telephony, DSC and NBDP transmitter	P	CTO	C3	—	P	P	P
04110600MK	VHF radiotelephone station	P	CTO	C3	—	P	P	P
04110700MK	MF radiotelephone station	P	CTO	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
04110800MK	MF/HF radiotelephone station	P	CTO	C3	—	P	P	P
04110900MK	direct-printing apparatus of improved fidelity	P	CTO	C3	—	P	P	P
04111100MK	radio equipment power supply device, automatic battery charger	P	CTO	C3	—	P	P	P
04111200	GMDSS workstations	P	CTO	C3	—	P	P	P
04120000MK	VHF radio installation (set)	P	CTO	C3	—	P	P	P
04130000MK	MF radio installation (set)	P	CTO	C3	—	P	P	P
04140000MK	MF/HF radio installation (set)	P	CTO	C3	—	P	P	P
04150000MK	INMARSAT ship earth station	P	CTO	C3	—	P	P	P
04150100MK	INMARSAT ship earth station with EGC receiver	P	CTO	C3	—	P	P	P
04150200MK	ship security alert system (SSAS)	P	CTO	CTO	—	P	P	P
04160000MK	COSPAS-SARSAT satellite EPIRB	P	CTO	C3	—	P	P	P
04170000MK	VHF EPIRB using DSC on channel 70	P	CTO	C3	—	P	P	P
04180000MK	NAVTEX service receiver	P	CTO	C3	—	P	P	P
04190000MK	enhanced group calling (EGC) receiver	P	CTO	C3	—	P	P	P
04200000MK	DSC watch receiver	P	CTO	C3	—	P	P	P
04210000MK	HF direct-printing radiotelegraph receiver	P	CTO	C3	—	P	P	P
04220000MK	radar transponder	P	CTO	C3	—	P	P	P
04220100MK	ship's and survival craft AIS search and rescue transmitter (AIS-SART)	P	CTO	C3	—	P	P	—
04230000MK	two-way VHF radiotelephone apparatus	P	CTO	C3	—	P	P	P
04240000	diagnosis and checking systems for GMDSS equipment	P	CTO	CTO	—	—	—	—
04250000MK	integrated GMDSS radio communication system	P	CTO	C3	—	P	P	P
04400000	radio equipment not mentioned above	P	CTO	— <sup>1</sup>	—	P	— <sup>1</sup>	— <sup>1</sup>
04410000	Ship security surveillance TV system	P	CTO	CTO	—	—	P	P
05000000MK	<b>NAVIGATIONAL EQUIPMENT</b>							
05010000MK	Magnetic compasses (standard, spare, lifeboat)	P	CTO	C3	—	P	P	P
05010100MK	transmitting heading devices (THD)	P	CTO	C3	—	P	P	P
05020000MK	Gyrocompasses	P	CTO	C3	—	P	P	P
05030000MK	Logs (speed and distance measuring devices)	P	CTO	C3	—	P	P	P
05040000MK	Deck logs	P	CTO	CTO	—	P	P	P
05050000MK	Echo sounders	P	CTO	C3	—	P	P	P
05060000MK	Heading control systems/track control systems	P	CTO	C3	—	P	P	P
05070000MK	Integrated navigation systems	P	CTO	C3	—	P	P	P
05080000	Combined ship's workstation	P	—	C	—	P	P	P
05090000	Horizontal sonar navigational systems	P	CTO	CTO	—	P	P	P
05100000MK	Gyro-magnetic compasses and gyro-azimuths	P	CTO	C3	—	P	P	P
05110000	Unified timing systems	P	CTO	CTO	—	P	P	P
05120000MK	Rate-of-turn indicators	P	CTO	C3	—	P	P	P
05130000MK	Electronic chart display and information system (ECDIS)	P	CTO	C3	—	P	P	P
05140000MK	<b>Radionavigation equipment:</b>							
05140210MK	radar equipment intended for ships below 500 gross tonnage	P	CTO	C3	—	P	P	P
05140220MK	radar equipment intended for ships below 10000 gross tonnage	P	CTO	C3	—	P	P	P
05140230MK	radar equipment intended for ships of 10000 gross tonnage and upwards	P	CTO	C3	—	P	P	P
05140240MK	radar ice display	P	CTO	C3	—	P	P	P
05140250	radar equipment intended for ships below 300 gross tonnage	P	CTO	C3	—	P	P	P
05140300MK	radionavigation system receivers	P	CTO	C3	—	P	P	P
05140400MK	Ship's radar reflectors (shipborne and for life-saving appliances)	P	CTO	C3	—	P	P	P
05150000MK	Equipment of the universal automatic identification system (U AIS), class "A"	P	CTO	C3	—	P	P	P
05150000	Equipment of the automatic identification system (AIS), class "B"	P	CTO	C3	—	P	P	P
05160100MK	Voyage data recorders (VDR)	P	CTO	C3	—	P	P	P
05160200MK	Simplified voyage data recorders (S-VDR)	P	CTO	C3	—	P	P	P
05170000MK	Sound reception systems	P	CTO	C3	—	P	P	P
05180000	Alarm and communication systems (for OMBO ships)	P	CTO	C3	—	P	P	P
05190000MK	Bridge navigational watch alarm systems (BNWAS)	P	CTO	C3	—	P	P	P
05200000MK	Equipment for long-range identification and tracking of ships (LRIT)	P	CTO	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
05210000	Remote camera systems	P	CTO	CTO	—	P	P	P
05220000	Hydrometeorological complexes	P	CTO	C3	—	P	P	P
05220100MK	HSC night vision equipment	P	CTO	C3	—	P	P	—
05220100	Night vision equipment	P	CTO	C3	—	P	P	—
05300000	Navigational equipment not mentioned above	P	CTO	— <sup>1</sup>	—	P	— <sup>1</sup>	— <sup>1</sup>
06000000	<b>FIRE PROTECTION</b>							
06010000MK	<b>Structural fire protection:</b>							
06010100MK	fire-proof bulkheads, decks and ceilings bulkheads:							
06010101MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010102MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010103MK	A-15 class	P	CTHK	CTHK	—	P	—	—
06010105MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010106MK	B-0 class	P	CTHK	CTHK	—	P	—	—
	decks:							
06010107MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010108MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010109MK	A-15 class	P	CTHK	CTHK	—	P	—	—
	ceilings:							
06010111MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010112MK	B-0 class	P	CTHK	CTHK	—	P	—	—
06010200MK	fire-proof doors:							
06010201MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010202MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010203MK	A-15 class	P	CTHK	CTHK	—	P	—	—
06010204MK	A-0 class	P	CTHK	CTHK	—	P	—	—
06010205MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010206MK	B-0 class	P	CTHK	CTHK	—	P	—	—
06010300MK	C class bulkheads, doors	P	CTHK	W	—	P	—	—
06010400	H class structures:							
06010401	H-120	P	CTHK	CTHK	—	P	—	—
06010402	H-60	P	CTHK	CTHK	—	P	—	—
06010403	H-0	P	CTHK	CTHK	—	P	—	—
06010005MK	Cable transit, pipe and duct penetrations	P	CTHK	CTHK	—	P	P	—
06010006MK	Windows and sidescuttles (refer to regulations II-2/4.5.2.3 and II-2/9.4.1.3 of SOLAS 74)	P	CTHK	C3	—	P	P	—
06010207MK	Arrangements for automatic closing of fire doors	P	CTO	CTO	—	P	P	—
06020000MK	<b>Materials, deck coverings, paints, varnishes</b>							
06020100MK	<b>Materials:</b>							
06020101MK	insulation (plates, panels, mats, cords, etc.)	P	CTO	CTO	—	P	—	—
06020102MK	facing	P	CTO	CTO	—	P	—	—
06020103MK	furniture, curtains, etc.	P	CTO	CTO	—	P	—	—
06020104MK	bedclothes	P	CTO	CTO	—	P	—	—
06020200MK	Deck coverings (linoleum, carpets, mastics)	P	CTO	CTO	—	P	—	—
06020300MK	Paints, varnishes for exposed surfaces inside spaces	P	CTO	CTO	—	P	—	—
06020400MK	Primary deck coating	P	CTO	CTO	—	P	—	—
06030000MK	<b>Fire extinguishing systems:</b>							
06030100MK	water fire main system	P	—	—	—	P	P	—
06030200MK	sprinkler system	P	CTO	CTO	—	P	P	—
06030300MK	pressure water-spraying system	P	—	—	—	P	P	—
06030400	water-screen system	P	—	—	—	P	P	—
06030500MK	water fog system	P	CTO	CTO	—	P	P	—
06030600MK	foam fire extinguishing system	P	CTO	C3	—	P	P	—
06030700MK	fixed local application fire extinguishing system for use in machinery spaces	P	CTO	C3	—	P	P	—
06030800MK	Carbon dioxide system as well as systems containing fire extinguishing gas in cylinders	P	CTO	C3	—	P	P	—
06031100MK	Powder system	P	CTO	C3	—	P	P	—
06031200MK	Aerosol system	P	CTO	C3	—	P	P	—
06050000MK	<b>Items of fire extinguishing systems:</b>							
06050200MK	sprinkler heads and control detection devices	P	CTO	C3	—	—	—	—
06050300MK	spray nozzles, monitors	P	CTO	CTO	—	—	—	—
06050600MK	high-expansion foam generators	P	CTO	C	—	—	—	—
06050800	mixers of foam systems, tanks for the storage of foam-generating liquid	P	CTO	CTO	—	—	—	—
06060000	<b>Fire-fighting outfit:</b>							
06060101MK	fire hoses without couplings	—	CTO	CTO	—	P	—	—
06060200MK	fire hoses nozzles	P	CTO	CTO	—	P	—	—
06060300MK	air-foam nozzles	P	CTO	CTO	—	P	—	—

1	2	3	4	5	6	7	8	9
06060400MK	portable foam generators	P	CTO	CTO	—	P	—	—
06060500MK	portable foam sets	P	CTO	CTO	—	P	P	—
06060800MK	water fog applicators	—	—	—	—	P	—	—
06060900MK	portable fire extinguishers	P	CTO	CTO	—	P	—	—
06061000	45 l and 136 l foam fire extinguishers	—	CTO	C3	—	P	—	—
06061100	16 kg and 45 kg CO <sub>2</sub> or powder fire extinguishers	—	CTO	C3	—	P	—	—
06061200	sand receptacles, fire hose cabinets	—	—	—	—	P	—	—
06061300	blanket	—	—	—	—	P	—	—
06061400MK	fireman's outfit (clothing, boots, gloves, helmet)	—	CTO	C3	—	P	—	—
06061500MK	portable safety lamp	P	CTO	CTO	—	P	—	—
06061600MK	self-contained breathing apparatus, emergency escape breathing device	—	CTO	C3	—	P	—	—
06061700MK	flexible fireproof lifeline	P	CTO	CTO	—	P	—	—
06061800MK	protective clothing for work with dangerous goods	—	CTO	C3	—	P	—	—
06061900	portable fire motor pumps	P	CTO	C3	K	P	P	—
06062000MK	international shore connection	—	—	—	—	P	—	—
06062100MK	foam concentrate, powder, special gas and other fire-extinguishing substances	P	CTO	CTO	—	P	—	—
06062300MK	gas analyser for vapours of flammable liquids, gases and oxygen content	—	CTO	C3	—	P	—	—
06070000	Water intake system from sea water storage tanks of self-elevating MODU	—	—	—	—	P	P	—
06080000	MODU gas detection and alarm system	P	CTO	CTO	—	P	P	—
06090000MK	Smoke detection system operating on the principle of air sampling from spaces	P	CTO	C3	—	P	P	—
06150000	Type production processes	—	—	—	—	—	—	—
07000000	<b>MACHINERY INSTALLATIONS</b>							
07010000	<b>Shafting:</b>	—	—	—	—	P	P	P
07010007	shafting connecting bolts	—	—	C3	—	P	—	—
07010008	propeller shaft cone sealings	—	—	—	—	P	—	—
07010009	CPP-shaft flange connection sealings	—	—	—	—	P	—	—
07010100	thrust shafts	P	—	C	K	P	—	—
07010200	intermediate shafts	P	—	C	K	P	—	—
07010300	propeller and stern tube shafts	P	—	C	K	P	—	—
07010301	propeller shaft liners	P	—	C	—	P	—	—
07010400	thrust bearings	P	—	C3	—	P	P	P
07010500	journal bearings	P	—	C3	—	P	P	P
07010600	shaft couplings	P	—	C3	—	P	P	P
07020000	<b>Stern tubes:</b>	—	—	—	—	P	P	P
07020100	tubes	P	—	C3	K	P	—	—
07020200	stern bearings, including strut bearings	P	—	C3	—	P	—	—
07020300	seals	P	—	C3	—	P	P	P
07020301	sealing components (collars, rings)	P	—	C3	—	—	—	—
07020302	packing gland	P	CTO	CTO	—	—	—	—
07020303	pneumatic stop	P	—	C3	—	—	—	—
07030000	<b>Propellers:</b>							
07030100	fixed-pitch propellers:	P	—	C	K	P	P	P
07030101	bosses	P	—	C3	K	P	—	—
07030102	blades	P	—	C3	K	P	—	—
07030103	blade securing items	P	—	C3	K	P	—	—
07030200	controllable pitch propellers:	P	—	C	K	P	P	P
07030201	boss	P	—	C3	K	P	—	—
07030202	blades	P	—	C3	K	P	—	—
07030203	blade securing items	P	—	C3	K	P	—	—
07030204	crankpin rings	P	—	C3	K	—	—	—
07030205	crosshead	P	—	C3	K	—	—	—
07030206	slide block	—	—	—	—	—	—	—
07030207	hydraulic cylinder	P	—	C3	K	—	—	—
07030208	CPP blade sealing	P	—	C3	—	—	—	—
07030210	power hydraulic system	P	—	C3	—	P	—	—
07030212	CPP control system	P	—	C3	—	P	P	P
07030220	pitch changing mechanism:	P	—	C3	K	P	P	P
07030221	pitch changing mechanism shaft, oil transfer block shaft	P	—	C3	K	—	—	—
07030222	hydraulic cylinder	P	—	C3	K	—	—	—
07030223	piston and securing items	P	—	C3	K	—	—	—
07030224	push-pull rods	P	—	C3	K	—	—	—

1	2	3	4	5	6	7	8	9
07030225	pitch changing mechanism control equipment (actuating)	P	—	C3	—	P	P	P
07030300	voith-schneider propellers:	P	—	C	K	P	P	P
07030301	propeller housing	—	—	—	—	—	—	—
07030302	rotor casing	—	—	—	—	—	—	—
07030303	rotor shaft	P	—	C3	K	—	—	—
07030304	blade	P	—	C3	K	—	—	—
07030305	central support	P	—	C3	K	—	—	—
07030306	control lever	P	—	C3	K	—	—	—
07030307	gears and pinions	P	—	C3	K	—	—	—
07030308	driving shaft	P	—	C3	K	—	—	—
07030400	<b>Steerable propellers:</b>	P	CTO <sup>2</sup>	C	K	P	P	P
07030401	propeller	P	—	C	K	P	—	—
07030402	shafts	P	—	C3	K	—	—	—
07030403	pinions	P	—	C3	K	—	—	—
07030404	housings	P	—	C3	—	—	—	—
07030406	couplings	P	—	—	—	—	—	—
07030407	propeller shaft seals	P	—	C3	—	—	—	—
07030408	steerable propeller housing sealing	P	—	C3	—	—	—	—
07030409	thrust bearings	P	CTO <sup>2</sup>	C3	—	—	—	—
07030410	journal bearings	P	CTO <sup>2</sup>	C3	—	—	—	—
07030411	control system	P	—	C3	—	—	—	—
07030412	steering gear wheel and pinion	P	—	C3	K	—	—	—
07030413	steering gear bearing	P	—	C3	K	—	—	—
07030414	motors and pumps of hydraulic systems of steering gear	P	CTO	C3	K	P	P	P
07030415	flexible hoses of hydraulic and lubricating systems	P	CTO	C3	—	—	—	—
07030500	Thrusters	P	—	C3	K	P	P	P
07030600	<b>Main steerable podded electrical propulsion units:</b>	P	CTO	C	K	P	P	P
07030601	propulsion unit	P	CTO	C3	K	P	P	P
07030602	propeller	P	—	C	K	P	P	P
07030603	shaft	P	—	C	K	—	—	—
07030604	thrust bearing	P	CTO	CTO	—	—	—	—
07030605	journal bearing	P	CTO	CTO	—	—	—	—
07030606	propeller shaft seals	P	CTO	C3	—	—	—	—
07030607	hull sealing of propulsion unit	P	CTO	C3	—	—	—	—
07030608	hydraulic steering systems	—	—	—	—	P	P	P
07030609	machinery of hydraulic steering system	P	CTO	C3	K	P	P	P
07030610	hydraulic systems of steering brake gear	—	—	—	—	P	P	P
07030611	machinery of hydraulic systems of steering brake gear	P	CTO	C3	K	P	P	P
07030612	hydraulic systems of shaft brake gear	—	—	—	—	P	P	P
07030613	machinery of hydraulic systems of shaft brake gear	P	CTO	C3	K	P	P	P
07030614	cooling air unit	P	CTO	C3	K	P	P	P
07030615	machinery of cooling air unit	P	CTO	C3	K	—	—	—
07030616	lubricating oil treatment (cleaning and control) unit	—	—	—	—	P	P	P
07030617	machinery of lubricating oil treatment (cleaning and control) unit	P	CTO	C3	K	—	—	—
07030618	steering gear wheel	P	—	C	K	—	—	—
07030619	steering gear bearing	P	—	C	K	—	—	—
07030620	swivel of lubricating and drainage systems	P	—	C	K	—	—	—
07030621	flexible hoses of hydraulic and lubricating system	P	CTO	C3	—	—	—	—
07030622	connecting bolts of hull, shafts and steering gear wheel	—	CTO	C3	—	—	—	—
07030623	technical condition monitoring system for thrust and journal bearings	P	CTO	CTO	—	P	P	P
07030624	hydraulic emergency control system	P	CTO	C3	—	P	P	P
07030700	Water jets	P	CTO <sup>2</sup>	C	K	P	P	P
07040000	Shock absorbers	P	CTO	CTO	—	P	—	—
07050000	Bulkhead seals and glands	P	—	C3	—	P	P	—
07150000	Type production processes	—	—	—	—	—	—	—

1	2	3	4	5	6	7	8	9
08000000	<b>SYSTEMS AND PIPING</b>							
08010000	<b>Ship's systems:</b>							
08010100	bilge system	—	—	—	—	P	P	—
08010200	ballast system	—	—	—	—	P	P	—
08010300	heel and trim systems	—	—	—	—	P	P	—
08010400	sewage water system	—	—	—	—	P	P	—
08010500	scupper pipe system	—	—	—	—	P	P	—
08010600	heating systems of fuel and lubrication oil tanks, ballast water tanks, cargo heating systems for oil tankers, side fittings above the waterline on icebreakers and ships with ice strengthening	—	—	—	—	P	P	—
08010610	chemical carrier cargo temperature control	—	—	—	—	P	P	—
08010620	gas carrier cargo pressure and temperature control	—	—	—	—	P	P	—
08010700	ventilation system	—	—	—	—	P	P	—
08010800	air, overflow and sounding pipes	—	—	—	—	P	P	—
08010850	venting and cargo vapour emission	—	—	—	—	P	P	—
08010900	hydraulic drives of machinery and equipment	—	—	—	—	P	P	—
08011000	voice pipes	—	—	—	—	P	—	—
08011100	cargo systems of chemical carriers, gas carriers and oil tankers	—	—	—	—	P	P	—
08011150	oil skimming system on oil skimming ships	—	—	—	—	P	P	—
08011200	compressed air for tyfon, bottom and side fitting blowing, instruments and fittings of air-controlled automation systems	—	—	—	—	P	P	—
08011300	fuel oil system for domestic purposes:	—	—	—	—	P	P	—
08011310	equipment of the fuel oil system for domestic purposes	P	CTO	C3	—	P	P	—
08011400MK	inert gas system:	—	—	—	—	P	P	—
08011410MK	inert gas generator	P	CTO	C3	—	P	P	—
08011420MK	water seal of the inert gas system	P	—	C3	—	P	P	—
08011430MK	scrubber of the inert gas system	P	CTO	C3	—	P	P	—
08011440MK	instruments and alarms of the inert gas system	P	CTO	C3	—	P	P	—
08011450MK	nitrogen generator of the inert gas system	P	CTO	C3	—	P	P	—
08011460MK	air compressor for the nitrogen generator	P	—	C3	—	P	P	—
08011470MK	nitrogen receiver	P	—	C3	—	P	P	—
08020000	<b>Systems of machinery installations:</b>	—	—	—	—	P	P	P
08020100	oil fuel system	—	—	—	—	P	P	P
08020110	fuel treatment	P	—	C3	—	P	P	P
08020200	lubricating oil system	—	—	—	—	P	P	P
08020300	cooling water system	—	—	—	—	P	P	P
08020400	compressed air system	—	—	—	—	P	P	—
08020500	exhaust system	—	—	—	—	P	P	P
08020600	steam piping and blow-off system	—	—	—	—	P	P	—
08020700	condensate and feed water system	—	—	—	—	P	P	—
08020800	thermal oil system	—	—	—	—	P	P	—
08030000	<b>Valves:</b>							
08030100	valves intended for Class I and II pipelines	P	—	C3	—	—	—	—
08030200	valves intended for Class III pipelines:							
08030210	valves intended for Class III pipelines, $DN > 100$ mm	P	—	C3	—	—	—	—
08030220	valves intended for Class III pipelines, $DN \leq 100$ mm	P	—	CTO	—	—	—	—
08030230	bottom and side valves	P	—	C3	—	P	—	—
08030240	remote-controlled valves	P	—	C3	—	—	—	—
08030300	formed components of pipes and pipelines	P	—	CTO	—	—	—	—
08030400MK	type A ventilation fire dampers	P	CTO	CTO	—	P	P	—
08030410	ventilation fire dampers	—	—	CTO	—	P	P	—
08030420	type H ventilation fire dampers	P	CTO	CTO	—	P	P	—
08030500MK	tank venting and cargo vapour emission systems	P	CTO	C3	—	—	—	—
08030510MK	automatic closing devices for air pipes	P	CTO	CTO	—	P	P	—
08030600	Flexible joints	P	CTO	CTO	—	—	—	—
08030700	Expansions pieces and mechanical connections of pipes:							
08030710	mechanical connections of pipes	P	CTO	CTO	—	P	—	—
08030720	expansion pieces	P	—	CTO	—	P	—	—

1	2	3	4	5	6	7	8	9
08030800MK	Cargo hoses of chemical and gas carriers	P	CTO	C3	—	P	—	—
08030900	Cargo hoses of oil tankers	P	CTO	C3	—	P	—	—
08031000	Oil fuel and lubricating oil receiving/transfer hoses	P	CTO	C3	—	—	—	—
08031100	Appliances and systems for oil product transfer afloat and from a point berth	P	—	C3	—	P	P	—
08031110	Cargo vapour transfer hoses	P	CTO	C3	—	P	—	—
08031200	<b>Gauges:</b>							
08031240	thermometers	P	—	CTO	—	P	P	—
08031250	manometers	—	—	—	—	P	P	—
08031260	level gauges	P	—	CTO	—	P	P	—
08031270	discharge gages and flowmeters	P	—	CTO	—	P	P	—
08031300	Sleeves for hoses according to codes 08030800, 08030900, 08031000 and 08031100	P	CTO	CTO	—	—	—	—
08040000	Spark arresters (spark extinguishers), dampers of exhaust gas systems, boiler and incinerator uptakes	P	—	W	—	P	P	P
08050000	Sea water system of self-elevating MODU	—	—	—	—	P	P	P
08060000	Purging and water filling system of MODU leg tanks	—	—	—	—	P	P	P
08070000	MODU marine riser tightening and rolling compensation system	—	—	—	—	P	P	P
08080000	Hydraulic drive system of jacking arrangements of self-elevating MODU	—	—	—	—	P	P	P
08090000	Hydraulic drive system of arrangement for lifting and lowering columns of submersible sea water pumps of MODU	—	—	—	—	P	P	P
08100000	MODU ventilation system of enclosed spaces maintained in overpressure	—	—	—	—	P	P	—
08110000	MODU drilling mud emergency discharge system	—	—	—	—	P	P	—
08120000MK	Flange gasket material	P	—	W <sup>10</sup>	—	P	—	—
08150000	Type production processes	—	CTO	—	—	—	—	—
09000000	<b>MACHINERY</b>							
09010000	<b>Internal combustion engines of power output 55 kW and over (main, auxiliary and emergency):<sup>8</sup></b>	P	CTO	C <sup>3</sup>	K	P	P	P
09010001	bed plates	P	—	C3, W <sup>8</sup>	K	—	—	—
09010002	welded crankcases	P	—	C3, W <sup>8</sup>	K	—	—	—
09010003	cylinder blocks (gray cast iron (GJL)/spheroidal graphite cast iron (GJS)) of cross head engines	P	—	W <sup>8</sup>	—	—	—	—
09010004	welded cylinder blocks of crosshead engines	P	—	C3, W <sup>8</sup>	K	—	—	—
09010005	cylinder liners (jackets), $D_{cyl} > 300$ mm	P	—	W <sup>8</sup>	—	—	—	—
09010006	cylinder covers (GJL/GJS) $D_{cyl} > 300$ mm	P	—	W <sup>8</sup>	—	—	—	—
09010007	cylinder covers (forged/cast steel) $D_{cyl} > 300$ mm	P	—	C3, W <sup>8</sup>	K	—	—	—
09010008	tie rods of cross head engines	P	—	C3, W <sup>8</sup>	K	—	—	—
09010009	piston crown (cast steel, forged steel)	P	—	C3, W <sup>8</sup>	K	—	—	—
09010011	piston rods, $D_{cyl} > 400$ mm	P	—	C3, W <sup>8</sup>	K	—	—	—
09010012	connecting rods	P	—	C3, W <sup>8</sup>	K	—	—	—
09010013	crossheads	P	—	C3, W <sup>8</sup>	K	—	—	—
09010014	crankshaft: made in one piece, semi-built	P	—	C3, W <sup>8</sup>	K	—	—	—
09010015	crankcases (GJL/GJS), power > 400 kW/cyl	P	—	W <sup>8</sup>	—	—	—	—
09010016	crankcase safety valves	P	CTO	W <sup>8</sup>	—	—	P	P
09010021	Hydraulic power drive for outlet valves assembly, for crosshead engines	P	—	W <sup>8</sup>	—	—	—	—
09010022	Hydraulic accumulators (of common rail fuel or servo oil system), with a capacity of > 0,5 l	P	—	W <sup>8</sup>	—	—	—	—
09010023	High pressure servo oil system	P	—	W <sup>8</sup>	—	—	—	—
09010024	Engine-driven hydraulic pumps > 800 kW/cyl	P	—	W <sup>8</sup>	—	—	—	—
09010025	Electrically-driven hydraulic pumps	P	—	W <sup>8</sup>	—	—	—	—
09010026	Hydraulic pipes and high pressure flexible joints	P	—	W <sup>8</sup>	—	—	—	—
09010032	Air coolers ( $D_{cyl} > 300$ mm)	P	—	W <sup>8</sup>	—	—	—	—
09011600	<b>Bearings:</b>							
09011601	main bearings (power > 800 kW/cyl.)	P	—	W <sup>8</sup>	—	—	—	—
09011602	bottom-end bearings (power > 800 kW/cyl)	P	—	W <sup>8</sup>	—	—	—	—
09011604	crosshead bearings (power > 800 kW/cyl)	P	—	W <sup>8</sup>	—	—	—	—
09011606	Thrust bearing bedplate	P	—	C3, W <sup>8</sup>	—	—	—	—
09011700	<b>Securing items:</b>							
09011701	bolts and studs of main bearings ( $D_{cyl} > 300$ mm)	P	—	W <sup>8</sup>	—	—	—	—
09011702	bolts and studs of bottom-end bearings ( $D_{cyl} > 300$ mm)	P	—	W <sup>8</sup>	—	—	—	—
09011703	bolts and studs of cylinder covers ( $D_{cyl} > 300$ mm)	P	—	W <sup>8</sup>	—	—	—	—



1	2	3	4	5	6	7	8	9
09011704	Coupling bolts for crankshaft	P	—	C3, W <sup>8</sup>	K	P	—	—
09011900	Oil fuel equipment:							
09011901	casings and covers of high pressure fuel injection pumps	P	—	W <sup>8</sup>	—	—	P	P
09011902	fuel valves	P	—	W <sup>8</sup>	—	—	P	P
09011903MK	high pressure oil fuel injection pipes	P	—	C3, W <sup>8</sup>	—	—	P	P
09011906	Common rail system: <sup>8</sup> high pressure oil fuel injection pump, fuel valves, high pressure oil fuel injection pipes for the accumulator fuel oil system	P	—	W <sup>8</sup>	—	—	P	P
09013000MK	Rescue boat engines	P	CTO	C3	K	—	P	P
09014000MK	Lifeboat engines	P	CTO	C3	K	P	P	P
09015000	Diesel-generators <sup>4</sup>	P	CTO <sup>2</sup>	C3	K	P	P	P
09016000	Diesel-engine geared set <sup>4</sup>	P	CTO <sup>2</sup>	C3	K	P	P	P
09017000MK	Diesel engines complying with Regulation 13 of Annex VI to MARPOL 73/78 and with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NO <sub>x</sub> Technical Code)	P	—	EIAPP Certificate, C3	—	P	—	—
09017001MK	Exhaust gas cleaning system to reduce NO <sub>x</sub> emission recognized as a component of marine diesel engine	P	—	W	—	P	—	—
09017002MK	NO <sub>x</sub> exhaust gas monitoring system (NO <sub>x</sub> Technical Code)	P	CTO	C3	—	P	P	P
09020000	<b>Internal combustion engines of power output below 55 kW (drives of generators, fire pumps, compressors, engines of lifeboats and rescue boats):</b>							
09020100	auxiliary engines, emergency	P	CTO	W	—	P	P	P
09020200MK	lifeboat engines	P	CTO	C3	K	P	P	P
09023000MK	rescue boat engines	P	CTO	C3	K	—	P	P
09024000	diesel-generators <sup>4</sup>	P	CTO <sup>2</sup>	W	—	—	P	P
09025000	diesel-engine geared set <sup>4</sup>	P	CTO <sup>2</sup>	W	—	—	P	P
09030000	<b>Main steam turbines and electric generator turbines:</b>	P	CTO	C	K	P	P	P
09030001	turbine casings	P	—	C3	K	—	—	—
09030002	nozzle boxes	P	—	C3	K	—	—	—
09030003	manoeuvring gear casings	P	—	C3	K	—	—	—
09030004	nozzles	P	—	C3	—	—	—	—
09030005	diaphragms	P	—	C3	K	—	—	—
09030006	discs	P	—	C3	K	—	—	—
09030007	blades	P	—	C3	—	—	—	—
09030008	gland seals	P	—	C3	—	—	—	—
09030009	rotors and shafts	P	—	C3	K	—	—	—
09030010	bearings	P	—	C3	—	—	—	—
09030011	couplings	P	—	C3	—	—	—	—
09030012	shrouds and lashing wire	P	—	C3	—	—	—	—
09030013	bolts for split casing joints	P	—	C3	—	—	—	—
09040000	<b>Steam auxiliary turbines:</b>	P	CTO	C3	—	P	P	P
09040001	turbine casings	P	—	C3	—	—	—	—
09040002	nozzle boxes	P	—	C3	—	—	—	—
09040003	nozzles	P	—	C3	—	—	—	—
09040004	discs	P	—	C3	—	—	—	—
09040005	blades	P	—	C3	—	—	—	—
09040006	rotors and shafts	P	—	C3	—	—	—	—
09040007	bearings	P	—	C3	—	—	—	—
09050000	<b>Main gas turbines and electric generator gas turbines:</b>	P	CTO	C3	K	P	P	P
09050001	turbine casings	P	—	C3	K	—	—	—
09050002	compressor housings	P	—	C3	K	—	—	—
09050003	combustion chamber casings	P	—	C3	K	—	—	—
09050004	diaphragms	P	—	C3	—	—	—	—
09050005	turbine rotors	P	—	C3	K	—	—	—
09050006	turbine discs	P	—	C3	—	—	—	—
09050007	compressor rotors	P	—	C3	K	—	—	—
09050008	compressor discs	P	—	C3	—	—	—	—
09050009	turbine blades	P	—	C3	—	—	—	—
09050010	compressor blades	P	—	C3	—	—	—	—
09050011	shrouds, lashing wire	P	—	C3	—	—	—	—

1	2	3	4	5	6	7	8	9
09050012	flame tube of combustion chambers	P	—	C3	—	—	—	—
09050013	regenerators	P	—	C3	—	—	—	—
09050014	gland seals	P	—	C3	—	—	—	—
09050015	bearings	P	—	C3	—	—	—	—
09050016	couplings	P	—	C3	—	—	—	—
09050017	bolts for turbine split casing joints	P	—	C3	—	—	—	—
09050018	bolts for compressors split casing joints	P	—	C3	—	—	—	—
09060000	<b>Main machinery reduction gear:</b>	P	CTO <sup>2</sup>	C3	K	P	P	P
09060001	reduction gear casing	P	—	C3	K	—	—	—
09060002	wheels and pinions	P	—	C3	K	—	—	—
09060003	reduction gear shafts	P	—	C3	K	—	—	—
09060004	detachable half-couplings of shafts	P	—	C3	—	—	—	—
09060005	bolts	P	—	C3	—	—	—	—
09060006	sliding bearings	P	—	C3	—	—	—	—
09060100	<b>Disengaging, flexible couplings and other:</b>	P	CTO	C3	K	P	P	P
09060101	coupling casing	P	—	C3	K	—	—	—
09060102	coupling shafts	P	—	C3	K	—	—	—
09060103	driving parts of couplings	P	—	C3	—	—	—	—
09060104	driven parts of couplings	P	—	C3	—	—	—	—
09060105	components of flexible couplings	—	—	C3	—	—	—	—
09060106	sliding bearings	P	—	C3	—	—	—	—
09070000	<b>Auxiliary machinery reduction gear:</b>	P	CTO <sup>2</sup>	C3	—	P	P	P
09070001	casings of reduction gear and couplings	P	—	C3	—	—	—	—
09070002	wheels and pinions	P	—	C3	—	—	—	—
09070003	shafts of reduction gears and couplings	P	—	C3	—	—	—	—
09080000	<b>Auxiliary machinery:</b>							
09080100	starting air compressors	P	CTO	C3	—	P	P	P
09080200	internal combustion engine blowers	P	CTO	C3	—	P	P	P
09080201	turbochargers, category C	P	CTO	C3	—	P	P	P
09080202	turbochargers, category B	P	CTO	W	—	—	P	P
09080300	main and auxiliary boiler blowers	P	CTO <sup>2</sup>	C3	—	P	P	P
09080400	cooling water pumps of main engines and auxiliary machinery	P	CTO	C3	—	P	P	P
09080500	circulating pumps of main condensers	P	CTO	C3	—	P	P	P
09080600	lubricating oil pumps of main engines and turbines	P	CTO	C3	—	P	P	P
09080700	boiler feed water pumps	P	CTO	C3	—	P	P	P
09080800	condensate pumps	P	CTO	C3	—	P	P	P
09080900	boiler burner pumps	P	CTO	C3	—	P	P	P
09081000	fuel oil transfer pumps and fuel-feed pumps of main engines	P	CTO	C3	—	P	P	—
09081100	bilge pumps	P	CTO	C3	—	P	P	—
09081200	fire pumps	P	CTO	C3	—	P	P	—
09081300	fire motor-pumps	P	CTO	C3	—	P	P	—
09081400	ballast pumps	P	CTO	C3	—	P	P	—
09081500	cargo pumps	P	CTO	C3	—	P	—	—
09081600	steam-jet ejectors of condensers	P	CTO	C3	—	P	P	P
09081700	circulating pumps of waste-heat boilers	P	CTO	C3	—	P	P	P
09081800	oil fuel and lubricating oil separators	P	CTO	C3	—	P	P	P
09081900	bilge ejectors	P	CTO	C3	—	P	P	—
09090000	<b>Parts of machinery listed under 09080000:</b>							
09090100	piston pumps and compressors:							
09090101	cylinder blocks	—	—	C3	—	—	—	—
09090102	cylinder liners	—	—	C3	—	—	—	—
09090103	pistons	—	—	C3	—	—	—	—
09090104	piston rods	—	—	C3	—	—	—	—
09090105	connecting rods	—	—	C3	—	—	—	—
09090106	crankshafts	—	—	C3	—	—	—	—
09090200	centrifugal and rotary pumps and compressors:							
09090201	shafts	—	—	C3	—	—	—	—
09090202	impellers, rotors	—	—	C3	—	—	—	—
09090203	casings	—	—	C3	—	—	—	—
09090300	screw and gear pumps and compressors:							
09090301	shafts, screws	P	—	C3	—	—	P	P
09090302	casings	P	—	C3	—	—	P	P
09090303	screw pump housing	P	—	C3	—	—	P	P
09090304	pinions	P	—	C3	—	—	P	P

1	2	3	4	5	6	7	8	9
09090400	oil fuel and lubricating oil separators:							
09090401	bowl bodies, shafts	P	—	C3	—	—	P	P
09090402	bowl discs	P	—	C3	—	—	P	P
09090403	pinions	P	—	C3	—	—	P	P
09090500	blowers:							
09090501	shafts and rotors	—	—	C3	—	—	—	—
09090502	gland seals	—	—	C3	—	—	—	—
09090503	casings	—	—	C3	—	—	—	—
09090504	bearings	—	—	C3	—	—	—	—
09090505	supercharging air coolers	P	CTO <sup>2</sup>	C3	—	P	P	P
09100000	<b>Deck machinery:</b>							
09100100MK	steering gear (engines):	P	CTO	C3	K	P	P	P
09100101	rudder stock yoke	P	—	C3	—	—	—	—
09100102	cylinders	P	—	C3	—	—	—	—
09100103	driven shafts	P	—	C3	—	—	—	—
09100104	pinions, wheels, tooth rims	—	—	C3	—	—	—	—
09100105	pistons with rods	P	—	C3	—	—	—	—
09100106	safety valves	P	—	C3	—	—	P	P
09100200	windlass and anchor capstans:	P	CTO	C3	K	P	P	P
09100201	intermediate and output shafts and spindles	P	—	C3	—	—	—	—
09100202	chain sprockets	—	—	C3	—	—	—	—
09100203	pinions, gears of power drives	—	—	C3	—	—	—	—
09100204	disengaging and safety clutches	—	—	C3	—	—	—	—
09100205	band and automatic brakes	—	—	C3	—	—	—	—
09100300	mooring capstans and winches:	P	CTO	C3	—	P	P	—
09100301	spindles, output shafts	P	—	C3	—	—	P	P
09100302	pinions, gears of power drives	P	—	C3	—	—	P	P
09100303	safety clutches	P	—	C3	—	—	P	P
09100304	automatic brakes	P	—	C3	—	—	P	P
09100400	towing winches:	P	CTO	C3	—	P	P	P
09100401	output and intermediate shafts	—	—	C3	—	—	—	—
09100402	pinions, gears of power drives	—	—	C3	—	—	—	—
09100403	rope tightening control devices, rope layers	—	—	C3	—	—	—	—
09100404	brakes	—	—	C3	—	—	—	—
09100500MK	boat winches:	P	CTO	C3	K	P	P	P
09100501	output and intermediate shafts	—	—	C3	—	—	—	—
09100502	pinions, gears of power drives	—	—	C3	—	—	—	—
09100503	automatic and hand brakes	—	—	C3	—	—	—	—
09100504	stoppers	—	—	C3	—	—	—	—
09110000	Mechanical telegraphs	P	CTO	C3	—	P	P	P
09120000	<b>Fans:</b>							
09120010	machinery spaces, foam and smothering fire extinction stations, refrigerated spaces	—	—	CTO	—	P	P	—
09120020	cargo pump rooms, holds for carriage of dangerous goods and motor vehicles, helicopters sheds	P	CTO	C3	—	P	P	—
09120030	portable gas freeing fans for enclosed spaces on oil and chemical tankers	P	CTO	C3	—	P	P	—
09120040	dangerous spaces and spaces with overpressure of MODU, oil and chemical tankers	P	CTO	C3	—	P	P	—
09130000	<b>Motors and pumps of hydraulic systems:</b>	P	CTO	C3	K	P	P	P
09130001	shafts, rotors, pinions	—	—	C3	—	—	—	—
09130002	rods	—	—	C3	—	—	—	—
09130003	pistons, plungers	—	—	C3	—	—	—	—
09130004	casings	—	—	C3	—	—	—	—
09130005	hydraulic cylinders	—	—	C3	—	—	—	—
09140000	Thruster machinery	P	CTO	C3	K	P	P	P
09150000	Sea water submersible pumps	P	CTO	C3	K	P	P	—
09160000	<b>Drives of MODU jacking arrangements:</b>	P	—	C3	K	P	P	P
09160100	hydraulic cylinders in assembly	P	—	C3	K	—	—	—
09160101	cylinders and covers	P	—	C3	K	—	—	—
09160102	pistons with rods	P	—	C3	K	—	—	—
09160103	yokes for securing hydraulic cylinders	P	—	C3	K	—	—	—
09160104	securing items	—	—	C3	—	P	—	—

1	2	3	4	5	6	7	8	9
09170000	<b>Winches of MODU lifting and lowering columns of submersible sea water pumps:</b>	P	—	C3	K	P	P	—
09170001	output and intermediate shafts	P	—	C3	—	—	—	—
09170002	wheels and pinions	P	—	C3	—	—	—	—
09170003	brakes	P	—	C3	—	—	—	—
09200000	Type production processes	—	—	—	—	—	—	—
10000000	<b>BOILERS, HEAT EXCHANGERS AND PRESSURE VESSELS</b>							
10000100	Steam generating units	P	—	C3	K	P	P	P
10010000	<b>Boilers, including waste-heat and water heating boilers:</b>	P	CTO, ЦПИ	C3	K	P	P	P
10010003	shells	P	—	C3	—	—	—	—
10010004	end plates	P	—	C3	—	—	—	—
10010006	water chambers	P	—	C3	—	—	—	—
10010007	combustion chambers	P	—	C3	—	—	—	—
10010008	furnaces	P	—	C3	—	—	—	—
10010009	boiler stays	P	—	C3	—	—	—	—
10010011	economizers	P	—	C3	—	—	—	—
10010012	steam accumulators (steam separators)	P	—	C3	K	P	P	P
10010100	shells	P	—	C3	—	—	—	—
10010200	drums	P	—	C3	—	—	—	—
10010500	headers	P	—	C3	—	—	—	—
10011000	oil burning equipment	P	—	C3	—	P	P	P
10011300	steam superheaters	P	—	C3	—	—	—	—
10011400	air heaters	—	—	C3	—	—	—	—
10020000	<b>Heat exchangers and pressure vessels:</b>							
10020100	boiler feed water heaters	P	—	C3	—	P	P	P
10020101	deaerators	P	—	C3	—	P	P	P
10020200	condensers of main turbines	P	—	C	—	P	P	P
10020201	condensers of electric generator turbines	P	—	C3	—	P	P	P
10020300	condensers of auxiliary steam turbines	P	—	C3	—	P	P	—
10020400	distillers	P	—	C3	—	P	—	P
10020500	heaters:							
10020501	oil fuel heaters	P	—	C3	—	P	P	—
10020502	lubricating oil heaters	P	—	C3	—	P	P	—
10020503	water heaters	P	—	C3	—	P	P	—
10020600	coolers:							
10020601	lubricating oil coolers of main machinery	P	—	C3	—	P	P	P
10020602	water coolers of main machinery	P	—	C3	—	P	P	P
10020603	lubricating oil coolers of auxiliary machinery	P	—	C3	—	P	P	P
10020604	water coolers of auxiliary machinery	P	—	C3	—	P	P	P
10020700	filters:							
10020701	oil fuel filters	P	—	C3	—	P	P	—
10020702	lubricating oil filters	P	—	C3	—	P	P	—
10020703	water filters	P	—	C3	—	P	P	—
10020800	air bottles	P	—	C3	K	P	P	—
10020900	hydraulic accumulators	P	—	C3	—	P	P	—
10021000	hydrophores	—	—	—	—	—	P	—
10021100	pressure vessels and apparatus of fire-fighting systems	P	—	C3	K	P	P	—
10021200	pressure vessels and apparatus of domestic, production, research and other applications	—	—	C3	—	P	—	—
10030000	<b>Valves:</b>							
10030100	valves for boilers equal to or over 0,07 MPa	P	—	C3	—	—	—	—
10030200	valves for pressure vessels and heat exchangers equal to or over 0,07 MPa, $DN \geq 50$ mm	P	—	C3	—	—	—	—
10030300	safety valves	P	CTO	C3	—	P	P	—
10030400	pressure gauges	—	—	—	—	P	P	—
10040000	Pressure vessels for MODU marine riser tightening and rolling compensation system	—	—	C3	K	P	P	P
10050000	<b>Gas fuel tanks:</b>							
10050100	liquefied gas fuel tanks	P	СПИ	C	K	P	P	P
10050200	compressed gas fuel tanks	P	CTO	C	K	P	P	P
10050300	gas fuel treatment installation	P	—	C3	K	P	P	—
10050400	LNG fuel forcing vaporizer	P	CTO	C3	K	P	P	—
10100000	Type production processes	P	CTO	CTO	—	P	—	—

1	2	3	4	5	6	7	8	9
11000000	<b>ELECTRICAL EQUIPMENT</b>							
11010000	<b>Electrical propulsion plant:</b>	—	—	—	—	P	P	P
11010100	propulsion generators or main power plant generators, if combined	P	—	C*	K	—	—	—
11010200	propulsion electrical motors (PEM)	P	—	C*	K	—	—	—
11010300	podded azimuth drive's propulsion electrical motors	P	—	C*	K	—	—	—
11010400	propulsion switchboards	P	—	C*	—	—	—	—
11010410	standard unit/card of switchboard	P	CTO	—	—	—	—	—
11010500	propulsion transformers, reactors	P	—	C*	—	—	—	—
11010600	propulsion semiconductor converters	P	—	C*	—	—	—	—
11010700	electrical machine converters	P	—	C*	—	—	—	—
11010800	control systems, monitoring and protection systems	P	CTO	C	—	—	—	—
11010900	slip rings devices for podded azimuth propulsion	P	—	C*	—	—	—	—
11011000	azimuth drives for podded propulsion electrical motors	P	—	C*	—	—	—	—
11020000	<b>Main and emergency sources of electrical power:</b>	—	—	—	—	P	P	P
11020100	generators:							
11020101	power of 100 kVA and over	P	CTO	C	K	—	—	—
11020102	power less than 100 kVA	P	CTO	C3	—	—	—	—
11020200	accumulators and accumulator batteries	P	CTO	CTO	—	—	—	—
11020300	uninterrupted power supply:	—	—	—	—	—	—	—
11020301	power of 50 kVA and over	P	CTO	C	—	—	—	—
11020302	power less than 50 kVA	P	CTO	CTO	—	—	—	—
11020400	other sources of electrical power	P	CTO	C3	—	—	—	—
11030000	<b>Transformers and convertors:</b>	—	—	—	—	P	P	P
11030100	power transformers with power of 100 kVA and over	P	CTO	C	—	—	—	—
11030101	lighting transformers with power of 100 kVA and over	P	CTO	C	—	—	—	—
11030110	power transformers with power less than 100 kVA	P	CTO	CTO	—	—	—	—
11030111	lighting transformers with power less than 100 kVA	P	CTO	CTO	—	—	—	—
11030200	measuring and other transformers	P	CTO	CTO	—	—	—	—
11030300	rotary converters:	—	—	—	—	—	—	—
11030301	power of 100 kVA and over	P	CTO	C	—	—	—	—
11030302	power less than 100 kVA	P	CTO	C3	—	—	—	—
11030400	rotary amplifiers:	—	—	—	—	—	—	—
11030401	power of 100 kVA and over	P	CTO	C	—	—	—	—
11030402	power less than 100 kVA	P	CTO	C3	—	—	—	—
11030500	static and semi-conductor converters (rectifiers, inverters, frequency converters) with rated current:	—	—	—	—	—	—	—
11030501	rated current over 25 A	P	CTO	C	—	—	—	—
11030502	rated current 25 A and less	P	CTO	C3	—	—	—	—
11040000	<b>Switchboards and control and monitoring desks:</b>	—	—	—	—	P	P	P
11040100	main switchboards	P	—	C	—	—	—	—
11040101	emergency switchboards	P	—	C	—	—	—	—
11040110	standard unit/card of switchboard	P	CTO	—	—	—	—	—
11040200	distribution and other switchboards	P	CTO	C3	—	—	—	—
11040300	navigation light switchboards	P	CTO	C3	—	—	—	—
11040400	desks:	—	—	—	—	P	P	P
11040401	control desks	P	CTO	C	—	—	—	—
11040402	monitoring desks	P	CTO	C	—	—	—	—
11040403	signalling desks	P	CTO	C	—	—	—	—
11040500	switchgear and control gear, alarm and indicating devices							
11040502	switches	P	CTO	CTO	—	—	—	—
11040503	contactors, relays	P	CTO	CTO	—	—	—	—
11040504	tripping devices	P	CTO	CTO	—	—	—	—
11040505	switches, limit switches	P	CTO	CTO	—	—	—	—
11040506	resistors and rheostats	P	CTO	CTO	—	—	—	—
11040507	semiconductor switching devices for non-motor loads	P	CTO	CTO	—	—	—	—
11040509	pilot devices (push buttons, switchers, joysticks, etc.)	P	CTO	CTO	—	—	—	—

1	2	3	4	5	6	7	8	9
11040600	protective devices:							
11040601	relays $I > 25$ A	P	CTO	C3	—	—	—	—
11040602	relays $I \leq 25$ A	P	CTO	CTO	—	—	—	—
11040603	fuses $I > 25$ A	P	CTO	C3	—	—	—	—
11040604	fuses $I \leq 25$ A	P	CTO	CTO	—	—	—	—
11040605	complex protective devices	P	CTO	C3	—	—	—	—
11040606	protective barriers of intrinsically safe circuits of <i>Exi</i> type	P	CTO	CTO	—	—	—	—
11040607	circuit breakers $I \geq 25$ A	P	CTO	C3	—	—	—	—
11040608	circuit breakers $I < 25$ A	P	CTO	CTO	—	—	—	—
11040700	controllers:							
11040701	regulators $I > 25$ A	P	CTO	C3	—	—	—	—
11040702	regulators $I \leq 25$ A	P	CTO	CTO	—	—	—	—
11040703	reactors	P	CTO	CTO	—	—	—	—
11040704	power coefficient increase capacitors	P	CTO	CTO	—	—	—	—
11040800	stationary electrical measuring instruments	P	CTO	CTO	—	—	—	—
11040900	busbars	—	—	—	—	P	P	P
11050000	<b>Electric drives for machinery referred to in 07000000, 09000000, 12000000, 14000000MK, 18050000 19000000MK as well as fishing vessel machinery and ships engaged in processing of living resources of the sea and not engaged in catching:</b>							
11050100	electric motors:							
11050101	electric motors with power output 100 kW and over	P	CTO	C	K	—	—	—
11050102	electric motors with power output up to 100 kW	P	CTO	CTO	—	—	—	—
11050200	starting devices:							
11050201	starters	P	CTO	C3	—	—	—	—
11050202	suppressors of breaking power, resistances and rheostats	P	CTO	CTO	—	—	—	—
11050204	controllers	P	CTO	C3	—	—	—	—
11050205	soft starters rated at 100 kW and over	P	CTO	C3	—	—	—	—
11050206	control systems for electric drives	P	CTO	C3	—	P	P	P
11050207	soft starters rated up to 100 kW	P	CTO	CTO	—	—	—	—
11050208	electronic power units for valve control for primary and secondary essential services	P	CTO	CTO	—	—	—	—
11050209	electronic power units for valve control for non-essential services	P	CTO	CTO	—	—	—	—
11050300	electromagnetic brakes	P	CTO	CTO	—	—	—	—
11050400	electromagnetic clutches	P	CTO	CTO	K	—	—	—
11060000	Main and emergency lighting:							
11060001	stationary lighting fixtures, flood-light projectors	P	CTO	CTO	—	—	—	—
11060002	lighting fitting and accessories	P	CTO	CTO	—	—	—	—
11070000	Control and monitoring devices:							
11070100	electrical engine telegraphs	P	CTO	C3	—	P	P	P
11070200	rudder angle indicators	P	CTO	CTO	—	P	P	P
11070300	CPP position indicator	P	CTO	CTO	—	P	P	P
11070400	tachometers	P	CTO	CTO	—	P	P	P
11070500	other monitoring devices (static electricity insulation, intrinsically-safe circuits, etc)	P	CTO	C3	—	P	P	P
11080000	Telephone service communication:							
11080100	commutators and telephone communication sets	P	CTO	CTO	—	—	—	—
11090000	General alarm system:							
11090001	visual and sound devices and switches	P	CTO	CTO	—	—	—	—
11100000	Fire detection system and warning alarm on fire smothering system release:	P	CTO	C3	—	P	P	P
11100100	indicating units of fire detection system	P	CTO	C3	—	—	—	—
11100102	manual fire alarm buttons and detectors of fire detection system	P	CTO	CTO	—	—	—	—
11100103	system components of warning alarm on fire smothering system release	P	CTO	CTO	—	—	—	—
11100200	Warning systems of local fire extinguishing system release for machinery space machinery:	P	CTO	CTO	—	P	P	P
11100201	switchboards, control and alarm panels	P	CTO	CTO	—	—	—	—
11100202	detectors and other components	P	CTO	CTO	—	—	—	—

1	2	3	4	5	6	7	8	9
11100300	Alarm system of high-level of bilge water:	P	CTO	C3	—	P	P	P
11100301	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100302	detectors and other components	P	CTO	CTO	—	—	—	—
11100400	Engineer's alarm:	P	CTO	C3	—	P	P	P
11100401	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100402	detectors and other components	P	CTO	CTO	—	—	—	—
11100500	Alarm system of people presence inside refrigerated holds:	P	CTO	C3	—	P	P	P
11100501	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100502	detectors and other components	P	CTO	CTO	—	—	—	—
11100600	Alarm system of side port closures condition:	P	CTO	C3	—	P	P	P
11100601	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11100602	detectors and other components	P	CTO	CTO	—	—	—	—
11100700	Exterior/inner video monitoring system:	P	CTO	C3	—	P	P	P
11100701	video cameras	P	CTO	CTO	—	—	—	—
11100702	video terminals	P	CTO	CTO	—	—	—	—
11100703	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11100704	detectors and other components	P	CTO	CTO	—	—	—	—
11100800	Alarm system of explosive gas concentration increase in spaces and areas:	P	CTO	C3	—	P	P	P
11100801	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11100802	detectors and other components	P	CTO	CTO	—	—	—	—
11100900	Cargo holds and dry cargo ships water ingress detection system:	P	CTO	C3	—	P	P	P
11100901	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11100902	detectors and other components	P	CTO	CTO	—	—	—	—
11110000	Fire and watertight door signalling system:	P	CTO	C3	—	P	P	P
11110001	components of fire and watertight door signalling system	P	CTO	CTO	—	—	—	—
11110100	Warning alarm system for automatic sprinkler fire-extinguishing system	P	CTO	C	—	P	P	P
11110101	Central alarm panel	P	CTO	C3	—	—	—	—
11110102	Detectors and other components	P	CTO	CTO	—	—	—	—
11120000	Machinery personnel alarm system	—	—	C3	—	P	P	P
11120001	Components of machinery personnel alarm system	P	CTO	CTO	—	—	—	—
11130000	Cabling:	—	—	—	—	P	P	P
11130100	cables and wires:	P	CTO	C3	—	—	—	—
11130101	cables of supply circuits for voltage over 1000 V	P	CTO	C3	—	—	—	—
11130102	cables of supply circuits for voltage up to 1000 V	P	CTO	C3	—	—	—	—
11130103	cables of control circuits and information transfer circuits	P	CTO	C3	—	—	—	—
11130104	coaxial cables	P	CTO	C3	—	—	—	—
11130105	optical-fiber cables	P	CTO	C3	—	—	—	—
11130106	current leads and busbars uninsulated for power supply circuits of 1000 V and less	P	CTO	C3	—	—	—	—
11130107	current leads and busbars insulated for power supply circuits of 1000 V and less	P	CTO	C3	—	—	—	—
11130108	current leads and busbars uninsulated for power supply circuits of more than 1000 V	P	CTO	C3	—	—	—	—
11130109	current leads and busbars insulated for power supply circuits of more than 1000 V	P	CTO	C3	—	—	—	—
11130200	items and devices for installation, splicing and connection of cables and wires	P	CTO	CTO	—	—	—	—
11140000	Lightening and earthing conductors, impressed current protection	P	CTO	CTO	—	P	—	—
11150000	Heating and cooking appliances, stationary appliances:	—	—	—	—	P	P	P
11150001	oil fuel and lubricating oil heating appliances	P	CTO	C3	—	—	—	—
11150002	heating radiators for air-conditioning system	P	CTO	CTO	—	—	—	—
11150003	water heaters of 0,025 m <sup>3</sup> in capacity and pressure equal to or more than 0,07 MPa	P	CTO	C3	—	—	—	—
11150004	other stationary heating appliances	P	CTO	CTO	—	—	—	—
11150005	heating cables	P	CTO	CTO	—	P	P	P
11160000	Electrical filters of different purpose:	—	—	—	—	—	—	—
11160001	electrical filters of different purpose, $I < 25$ A	P	CTO	CTO	—	P	P	P
11160002	electrical filters of different purpose, $I \geq 25$ A	P	CTO	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
11170000	Special systems of oil tankers and gas carriers:							
11170100	Alarm system of temperature increase of bulkhead bearings of cargo and ballast pumps:	P	CTO	C3	—	P	P	P
11170101	switchboards, control and alarm panels	P	CTO	C3	—	—	—	—
11170102	detectors and other components	P	CTO	CTO	—	—	—	—
11170200	Alarm system of cargo high and limiting level:	P	CTO	C3	—	P	P	P
11170201	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11170202	detectors and other components	P	CTO	CTO	—	—	—	—
11180000	Signalling on failures in MODU jacking system:	—	CTO	C3	—	P	P	P
11180001	switchboards, control and alarm panels	P	CTO <sup>2</sup>	C3*	—	—	—	—
11180002	detectors and other components	P	CTO	CTO	—	—	—	—
11190000	Housings for electrical items	P	CTO	CTO	—	—	—	—
11210000	Other electrical equipment	P	CTO	CTO	—	—	—	—
11220000	Type production processes	—	—	—	—	—	—	—
12000000	<b>REFRIGERATING PLANTS</b>							
12010000	<b>Refrigerating units and machinery:</b>							
12010005	Parts of products specified in 12010000	P	—	C3	K	—	—	—
12010100	Compressors:							
12010110	screw type	P	—	C3	K	P	P	—
12010120	piston type	P	—	C3	K	P	P	—
12010130	centrifugal and axial-flow type	P	—	C3	K	P	P	—
12010200	Refrigerant pumps	P	—	C3	K	P	P	—
12010300	Secondary refrigerant pumps	P	—	CTO	—	P	P	—
12010400	Compressing and condensating units	P	—	C3	K	P	P	—
12010500	Ice generators	P	—	C3	K	P	P	—
12010600	Freezing units	P	—	C3	K	P	P	—
12020000	<b>Refrigerant pressure vessels:</b>							
12020100	Refrigerant condensators	P	—	C3	—	P	P	—
12020200	Direct evaporation air coolers	P	—	C3	—	P	P	—
12020300	Brine air coolers	P	—	CTO	—	P	P	—
12020400	Refrigerant evaporators	P	—	C3	—	P	P	—
12020500	Refrigerant filters	P	—	C3	—	P	P	—
12020600	Oil separators	P	—	C3	—	P	P	—
12020700	Refrigerant receiver	P	—	C3	—	P	P	—
12020800	Refrigerant separator	P	—	C3	—	P	P	—
12050000	<b>Piping and valves:</b>							
12050004	Valves designed for pressure 1,0 MPa and more	P	—	CTO	—	P	P	—
12050100	Pipes of refrigerant, liquid secondary refrigerant and cooling water	—	—	—	—	P	P	—
12050200	Air pipes of cooling system	—	—	—	—	P	P	—
12050300	Safety devices and valves	P	—	C3	—	P	P	—
12050400	Solenoid valves	P	—	CTO	—	P	P	—
12050500	Manually operated valves	P	—	CTO	—	P	P	—
12060000	Safety devices	P	—	CTO	—	P	P	—
12070000	Automatic control devices	P	—	CTO	—	P	P	—
12070100	Thermostatic expansion valves	P	—	CTO	—	P	P	—
12070200	Thermostats	P	—	CTO	—	P	P	—
12070300	Bellows-actuated pressure switches	P	—	CTO	—	P	P	—
12080000	Atmosphere control devices	P	—	CTO	—	P	P	—
12090000	Materials for insulation of refrigerated spaces and pipes	P	—	CTO	—	P	P	—
12100000	Refrigerant	P	—	CTO	—	P	P	—
12110000	Refrigerant leak detectors	P	—	CTO	—	P	P	—
13000000	<b>MATERIALS</b>							
13100000	<b>Steel and iron</b>							
13110000	<b>Rolled products:</b>							
13110100	rolled products for ship and MODU structures as well as ship arrangements:							
13110101	plates and sheets	P	СПИ	C3	K*	—	—	—
13110102	strips	P	СПИ	C3	K*	—	—	—
13110103	sections	P	СПИ	C3	K	—	—	—
13110104	bars	P	СПИ	C3	K	—	—	—
13110105	welded sections	P	СПИ	C3	K	—	—	—
13110200	rolled steel for boilers, heat exchangers and pressure vessels	P	СПИ	C3	K	—	—	—
13110400	rolled stock for MODU gears and machinery	P	СПИ	C3	K	—	—	—
13110500	clad steel	P	СПИ	C3	K	—	—	—



1	2	3	4	5	6	7	8	9
13120000	<b>Tubes and pipes:</b>							
13120100	tubes and pipes for Class I and Class II machinery, boilers, heat exchangers and pressure vessels:							
13120101	seamless	P	СПИ	СЗ	—	—	—	—
13120102	welded	P	СПИ	СЗ	—	—	—	—
13120200	tubes and pipes for Class I and II piping and MODU special systems:							
13120201	seamless	P	СПИ	СЗ	—	—	—	—
13120202	welded	P	СПИ	СЗ	—	—	—	—
13120400	constructional tubes and pipes of MODU gears and machinery:							
13120401	seamless	P	СПИ	С	К	—	—	—
13120402	welded	P	СПИ	С	К	—	—	—
13130000	<b>Forgings:</b>							
13130100	forgings for ship hull and MODU structures as well as ship arrangements:							
13130101	stems, bar keels, shafting struts	P	СПИ	СЗ	К	—	—	—
13130102	rudder stocks and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13130200	forgings for boilers, heat exchangers, pressure vessels and for pipes of pipeline systems	P	СПИ	СЗ	К	—	—	—
13130300	forgings for NSSS	P	СПИ	СЗ	К	—	—	—
13130400	forgings for MODU gears and machinery	P	СПИ	СЗ	К	—	—	—
13130500	forgings for ship machinery and machinery installations:							
13130501	forgings for propellers and CPP (bosses and blades)	P	СПИ	СЗ	К	—	—	—
13130502	forgings for crankshafts of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ <sup>8</sup>	К	—	—	—
13130503	forgings for propeller, intermediate and thrust shafts	P	СПИ	СЗ	К	—	—	—
13130504	forgings for connecting rods, rods ( $D_{cyl} > 400$ mm), crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ <sup>8</sup>	К	—	—	—
13130505	forgings for casings, disks, rotors and shafts of main turbines and compressors	P	СПИ	СЗ	К	—	—	—
13130506	forgings for gears, pinions and shafts of main machinery transmissions	P	СПИ	СЗ	К	—	—	—
13130507	forgings for tillers, quadrants, part of rudders and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13130508	forgings for propulsion motors shafts, generators and slip couplings built into the shafting	P	СПИ	СЗ	К	—	—	—
13130600	forgings for anchors and accessories	P	СПИ	СЗ	К	—	—	—
13140000	<b>Castings:</b>							
13140100	castings for ship hull and MODU structures as well as ship arrangements:							
13140101	castings for stems, bar keels, shafting struts	P	СПИ	СЗ	К	—	—	—
13140102	castings for rudder stocks and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13140200	castings for boilers, heat exchangers, pressure vessels and for pipes of pipeline systems	P	СПИ	С	К	—	—	—
13140300	castings for NSSS	P	СПИ	СЗ	К	—	—	—
13140400	castings for MODU gears and machinery	P	СПИ	СЗ	К	—	—	—
13140500	castings of machinery and machinery installations:							
13140501	castings for propellers and CPP (bosses and blades)	P	СПИ	СЗ	К	—	—	—
13140502	castings for crankshafts of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ <sup>8</sup>	К	—	—	—
13140503	castings for propeller, intermediate and thrust shafts	P	СПИ	СЗ	К	—	—	—
13140504	castings for connecting rods, rods ( $D_{cyl} > 400$ mm), crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ <sup>8</sup>	К	—	—	—

1	2	3	4	5	6	7	8	9
13140505	castings for casings and shafts of main turbines and compressors	P	СПИ	СЗ	К	—	—	—
13140506	castings for gears, pinions and shafts of main machinery transmissions	P	СПИ	СЗ	К	—	—	—
13140507	castings for tillers, quadrants, parts of rudders and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13140600	castings for anchors and accessories	P	СПИ	СЗ	К	—	—	—
13150000	steel for chains	P	СПИ	СЗ	—	—	—	—
13160000	<b>Semi-finished products:</b>							
13160100	ingots	P	СПИ	СЗ	К	—	—	—
13160200	blums	P	СПИ	СЗ	К	—	—	—
13160300	slabs	P	СПИ	СЗ	К	—	—	—
13160400	billets	P	СПИ	СЗ	К	—	—	—
13200000	<b>Aluminium, titanium and cooper alloys:</b>							
13210000	rolled products for ship hull and MODU structures and ship arrangements	P	СПИ	СЗ	К	—	—	—
13220000	pipes and tubes	P	СПИ	СЗ	—	—	—	—
13230000	forgings	P	СПИ	СЗ	К	—	—	—
13240000	castings	P	СПИ	СЗ	К	—	—	—
13240100	castings for propellers and CPP	P	СПИ	СЗ	К	—	—	—
13250000	<b>Laminated composite materials</b>							
13251000	Steel-titanium	P	СПИ	СЗ	К	—	—	—
13300000	<b>Non-metal materials:</b>							
13310000	materials for reinforced plastic structures:							
13310100	reinforcing materials	P	СТО	СТО	—	—	—	—
13310200	binders	P	СТО	СТО	—	—	—	—
13320000	laminated textiles	P	СТО	СТО	—	—	—	—
13330000	retro-reflective materials	P	СТО	СТО	—	—	—	—
13340000	foam plastics	P	СТО	СТО	—	—	—	—
13350000	polymeric compositions	P	СТО	СТО	—	—	—	—
13351000	plating of polymer composite material (fibre reinforced plastic) of the gangways	P	СТО	СТО	—	—	—	—
13360000	anticorrosive coating of hull structures	P	СТО	СТО	—	P	—	—
13361000MK	protective coating for dedicated sea water ballast tanks (IMO resolution MSC.215(82))	P	СТО	СТО	—	P	P	P
13362000MK	protective coatings for cargo oil tanks of crude oil tankers (IMO resolution MSC.288(87))	P	СТО	СТО	—	P	P	P
13370000MK	antifouling coatings of ship's hulls	P	СТО*	СТО	—	P	—	—
13380000	ice-resistant coatings	P	СТО	СТО	—	P	—	—
13400000	Anchor and mooring chain cables and accessories	P	СПИ	СЗ	К	P	P	P
13500000	<b>Ropes:</b>							
13510000	wire ropes	P	СПИ	СЗ	—	—	—	—
13520000	ropes of natural and synthetic fibre	P	СПИ	СЗ	—	—	—	—
13600000	Pipes and formed components of classes I and II	P	СТО	СТО	—	—	—	—
13600100	Pipes and formed components of class III	—	—	СТО	—	—	—	—
13800000	<b>Stainless steel:</b>							
13810000	rolled plates and bars	P	СПИ	СЗ	К	—	—	—
13820000	pipes	P	СПИ	СЗ	К	—	—	—
13830000	forgings	P	СПИ	СЗ	К	—	—	—
13840000	castings	P	СПИ	СЗ	К	—	—	—
13850000	semi-finished products	—	СПИ	СЗ	—	—	—	—
14000000	<b>WELDING CONSUMABLES</b>							
14100000	<b>Electrodes:</b>							
14100100	electrodes for ships hull and MODU structures	P	СОСМ	СОСМ	—	—	—	—
14100200	electrodes for boilers, heat exchangers and pressure vessels	P	СОСМ	СОСМ	—	—	—	—
14100300	electrodes for Class I, Class II and Class III piping	P	СОСМ	СОСМ	—	—	—	—
14100400	electrodes for nuclear steam supply systems	P	СОСМ	СОСМ	—	—	—	—
14100500	electrodes for machinery, devices, equipment and welded parts of internal combustion engines	P	СОСМ	СОСМ	—	—	—	—
14200000	<b>Wire/flux:</b>							
14200100	wire/flux for ship hull MODU structures	P	СОСМ	СОСМ	—	—	—	—
14200200	wire/flux for boilers, heat exchangers and pressure vessels	P	СОСМ	СОСМ	—	—	—	—
14200300	wire/flux for Class I, Class II and Class III piping	P	СОСМ	СОСМ	—	—	—	—
14200400	wire/flux for nuclear steam supply systems	P	СОСМ	СОСМ	—	—	—	—

1	2	3	4	5	6	7	8	9
14200500	wire/flux for machinery, equipment and welded parts of internal combustion engines	P	COCM	COCM	—	—	—	—
14300000	<b>Wire/gas:</b>							
14300100	wire/gas for hull structures of ships and MODU	P	COCM	COCM	—	—	—	—
14300200	wire/gas for boilers, heat exchangers and pressure vessels	P	COCM	COCM	—	—	—	—
14300300	wire/gas for Class I, II and Class III piping	P	COCM	COCM	—	—	—	—
14300400	wire/gas for nuclear steam supply systems	P	COCM	COCM	—	—	—	—
14300500	wire/gas for machinery, equipment and welded parts of internal combustion engines	P	COCM	COCM	—	—	—	—
14400000	Protective primers allowing to weld without their removal	P	CTO	CTO	—	—	—	—
14500000	Type production processes	P	COTIIC	COTIIC	—	—	—	—
14000000MK	<b>CARGO HANDLING GEAR</b>							
14010000MK	<b>Ship derricks:</b>							
14010100MK	structures with fixed gear (masts, columns, gantries, etc.)	—	—	—	—	P	P	—
14010200MK	derrick booms	P	—	C	K	P	P	—
14010300MK	cargo winches, span winches and slewing guy winches; span rope reels and preventer guy reels with drive:	P	—	C	K	P	P	—
14010301	main shafts	P	—	C3	—	—	—	—
14010302	couplings	P	—	C3	—	—	—	—
14010303	frames and casings	P	—	C3	—	—	—	—
14010304	brakes	P	—	C3	—	—	—	—
14010305	ratchets	P	—	C3	—	—	—	—
14010400MK	span rope reels and preventer guy reels without independent drive	P	—	C3	—	—	—	—
14030000MK	<b>Cranes and hoists, upper structures:</b>	P	CTO	C	K	P	P	—
14030100MK	structures of cranes and hoists with permanently attached fixed gear (masts, posts, bell-shaped structures, bridges, gantries, understructures, rocking arms and pull rods of adjustable counterweights, etc.)	—	—	—	—	P	P	—
14030200MK	jibs	P	—	C	K	P	P	—
14030300MK	cargo lifting, luffing, slewing, travelling motion or counterbalance machinery:	P	—	C	—	P	P	—
14030301	main shafts	P	—	C3	—	—	—	—
14030302	couplings	P	—	C3	—	—	—	—
14030303	frames and casings	P	—	C3	—	—	—	—
14030304	brakes	P	—	C3	—	—	—	—
14030305	wheels, rollers	P	—	C3	—	—	—	—
14030306MK	adjustable counterbalances	P	—	C3	—	—	—	—
14030307	hydraulic cylinders	P	—	C3	—	—	—	—
14030308	power hydraulic cylinders	P	—	C3	—	—	—	—
14030309	flexible joints	P	—	C3	—	—	—	—
14030400MK	safety devices (SWL indicators, limit-load switches, hi-jacking devices, limit switches, jib-radius indicators, safety switches, signal devices)	P	CTO	C3	—	P	P	—
14030500MK	metal upper structures: posts, frames, supporting assemblies (jib and axles, etc.), trolleys, jibs, counterbalance attachments and other structures	—	—	—	—	P	P	—
14030600MK	fastenings and supports of derrick when stowed for sea	P	—	—	—	P	P	—
14030700MK	devices damping dynamic loads, stability of derrick against jack-knifing with the ship rolling or load drop	P	—	C	—	P	P	—
14040000MK	<b>Passenger and cargo lifts with lifting capacity 250 kg and over:</b>	P	CTO	C	K	P	P	P
14040100MK	metal structures with all loose gear	—	—	—	—	P	—	—
14040200MK	lift winches:	P	CTO	CTO	K	P	P	P
14040201	main shafts	P	—	—	—	—	—	—
14040202	couplings	P	—	—	—	—	—	—
14040203	frames and casings	P	—	—	—	—	—	—
14040204	brakes	P	—	—	—	—	—	—
14040300MK	lift equipment (trunk doors, counterbalances, buffers, safety devices, etc.)	P	—	—	—	P	P	—

1	2	3	4	5	6	7	8	9
14050000MK	<b>Parts and ropes of cargo handling gear:</b>							
14050100MK	interchangeable components:							
14050101MK	blocks, pulleys, hooks, chains, swivels, shackles, turnbuckles, triangle plates, boom and suspensions, etc.	P	CTO	C3	K	P	P	—
14050102MK	thimbles, ropes sockets and pressed clips	P	CTO	C3	—	—	P	—
14050200MK	fixed gear:							
14050201MK	cargo runner and span eye plates, guy eye plates on boom ends	P	CTO	C3	—	P	P	—
14050202MK	deck eye plates on ship hull structures	P	CTO	C3	—	P	P	—
14050203MK	derrick hel fork lugs	P	CTO	C3	—	P	P	—
14050204MK	span eye plates with shoes	P	CTO	C3	—	P	P	—
14050205MK	heel goosenecks with shoes	P	CTO	C3	—	P	P	—
14050206MK	built in sheaves with strops	P	CTO	C3	—	P	P	—
14050208MK	journals, bearing axles	P	CTO	C3	—	—	P	—
14050300MK	loose gear being part of the ship (slings, spreaders, hoisting crossbars, frames, etc.)	P	—	C3	K	P	P	—
14050301	appliances to convey the personnel (nets, baskets, cradles or other products specially designed for this purpose)	P	—	C	K	P	P	—
14050400MK	ropes (shrouds, stays, cargo runners, span ropes, tackles and slewing guy pendants, preventer guys and boom head guys in union purchase, etc.)	P	—	C3	—	P	P	—
14060000MK	<b>Ship elevating platforms:</b>	P	CTO	C	K	P	P	—
14060100MK	platforms	P	—	C3	—	P	P	—
14060200MK	equipment of platforms (guides, shoes, blocking devices, buffers, fencing and locking mechanisms, mechanical or hydraulic drives)	P	—	C3	—	P	P	—
14060300MK	load-carrying means (ropes and chains with guides and attachments, leverpool system, hydraulic drives, gear racks, spindles)	P	—	C3	—	P	P	—
14060400MK	safety devices	P	—	C3	—	P	P	—
14100000MK	Type production processes	—	—	—	—	—	—	—
15000000	<b>AUTOMATION</b>							
15010000	Integrated automation systems of machinery installations	P	CTO	C	—	P	P	P
15020000	Centralized alarm and monitoring systems, including computer-based systems	P	CTO	C	—	P	P	P
15030000	<b>Main machinery automated remote control systems:</b>							
15030100	remote control systems of main internal combustion engines	P	—	C	—	P	P	P
15030200	remote control systems of main machinery with CPP	P	—	C	—	P	P	P
15030300	remote control systems of main steam turbine installations	P	—	C	—	P	P	P
15030400	remote control systems of azimuth propulsion thrusters	P	—	C	—	P	P	P
15030500	control systems of ship and MODU dynamic positioning systems	P	—	C	—	P	P	P
15030510	computer-based systems, associated software and interfaces used for automated control systems of the thrusters with the use of the single control device (joystick) or several control devices	P	CTO	C	—	P	P	P
15030520	operator panel system with controls and data displays	P	CTO	C	—	P	P	P
15030530	position reference systems	P	CTO	CTO	—	P	P	P
15030600	control systems of azimuth podded electrical propulsion plant	P	CTO	C	—	P	P	P
15030700	automated control systems of self-elevating MODU jacking mechanisms	P	CTO	C	—	P	P	P
15030800	remote control and monitoring systems of semi-submersible MODU ballast systems	P	CTO	C	—	P	P	P
15030900	remote control systems of azimuth and tunnel thrusters	P	—	C	—	P	P	P
15031000	stabilization and hull-position control systems of high-speed craft	P	CTO	C	—	P	P	P

1	2	3	4	5	6	7	8	9
15040000	<b>Power plant control systems:</b>	—	—	—	—	—	—	—
15040100	remote automated starting and stopping systems of diesel generators	P	—	C3	—	P	P	P
15040200	remote automated starting and stopping systems of turbo-generators	P	CTO	C3	—	P	P	P
15040300	remote automated starting and stopping systems of shaft generators (where coupling control system is provided)	P	—	C3	—	P	P	P
15040400	automated electric power plant systems	P	CTO	C3	—	P	P	P
15050000	<b>Boiler installation control systems:</b>	—	—	—	—	—	—	—
15050100	automated control systems of main boiler installations	P	—	C3	—	P	P	P
15050200	automated control systems of auxiliary steam boiler installations	P	—	C3	—	P	P	P
15050300	automated control systems of exhaust boiler installations	P	—	C3	—	P	P	P
15050400	automated control systems of hot-water boiler installations	P	—	C3	—	P	P	P
15060000	<b>Control systems of auxiliary machinery:</b>	—	—	—	—	—	—	—
15060100	automated control systems of compressors	P	—	C3	—	P	P	P
15060200	automated control systems of separators	P	—	C3	—	P	P	P
15060300	automated control systems of filters	P	—	C3	—	P	P	P
15060400	automated control systems of pumps (oil, fuel, cooling, etc.)	P	—	C3	—	P	P	P
15060500	automated control systems of fuel preparation (temperature, viscosity)	P	—	C3	—	P	P	P
15070000	<b>Remote control of ship systems and remote level gauges:</b>	—	—	—	—	—	—	—
15070100	remote control systems of pumps and valves of ballast and bilge systems and remote level gauges	P	CTO	C	—	P	P	—
15070200	remote control systems of heel and trim systems	P	CTO	C	—	P	P	—
15070300	remote control systems of oil tankers cargo systems	P	CTO	C	—	P	P	—
15070400	remote control systems of gas carriers cargo system	P	CTO	C	—	P	P	—
15070500	remote control systems of chemical tankers cargo system	P	CTO	C	—	P	P	—
15080000	Control systems of deck machinery	P	—	C3	—	P	P	P
15090000	<b>Devices:</b>	—	—	—	—	—	—	—
15090100	regulating devices as parts of control systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090200	alarm and monitoring devices as parts of integrated and centralized control and monitoring systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090300	safety devices as parts of the systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090400	recording devices as parts of the systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090500	oil mist detectors in crankcases of internal combustion engines (as well as internal combustion engines bearing temperature monitors or equivalent devices for the prevention of explosion in the crankcase)	P	CTO	C3	—	P	P	P
15090600	computers and programmable logic controllers	P	CTO	CTO	—	P	P	—
15090700	electronic fuel injection and exhaust gas expulsion processes control devices for internal combustion engines	P	CTO	CTO	—	P	P	P
15100000	<b>Regulators of:</b>	—	—	—	—	—	—	—
15100101	level	P	CTO	CTO	—	P	P	—
15100102	pressure	P	CTO	CTO	—	P	P	—
15100103	temperature	P	CTO	CTO	—	P	P	—
15100104	viscosity	P	CTO	CTO	—	P	P	—
15100105	speed	P	CTO	C3	—	P	P	—
15110000	<b>Sensors and indicators of:</b>	—	—	—	—	—	—	—
15110101	level	P	CTO	CTO	—	P	P	—
15110102	pressure	P	CTO	CTO	—	P	P	—
15110103	temperature	P	CTO	CTO	—	P	P	—
15110104	flow	P	CTO	CTO	—	P	P	—

1	2	3	4	5	6	7	8	9
15110105	salinity	P	CTO	CTO	—	P	P	—
15110106	vibration	P	CTO	CTO	—	P	P	—
15110107	position	P	CTO	CTO	—	P	P	—
15110108	external force sensors	P	CTO*	CTO	—	P	P	P
15110110	gas concentration	P	CTO	CTO	—	P	P	—
15119999	others	P	CTO	CTO	—	P	P	—
15120000	<b>Panels, cabinets and other enclosures for:</b>	—	—	—	—	—	—	—
15120100	control systems	P	CTO	CTO	—	P	P	—
15120200	monitoring (alarm and indication) systems	P	CTO	CTO	—	P	P	—
15120300	recording system	P	CTO	CTO	—	P	P	—
15130000	Remote instrumentation	P	CTO	CTO	—	P	P	—
15130100	Equipment diagnostic facilities	P	CTO	CTO	—	—	—	—
15200000	Type production processes	P	CTO	CTO	—	P	P	—
16000000	<b>SHIPS AND BOATS OF GLASS-REINFORCED PLASTIC</b>							
16010000	Glass-reinforced plastic for hull and lifeboats	P	CTO	CTO	—	—	—	—
16020000	Hull	P	—	C	—	P	—	—
16100000	Type production processes	—	—	—	—	—	—	—
17000000	<b>SHIPS CARRYING LIQUIFIED GASES IN BULK (LG CARRIERS)</b>							
17010000	<b>Materials</b>							
17011000	<b>Membrane Cargo Containment System — Mark III:</b>							
17011100	metal for membranes							
17011110	stainless steel plates (thickness < 3 mm) (thickness ≥ 3 mm)	P	СПИ	C	K	P	—	—
17011111	stainless steel studs, nuts and washers <sup>6</sup>	—	—	—	—	P	—	—
17011112	inner hull studs, nuts and washers <sup>6</sup>	—	—	—	—	P	—	—
17011113	stainless steel /angles	P	СПИ	C3	K	P	—	—
17011114	anchor strips	P	СПИ	C3	K	P	—	—
17011200	non-metallic materials							
17011210	plywood	P	CTO	CTO	—	P	—	—
17011220	laminated	P	CTO	CTO	—	P	—	—
17011221	fibrous materials <sup>6</sup>	—	—	—	—	—	—	—
17011222	glass wool <sup>6</sup>	—	—	—	—	P	—	—
17011223	glass-fiber materials <sup>6</sup>	—	—	—	—	P	—	—
17011230	polymeric materials	P	CTO	CTO	—	P	—	—
17011231	reinforced polyurethane foam (R-PUF)	P	CTO	CTO	—	P	—	—
17011232	low density foam (LDF)	P	CTO	CTO	—	P	—	—
17011240	adhesive materials	P	CTO	CTO	—	P	—	—
17011241	load bearing mastic	P	CTO	CTO	—	P	—	—
17011242	adhesive, is used for the insulation panel assembly	P	CTO	CTO	—	P	—	—
17011243	adhesive for secondary barrier	P	CTO	CTO	—	P	—	—
17011244	adhesive, is used for bonding the secondary barrier to the pump tower base support (PTBS)	P	CTO	CTO	—	P	—	—
17011250	protective and interlayer materials	P	CTO	CTO	—	P	—	—
17011251	paint for inner hull protection	P	CTO	CTO	—	P	—	—
17011260	heat insulation blocks	P	CTO	CTO	—	P	—	—
17011261	thermal protection <sup>6</sup>	—	—	—	—	P	—	—
17011262	secondary barrier, rigid secondary barrier material (RSB) and flexible secondary barrier material (FSB) <sup>6</sup>	—	—	—	—	P	—	—
17011263	top bridge pads <sup>6</sup>	—	—	—	—	P	—	—
17011264	flat wall panels <sup>6</sup>	—	—	—	—	P	—	—
17011265	corner panels <sup>6</sup>	—	—	—	—	P	—	—
17012000	<b>Membrane Cargo Containment System — NO96:</b>							
17012100	metal for membranes							
17012110	Fe-36%Ni alloy strips	P	СПИ	C	K	P	—	—
17012111	staples <sup>6</sup>	—	—	—	—	P	—	—
17012112	collar studs (forged) <sup>6</sup>	—	—	—	—	P	—	—
17012113	self-locked nuts <sup>6</sup>	—	—	—	—	P	—	—
17012114	spring washers <sup>6</sup>	—	—	—	—	P	—	—
17012200	non-metallic materials							
17012210	plywood (NO96)	P	CTO*	CTO	—	P	—	—
17012220	wood screws <sup>6</sup>	—	—	—	—	P	—	—
17012230	fibrous materials <sup>6</sup>	—	—	—	—	—	—	—
17012231	glass wool <sup>6</sup>	P	—	—	—	P	—	—

1	2	3	4	5	6	7	8	9
17012232	glass-fibre materials <sup>6</sup>	P	—	—	—	P	—	—
17012240	adhesive materials	P	CTO	CTO	—	P	—	—
17012241	load bearing mastic <sup>6</sup>	—	—	—	—	—	—	—
17012242	glue <sup>6</sup>	—	—	—	—	—	—	—
17012250	protective and interlayer materials	P	CTO	CTO	—	P	—	—
17012251	anti-sticking film	P	CTO	CTO	—	P	—	—
17012260	heat insulation blocks	P	CTO	CTO	—	P	—	—
17012261	thermal protection <sup>6</sup>	p	—	—	—	P	—	—
17012262	insulating boxes <sup>6</sup>	p	—	—	—	P	—	—
17012263	insulating material <sup>6</sup>	p	—	—	—	P	—	—
17012270	perlite <sup>6</sup>	P	—	—	—	P	—	—
17020000	<b>Valves:</b>							
17020110MK	cargo system valves (working temperature below –55 °C)	P	CTO	C3	K	P	P	P
17020120	pressure relief valves of cargo pipelines	P	CTO	C3	K	P	P	—
17020130MK	pressure relief valves of cargo tank vent system (working temperature below –55 °C)	P	CTO	C3	K	P	P	P
17020140MK	vacuum relief valves of cargo tanks (working temperature below –55 °C)	P	CTO	C3	K	P	P	—
17020210MK	expansion bellows for cargo systems (working temperature below –55 °C)	P	CTO	C3	K	P	P	P
17020310MK	cargo vapour hoses (working temperature below –55 °C)	P	CTO	C3	K	P	P	—
17030000	<b>Auxiliary machinery of cargo systems:</b>	—	—	—	—	—	—	—
17030100	cargo transfer pumps (working temperature below –55 °C)	P	—	C3	K	P	P	P
17030200MK	main cargo pumps (working temperature below –55 °C)	P	CTO	C	K	P	P	P
17030210MK	cargo stripping pumps (working temperature below –55 °C)	P	CTO	C	K	P	P	P
17030300MK	portable emergency cargo pumps (working temperature below –55 °C)	P	CTO	C3	K	P	P	P
17030400MK	high duty compressors	P	—	C	—	P	P	—
17030500MK	low duty compressors	P	—	C	—	P	P	—
17040000	<b>Cargo vapour utilization system:</b>	—	—	—	—	—	—	—
17040100	gas combustion unit (GCU)	P	—	C3	K	P	P	P
17040200	steam dumping arrangement	P	—	C3	K	P	P	P
17050000	cargo pressure and temperature control system	—	—	—	—	—	—	—
17050100	cargo refrigeration plant	P	—	C	K	P	P	P
17050200	cargo reliquefaction plant	P	—	C	K	P	P	P
18000000	<b>NUCLEAR SHIPS AND NUCLEAR SUPPORT VESSELS</b>							
18010000	<b>Ship hull (additionally to non-nuclear ships):</b>	P	—	—	—	P	P	P
18010100	collision structural protection	P	—	—	—	P	—	—
18010200	stranding structural protection	P	—	—	—	P	—	—
18010300	supporting structures and foundations in the reactor compartment	P	—	—	—	P	—	—
18010400	containment structures	P	—	—	—	P	P	—
18010500	safety enclosure	P	—	—	—	P	P	—
18020000	<b>Nuclear reactors:</b>	P	—	C	K	P	P	P
18020100	hulls	P	—	C	K	P	—	—
18020200	roofs with their securing items	P	—	C	K	P	—	—
18020300	removable and non-removable internals	P	—	C	K	P	—	—
18030000	<b>Cores:</b>	P	—	C	—	P	P	P
18030100	fuel elements	P	—	C	—	P	—	—
18030200	fuel assembly	P	—	C	—	P	—	—
18030300	protective covers	P	—	C	—	P	—	—
18030400	rods:	P	—	C	—	P	—	—
18030401	emergency shutdown rods	P	—	C	—	P	—	—
18030402	burnable poison rods	P	—	C	—	P	—	—
18030403	shim rods	P	—	C	—	P	—	—
18030500	working neutron sources	P	—	C	—	P	—	—
18040100	automatic and remote control and protective systems of nuclear reactors	P	—	C	—	P	—	—
18040200	automatic monitoring and alarm systems of nuclear reactors	P	—	C	—	P	P	P
18040300	automatic and remote control, protection, monitoring and alarm systems of NSSS	P	—	C	—	P	P	P

1	2	3	4	5	6	7	8	9
18040400	control, protection, monitoring and alarm devices of NSSS	P	—	—	—	P	P	P
18040401	drives and actuating mechanisms of automatic and remote controls	P	—	C	K	P	P	P
18040402	drives and actuating mechanisms of emergency protection of automatic and remote control	P	—	C	K	P	P	P
18040403	measuring equipment of nuclear reactor power level gauges	P	—	C	K	P	P	P
18040404	thermocouples and resistance thermometers	P	—	C	K	P	P	P
18040405	NSSS parameter transducers	P	—	C	K	P	P	P
18050000	<b>NSSS machinery:</b>							
18050100	primary coolant circulating pumps	P	—	C	K	P	P	P
18050200	fresh water pumps for equipment cooling and protection	P	—	C	K	P	P	P
18050300	sea water pumps for equipment cooling	P	—	C	—	P	P	P
18050500	pumps and ejectors of NSSS space drainage system	P	—	C	—	P	P	P
18050600	pumps of primary coolant make-up system	P	—	C	K	P	P	—
18050700	pumps of emergency core cooling system	P	—	C	K	P	P	—
18050800	pumps of automation hydraulic system	P	—	C	K	P	P	P
18050900	pumps of residual heat removal system	P	—	C	K	P	P	P
18051000	sorbent transfer pumps	P	—	C	—	P	P	—
18051100	high-pressure gas compressors	P	—	C	K	P	P	P
18051200	controlled area fans	P	—	C	—	P	P	P
18051300	high pressure air compressors	P	—	C	K	P	P	—
18051400	medium pressure air compressors	P	—	C	K	P	P	—
18051500	vacuum compressors	P	—	C	K	P	P	P
18060000	<b>Heat exchangers and pressure vessels:</b>							
18060100	steam generators:	P	—	C	K	P	P	P
18060101	housings	P	—	C	K	P	—	—
18060102	tube systems	P	—	C	K	P	—	—
18060106	fittings	P	—	C	K	P	P	—
18060200	pressure compensators	P	—	C	K	P	P	P
18060300	filters: primary circuit, primary coolant filling and make-up system, fresh water cooling system, radioactive drainage and process water treatment systems	P	—	C	K	P	P	P
18060400	heat exchangers of fresh water cooling and protection circuit	P	—	C	—	P	P	P
18060500	air coolers	P	—	C	—	P	P	P
18060600	sludge collecting tanks of primary circuit and fresh water cooling and protection system filters	P	—	C	—	P	—	—
18060700	coolers of primary circuit filters	P	—	C	K	P	P	P
18060800	drainage and collecting tanks	P	—	C	K	P	P	—
18060900	gas and air bottles	P	—	C	K	P	P	—
18061000	pneumatic and hydraulic receivers	P	—	C	—	P	P	—
18061100	steel-water protection tanks	P	—	C	K	P	P	—
18061200	first circuit recuperative heat exchangers	P	—	C	K	P	P	P
18070000	<b>NSSS systems:</b>							
18070100	primary coolant circulation system	P	—	—	—	P	P	P
18070200	primary coolant purification system	P	—	—	—	P	P	P
18070300	primary coolant make-up system	P	—	—	—	P	P	P
18070400	residual heat removal system	P	—	—	—	P	P	P
18070500	core emergency cooling system	P	—	—	—	P	P	—
18070600	primary coolant sampling system	P	—	—	—	P	P	P
18070700	deaeration system	P	—	—	—	P	P	—
18070800	primary coolant drainage system	P	—	—	—	P	P	—
18070900	pressure compensation system	P	—	—	—	P	P	P
18071000	secondary circuit	P	—	—	—	P	P	—
18071100	fresh water system for equipment and protection drives cooling	P	—	—	—	P	P	P
18071200	sea water cooling system	P	—	—	—	P	P	P
18071300	ventilation and air filtering system	P	—	—	—	P	P	P
18071400	radioactive liquid and solid collection, storage and handling system	P	—	—	—	P	P	P
18071500	NSSS space drainage system	P	—	—	—	P	P	—
18071600	sorbent handling system	P	—	—	—	P	P	—
18071700	explosive mixture removal system	P	—	—	—	P	P	P



1	2	3	4	5	6	7	8	9
18071800	fitting automation and control hydraulic system	P	—	—	—	P	P	P
18071900	radioactive drainage and process water purification system	P	—	—	—	P	P	—
18072000	pressure reduction in containment	P	—	—	—	P	P	—
18080000	NSSS fittings	P	—	C	K	P	P	P
18090000	Radiation monitoring system and means	P	—	C	—	P	P	P
18100000	Protection means against radioactive radiation and radioactive substance spreading	P	—	C	—	P	P	P
18110000	Liquid radioactive waste treatment equipment	P	—	C	K	P	P	—
18110100	Shielding	P	—	—	—	P	P	P
18110200	Fuel assembly storage facilities	P	—	C	K	P	P	—
18110300	Core handling equipment	P	—	C	K	P	P	—
18120000	Complex of engineering and technical means of physical protection	P	—	C	—	P	P	P
18130000	Rolled products, forgings, castings, pipes for equipment and systems of 1, 2 and 3 safety classes <sup>9</sup>	P	СПИ	C	K	—	—	—
19000000MK	<b>EQUIPMENT AND ARRANGEMENTS FOR THE PREVENTION OF POLLUTION FROM SHIPS</b>							
19020200MK	15 ppm bilge separators (resolution MEPC.107(49))	P	СТО, COTO	C3	—	P	P	P
19030100MK	Oil discharge monitoring and control systems (ODMCS) for oil tankers and oil content meters (resolution MEPC.108(49) as amended)	P	СТО, COTO	C3	—	P	P	P
19030202MK	15 ppm bilge alarms (resolution MEPC.107(49))	P	СТО, COTO	C3	—	P	P	P
19040000MK	Oil/water interface detectors in slop tanks	P	СТО, CОТИ	C3	—	P	P	P
19050000MK	Pumping, piping and discharge arrangements for oily water	—	—	—	—	P	P	—
19060000MK	Tanks:							
19060100MK	segregated ballast tanks	—	—	—	—	P	—	—
19060200MK	slop tanks	—	—	—	—	P	—	—
19060300MK	cargo tanks	—	—	—	—	P	—	—
19060400MK	holding tanks for oily mixtures	—	—	—	—	P	—	—
19070000MK	Washing systems:	—	—	—	—	P	P	—
19070100MK	washing machine drive units	—	—	C3	—	P	P	—
19080000MK	Incinerators	P	СТО, COTO	C3	—	P	P	P
19080100MK	Oil residues processing system (tank for mixing oil residues with fuel oil, oil residues preheating system, homogenization system)	—	—	—	—	P	P	—
19090000MK	Sewage treatment plants (resolution MEPC.227(64))	P	СТО, COTO	C3	—	P	P	P
19090001MK	Sewage treatment plants (resolution MEPC.159(55))	P	СТО, COTO	C3	—	P	P	P
19100000MK	Sewage comminution and disinfection systems	P	—	C3	—	P	P	—
19110000MK	Sewage holding tanks	—	—	—	—	P	—	—
19140000MK	Garbage treatment plants	P	—	C3	—	P	P	—
19150000MK	Garbage containers	—	—	—	—	P	—	—
19160000MK	Equipment and arrangements for prevention of pollution by noxious liquid substances	P	—	C3	—	P	P	—
19170000MK	<b>Equipment and arrangements for prevention of air pollution</b>							
19170100MK	Exhaust gas cleaning (EGC) unit to reduce SO <sub>x</sub> emission (IMO resolution MEPC.259(68), survey under Scheme A)	P	СТО, SECC	C3	—	P	P	P
19170101MK	SO <sub>x</sub> continuous exhaust gas monitoring system (IMO resolution MEPC.259(68))	P	СТО	C3	—	P	P	P
19170102MK	Exhaust gas cleaning (EGC) unit to reduce SO <sub>x</sub> emission (IMO resolution MEPC.259(68), survey under Scheme B)	P	—	W	—	P	P	P
19170300MK	Sampling equipment	P	СТО	C3	—	P	P	—
19210000MK	Oily waters deep purification plants including 5 ppm bilge separator, 5 ppm bilge alarm and automatic stopping device	P	СТО	C3	—	—	—	—
19220000MK	Ballast water management systems (IMO resolution MEPC.174(58))	P	СТО, COTO	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
19220001MK	Ballast water management system (IMO resolution MEPC.279(70))	P	CTO, COTO	C3	—	P	P	P
20000000	<b>COMPUTER SOFTWARE (PROGRAMMES FOR COMPUTER-AIDED CALCULATIONS)</b>							
20100000	Ship theory and strength programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—
20200000	Machinery programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—
20300000	Electrical equipment and automation programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—

<sup>1</sup>Type of technical supervision is based on the equipment purpose.

<sup>2</sup>For type items only.

<sup>3</sup>"C3" is acceptable for internal combustion engines with a cylinder diameter of 300 mm and under.

<sup>4</sup>In case the set is delivered in assembly.

<sup>5</sup>In case of delivery apart from the set.

<sup>6</sup>Delivery of materials with the manufacturer's certificates. Technical supervision shall be carried out in compliance with the technical documentation approved by the Register.

<sup>7</sup>When a documented quality system covering the process of manufacture, testing, and quality control of the items of technical supervision approved by the Register or recognised competent organization is available at the manufacturer.

<sup>8</sup>Refer to Appendix 8 to Section 5 of Part IV "Technical Supervision during Manufacture of Products".

<sup>9</sup>Division into safety classes — refer to Section 5, Part VIII "Nuclear-Powered Steam Generating Plants" of the Rules for the Classification and Construction of Nuclear Ships and Floating Facilities.

<sup>10</sup>The Asbestos-Free Declaration shall be submitted.

## **INSTRUCTIONS ON BRANDING OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION**

### **1 GENERAL**

**1.1** These Instructions supplement and explain the RS Nomenclature (refer to Appendix 1).

**1.2** In the course of manufacture of certain materials, products and their parts under technical supervision of the RS surveyor to the Register and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part), these materials, products and parts as well as samples taken therefrom shall be branded at certain stages of their manufacture with appropriate brands of the Register.

**1.3** Materials, products and parts subject to branding by the Register are identified in the RS Nomenclature.

**1.4** The purpose of branding materials, products and parts shall make sure in the course of subsequent surveys that they were properly checked by the Register.

**1.5** All the provisions of these Instructions equally refer to all spare parts, irrespective of the fact whether they have been produced for a newbuilding constructed under the Register standards or to renew the products and parts on ships in service.

**1.6** In case it is found in the course of further processing, assembly or installation at the shipyard that the material, product or part is defective or does not comply with the RS rules or other RS normative documents, as well as with the technical documentation approved by the Register, it may be rejected, irrespective of the presence of the RS brand. In this case, the RS brand shall be cancelled.

The cancellation of the brands shall be done in the presence of the RS surveyor, the firm (manufacturer) technical personnel authorized under the Agreement on Survey (CO) to do branding.

**1.7** All the provisions of these Instructions equally refer to RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of the this Part), as well as to officials of the firms (manufactures).

### **2 TYPES OF THE REGISTER BRANDS**

**2.1** The Register brands are subdivided into the brands of the RS surveyor and those of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part). The appearance of the brands is the same with a difference that brands of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) have a line under the brand.

Brands of the RS surveyor shall be used for branding by the RS surveyor, brands of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) — by the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part).

**2.2** For branding materials, products and parts, use is made of brands, stamps and punches.

**2.3** Brands are used for branding materials, products and parts made of metal or material enabling to put a durable brand imprint.

**2.4** The brands may be of preliminary or final nature. The imprints of brands are shown in Figs. 2.4-1 and 2.4-2.

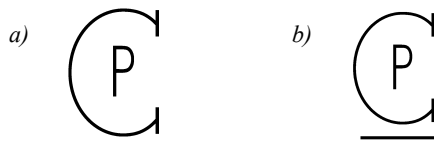


Fig. 2.4-1 Imprint specimens of preliminary brands:  
a) — RS surveyor; b) — the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part)

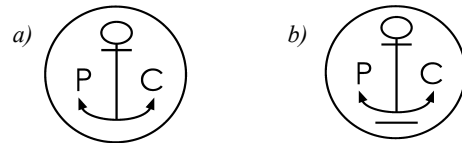


Fig. 2.4-2 Imprint specimens of final brands and punches:  
a) — RS surveyor; b) — the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part)

**2.5** The preliminary brands of the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) are put on:

**.1** test specimens and products, from which these specimens are taken for mechanical tests and examinations;

**.2** products and parts, which production process has not been completed, subject to further treatment.

**2.6** The final brand of the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) is put on finished materials, products or parts, manufactured, surveyed and tested in compliance with the RS rules and other RS normative documents and technical documentation approved by the Register.

**2.7** In case materials, products or parts bearing brands are rejected, the brand imprint shall be destroyed.

**2.8** The RS surveyor's stamp is used for branding with indelible paint of non-metal products made of materials where the brand impression cannot be preserved for a long time, but the area available is enough to put a stamp (lifebuoys, lifejackets, inflatable liferafts, etc.).

**2.9** The RS stamp imprint is shown in Fig. 2.9.



Fig. 2.9  
Imprint specimen of the RS surveyor's stamp

**2.10** In case the product is rejected after a stamp has been put thereon, the whole imprint shall be filled with the indelible paint.

**2.11** The RS seals are intended for such products and parts where a brand or stamp cannot be directly placed as well as for sealing safety devices.

**2.12** Brand and punch imprints are shown in Fig. 2.4-2.

**2.13** In case a product after sealing is rejected, the seal shall be removed.

### **3 GENERAL INSTRUCTIONS ON BRANDS AND BRANDING**

**3.1** Presence of brands of the RS surveyor or the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) on the materials and products does not relieve the supplier from presentation of the documents required by the Register.

**3.2** The Register does not put its brand on the parts after repair.

**3.3** Brands, stamps and sealer punches shall be kept by the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) under conditions preventing them from an authorized use.

**3.4** Brands, stamps and sealer punches shall be handed in to the RS surveyor by the Head of the RS Branch Office or his Deputy against receipt. In so doing, an imprint of the handed in stamp or punch is made in the statement for their handing. The firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) receive brands, stamps and sealer punches from RHO or the RS Branch Office according to the concluded Agreements on Survey (CO).

**3.5** The decision on ordering new brands, stamps and sealer punches is taken by RHO.

**3.6** Branding of materials, products and parts shall be done in the presence and upon instructions of the RS surveyor, the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part).

**3.7** In case a technical control body is available at the firm (manufacturer), finished materials, products and parts shall be checked and then branded by this technical control body before submission to the RS surveyor.

**3.8** The number of cast, ordinal number of the specimen, brand of the technical control body and preliminary brand of the RS surveyor or the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) shall be punched on the test specimens produced for testing mechanical properties of materials and samples.

**3.9** Brands shall be generally put on materials, products and parts in readily accessible places in such a way that they can be easily found after installation on board the ship.

**3.10** All finished products shall be provided with manufacturer's marking, which shall consist of a serial number and the year of manufacture.

The details of manufacturer's marking of some products are given in Section 5.

Marking may be applied on identification plates or directly on the products. The final brand of the Register shall be located underneath the marking on the right-hand side.

Where it is difficult to find the places of marking and brands (plates, rolled products, forgings, castings, etc.), the brand shall be put in the frame made with a contrast paint.

**3.11** In branding the products to undergo further machining the brand shall be put in spots, which will not be machined later. If it is impracticable, the brand shall be transferred in the course of machining as stated in Section 4.

**3.12** Finished products and products, which manufacturing process has not been completed and which shall undergo further machining at other firms (manufacturers), in case the products bear the Register brand, shall be provided with a certificate or another appropriate document.

Such documents shall bear an imprint of the brand (stamp), which has been put on the product. If there is no place specially provided for the imprint, the latter shall be put in the bottom part of the form above the surveyor's signature.

## **4 TRANSFER OF BRANDS**

**4.1** The RS brands shall be preserved in any treatment or assembly of the parts. Where brands shall be cut because of the processing conditions, they shall be transferred to another place. For this purpose manufacturer's marking shall be transferred to a new place, and then the part shall be presented to the RS surveyor for transference of the brand.

**4.2** In case the brand shall be transferred in the process of treatment of the part in non-working time of the RS surveyor, the manufacturer shall inform the RS surveyor in advance, indicating the part and manufacturer's marking.

**4.3** In particular cases, the RS surveyor may allow to cut the brand and to transfer manufacturer's marking of the part to a new place under supervision of a firm (manufacturer) supervisor. In such cases, the supervisor shall make an entry in the workshop's log, draw up a report and put his brand on the part.

Based on log entry or report and the firm (manufacturer) supervisor brand, the RS surveyor puts a new RS brand on the part.

## **5 BRANDING AND MARKING PLACES**

### **5.1 MATERIALS**

**5.1.1** Marking of the materials shall be done in accordance with the firm (manufacturer) current regulations with a mandatory account of the requirements of the RS rules.

**5.1.2** Steel plates, every one of which requires to be tested according to the RS rules, are subject to mandatory branding.

Branding of other steels is done in cases specially provided by the Register or on customer's request.

### **5.2 CASTINGS**

**5.2.1** Gated samples or castings in places where specimens are taken shall be marked with the Register preliminary brand.

**5.2.2** In case of separately cast samples, poured together with the specimens are steel tags, on which the numbers of the cast and pouring wherefrom specimens are taken, shall be punched by the technical control body of the firm (manufacturer). Upon extraction of the samples out of the mould the Register preliminary brand shall be put thereupon.

**5.2.3** Upon satisfactory results of the specimen tests and survey a preliminary brand of the Register is put on one of the casting ends, next to the number of the cast.

### **5.3 STEEL FORGINGS**

**5.3.1** Upon satisfactory results of the specimen tests and survey, a preliminary brand of the Register is put on one of the forging ends, next to the number of the cast.

## 5.4 SHIP'S ARRANGEMENTS

### 5.4.1 Steering gear.

**5.4.1.1** Upon completion of bench tests of the gear (engine) at the firm (manufacturer) the final brand of the Register is put on the manufacturer's plate of the steering gear.

The rudder stock moment value shall be mandatorily indicated on the manufacturer's plate.

**5.4.1.2** The final brand of the Register is put on the following places of finally processed rudder stocks, rudder spindles of "Simplex" type and pintles: upper butt surface of rudder stocks, flange surface of rudder spindles of "Simplex" type and upper butt surface of the pintles.

### 5.4.2 Anchor arrangement.

Upon completion of bench tests of windlasses and anchor capstans at the firm (manufacturer), the final brand of the Register is put on the manufacturer's plate of windlasses and anchor capstans.

The chain cable diameter shall be mandatorily indicated on the manufacturer's plate.

### 5.4.3 Anchors.

**5.4.3.1** The following data shall be punched or cast on every anchor in places specially provided for marking (of circular or square shape): the firm (manufacturer) trademark, mass of the anchor in assembly, manufacturer's number, final brand of the Register — in circle; year of test and final brand of the Register — in square.

**5.4.3.2** On Hall's anchors, the circle for marking shall be provided on one of the anchor flukes, the square — on the other fluke and in the upper part of the anchor shank. The mass of the assembled anchor shall be additionally cast or punched on the shank.

**5.4.3.3** On admiralty anchors, all the marking shall be punched in place where the shank is attached to the flukes; on welded anchors — on the fluke below the welding line. The mass of the anchor shall be punched on the stock.

### 5.4.4 Anchor chain cables.

The marking of chain cable shall be done on end links of every length and shall include the certificate number, chain cable grade and the Register brand. The location of marking shall be as shown in Fig. 5.4.4.

Every part of the chain cable shall be marked, the marking shall include the certificate number, chain cable grade and the Register brand.

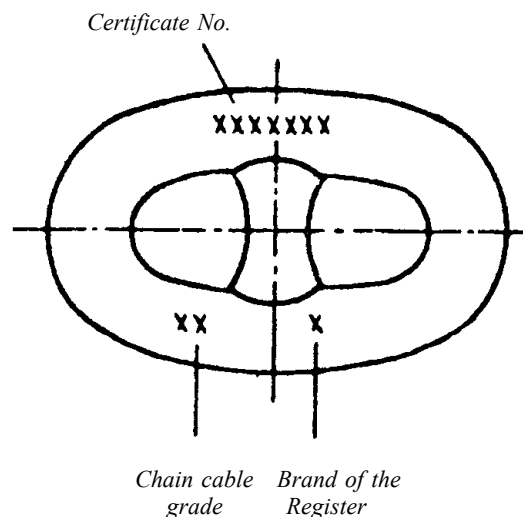


Fig. 5.4.4

## **5.5 LIFE-SAVING APPLIANCES**

### **5.5.1 Launching appliances.**

**5.5.1.1** Upon testing and survey of davits or other launching appliances the following shall be marked thereupon:

- permissible working load;
- date of test;
- final brand of the Register.

**5.5.1.2** Upon completion of all the required tests and surveys all life-saving appliances shall be marked in order as set forth under 5.5.2 to 5.5.6.

### **5.5.2 Lifeboats.**

**5.5.2.1** On each side of the lifeboat's bow the following information shall be marked:

the number of persons, for which the lifeboat is approved (in clear permanent characters with the indelible paint);

the name and port of registry of the ship, to which the lifeboat belongs (in block capitals of the Roman alphabet).

Marking permitting to identify the ship, to which the lifeboat belongs, and the lifeboat number shall be made in such a way that it is visible from above.

**5.5.2.2** On exterior of every lifeboat in accessible place above the waterline a metal plate made of anti-corrosive material shall be secured containing the following data:

- manufacturer's name or trademark;
- number of Type Approval Certificate (CTO) with "RS" letters and number of the certificate issued by the Register to the lifeboat;
- serial number;
- number of persons permitted to be accommodated;
- date of survey;
- final brand of the Register.

### **5.5.3 Rigid and inflatable liferafts.**

**5.5.3.1** On the exterior of every liferaft the following information shall be permanently marked with the indelible paint:

name and port of registry of the ship, to which the liferaft belongs (for inflatable liferafts, name and port of registry of the ship shall be marked in such a form that the ship identification can be changed anytime without opening the container);

number of persons permitted to be accommodated over each entrance in characters not less than 100 mm in height of a colour contrasting with that of the liferaft;

word "SOLAS" and type of emergency pack enclosed (for rigid liferafts);

launching instructions (for rigid liferafts);

length of painter (for rigid liferafts);

maximum permitted height of stowage above waterline (for rigid liferafts).

**5.5.3.2** On the inner side of every liferaft the plate made of the material, which does not become unfit for use throughout the service life of the liferaft, shall be secured, containing the following information marked with the indelible paint or in some other suitable way:

- manufacturer's name or trademark;
- serial number;
- number of the certificate issued by the Register to the liferaft with "RS" letters;
- date of manufacture (month and year);
- final brand or stamp of the Register;
- name and place of serving station where it was last surveyed (for inflatable liferafts).



#### **5.5.4 Containers for inflatable liferafts.**

In the area of a pocket of a soft container or next to a lock of a rigid container the following information shall be marked with the indelible black or other contrasting colour paint:

- manufacturer's name or trademark;
- serial number;
- "RS" letters and number of Type Approval Certificate (CTO);
- number of persons permitted to be accommodated;
- word "SOLAS";
- type of emergency pack enclosed;
- date and place of the latest servicing;
- length of painter;
- maximum permitted height of stowage above waterline;
- stamp of the Register.

#### **5.5.5 Lifebuoys.**

On the flat part of lifebuoys the manufacturer's name or its trademark, the date of manufacture, number of Type Approval Certificate (CTO) with "RS" letters and the RS stamp shall be marked with the indelible paint.

#### **5.5.6 Lifejackets, immersion suits, antiexposure suits and thermal protective aids.**

In conspicuous places of lifejackets, immersion suits, antiexposure suits and thermal protective aids manufacturer's name or its trademark the date of manufacture, number of Type Approval Certificate (CTO) with "RS" letters and the Register stamp shall be marked with the indelible paint.

#### **5.5.7 Rescue/fast rescue boats (rigid, inflated and combined).**

Marking and branding of rescue/fast rescue boats shall comply with the requirements of 5.5.2, except that the metal plate mentioned in 5.5.2.2 shall be secured on the inner side of the upper part of the boat transom.

#### **5.5.8 Hydrostatic release units.**

Hydrostatic release unit shall be permanently marked on its exterior or have identification plate made of anti-corrosive material, which does not become unfit for use throughout the service life of the unit, securely attached to the unit, with the following data:

- manufacturer's name or trademark;
- type of the unit;
- serial number;
- number of Type Approval Certificate (CTO) with "RS" letters;
- date of manufacture;
- whether the unit is suitable for use with a liferaft with a capacity of more than 25 persons;
- if disposable, exact expiry date shall be marked.

#### **5.5.9 Automatic gas inflation system for inflatable liferafts, marine evacuation systems, means of rescue.**

**5.5.9.1** Automatic gas inflation system shall be permanently marked on a securely attached identification plate made of anti-corrosive material, which does not become unfit for use throughout the service life of the system, with the following data:

- manufacturer's name or trademark;
- type of the system;
- serial number;
- number of Type Approval Certificate (CTO) with "RS" letters;
- date of manufacture.

**5.5.9.2** On the upper spherical or cylindrical part of the pressure vessels upon completion of hydraulic tests the following information shall be clearly marked:

- firm (manufacturer) trademark;
- manufacturer's number;
- capacity or working pressure;
- date of last testing;
- final brand of the Register.

**5.5.10 Means of rescue.**

**5.5.10.1** An inflatable means of rescue shall be marked as set forth under 5.5.3.2. The marking shall contain also the number of persons permitted to be accommodated. Provision shall be made for marking the inflatable means of rescue with the name and port of registry of the ship, to which it belongs, so that the ship identification can be changed anytime without opening the container.

**5.5.10.2** A rigid means of rescue shall be marked with the following data:

manufacturer's name or trademark;  
serial number;  
number of the certificate issued by the Register to the raft with "RS" letters;  
word "SOLAS";  
number of persons permitted to be accommodated;  
maximum permitted height of stowage above waterline;  
launching instructions.

**5.5.11 Marine evacuation system.**

**5.5.11.1** In addition to the data set forth under 5.5.3.2, the capacity of marine evacuation system shall be marked.

**5.5.11.2** The container for marine evacuation system shall be indelibly marked with the data set forth under 5.5.4, except that in lieu of the number of persons permitted to carry, the capacity of the marine evacuation system and the date of manufacture are marked, while the type of emergency pack enclosed and the length of painter are not marked.

**5.5.12 Lifebuoy self-igniting lights and self-activating smoke signals, lifejacket lights, external and internal lights of lifeboats and liferafts, lights of rescue/fast rescue boats, sea-water-activated sources of energy, food ration, water in receptacles, searchlights of life- and rescue boats, boat's compasses, line-throwing appliances.**

The following information shall be marked on the above products or packing thereof:

manufacturer's name or trademark;  
type of product;  
number of Type Approval Certificate (CTO) with "RS" letters;  
date of manufacture;  
if disposable, exact expiry date shall be marked or date when it shall be renewed.

**5.6 MAIN DIESEL ENGINES, AUXILIARY DIESEL ENGINES  
WITH POWER OUTPUT 55 kW AND OVER**

**5.6.1** Upon completion of bench tests of the engines at the firm (manufacturer), elimination of all faults found and check tests, the final brand of the Register is put on the manufacturer's plate.

**5.6.2 Crankshafts.**

**5.6.2.1** Forgings intended for manufacture of crankshafts shall be delivered for machining with the preliminary brand of the Register and a certificate (if forgings are produced by another firm (manufacturer));

**5.6.2.2** Where the crankshaft is adequately big, manufacturer's marking and final brand of the Register on the machined crankshafts shall be put on the cylindrical surface of the crankshaft coupling flange.

Where the surface area is not enough, the marking shall be made on the outer side of the crank web first after the coupling flange.

Each section of built-up crankshafts shall be branded using the same principle from the side nearest to the coupling flange.

**5.6.2.3** Each pin or journal in built-up crankshafts shall be checked and marked with the Register preliminary brand on the butt; the webs — on the outer side in the area of boring for the journal.

**5.6.2.4** On every junction of built-up crankshafts, on webs and journals or pins, along with common manufacturer's marking, numbers of junctions shall be marked.

**5.6.3 Connecting rods.**

The manufacturer's marking and final Register brand on adequately big connecting rods shall be put on the front part of connecting rod foot, in case the area is not enough — on the side of the foot.

**5.6.4 Piston rods.**

The Register final brand shall be put on the flange or below the taper part of the piston rod in the area where it is attached to the piston.

**5.6.5 Crossheads.**

The Register final brand shall be put next to the manufacturer's marking.

**5.6.6 Pistons.**

The Register final brand shall be put next to the manufacturer's marking.

**5.6.7 Cylinder liners.**

The Register final brand shall be put on the top butt part of the cylinder shoulder.

On big engine liners where the shoulder is not sunken in the block, the brand may be put on the side surface of the shoulder.

**5.6.8 Cylinder blocks.**

The Register final brand shall be put on the side surfaces of blocks on the areas specially allocated for the manufacturer's marking, and in case no special area is provided, on the machined side surface of the cylinder block, nearest to the coupling flange (coupling) of the crankshaft.

**5.6.9 Cylinder covers.**

Where the total surface of the cover is machined, the manufacturer's marking and the Register final brand shall be put on that surface.

**5.6.10 Bedplates, crankcases, columns.**

The Register final brand shall be put on specially allocated areas, and in case no provision is made for such areas, on a readily visible place next to the manufacturer's marking.

**5.7 MAIN STEAM TURBINES AND ELECTRIC GENERATOR TURBINES**

**5.7.1** Upon completion of bench tests at the firm (manufacturer), elimination of all faults found, the Register final brand is put on the manufacturer's plate of the geared turbine installation or a turbine.

**5.7.2 Rotors and shafts.**

**5.7.2.1** Forgings intended for manufacture of rotors and shafts shall be delivered for machining with the preliminary brand of the Register and a certificate (if forgings are produced by another firm (manufacturer));

**5.7.2.2** After final assembly of all blading stages and balancing the Register final brand shall be put on the rotor flange generatrix.

**5.7.3 Turbine casings.**

The Register final brand shall be put on the generatrix of the horizontal joint flange after assembly of the casing with the rotor.

**5.7.4 Manoeuvring gear casings, nozzle boxes.**

The Register final brand shall be put on the generatrix of the horizontal joint flange.

**5.8 MAIN GAS TURBINE PLANTS AND GAS TURBINES OF ELECTRIC GENERATORS**

**5.8.1** Upon completion of bench tests at the firm (manufacturer), elimination of all faults found, the Register final brand is put on the manufacturer's plate of the gas turbine installation (turbine).

**5.8.2** In the course of production of the gas turbine installation, after final assembly and checking casings of turbines, compressors and combustion chambers, rotors, shafts, discs shall be branded by the Register.

The brand shall be put next to the manufacturer's branding.

## **5.9 GEARS AND DISENGAGING COUPLINGS OF MAIN MACHINERY**

**5.9.1** Upon completion of the bench tests at the firm (manufacturer) and satisfactory results thereof, the Register final brand is put on the manufacturer's plate of the gear.

### **5.9.2 Pinions and wheels.**

The Register final brand is put on the generatrix of the pinion and wheel flange, and if there is no flange — on the shaft butt. Such branding is done upon completion of assembly of the whole gear and checking the teeth by blueing. The preliminary brand is put in case of intermediate checkings.

### **5.9.3 Shafts of reduction gears and couplings.**

The Register final brand is put on the cylindrical surface of the coupling flange.

### **5.9.4 Casings of reduction gears and couplings.**

The Register final brand is put on the horizontal flange of the casing joints of reduction gears and couplings.

## **5.10 SHAFTING AND PROPELLERS**

**5.10.1** Forgings intended for manufacture of thrust, intermediate and propeller shafts shall be branded with the Register preliminary brand.

**5.10.2** Finally machined thrust, intermediate and propeller shafts (including CPP shafts) shall be marked with the Register final brand on the cylindrical surface of the flanges. Where there are no flanges, the brand shall be put on the shaft butt.

**5.10.3** The Register final brand on solid propellers shall be put on the side surface of the hub under the manufacturer's marking, which includes the firm (manufacturer) trademark, pitch and diameter of the propeller, direction of rotation.

**5.10.4** The Register final brand on built-up propellers shall be put on the hub and outside surface of each blade flange or on the hub root in the area of the shank (for CPP). The manufacturer's marking of the hub is similar to that referred to in 5.10.3. The whole CPP shall be branded with the Register final brand on the manufacturer's plate of the machinery pitch control gear.

## **5.11 BOILERS**

**5.11.1** On the non-removable parts of the boiler front, in a conspicuous place readily accessible for inspections the manufacturer's plate shall be secured containing the following data:

- firm (manufacturer) trademark;
- year of manufacture;
- manufacturer's number;
- boiler index;
- working steam pressure in the boiler;
- superheated steam temperature;
- steaming capacity, for fire-tube boilers — heating surface area;
- final brand of the Register.

**5.11.2** The Register final brand is put after hydraulic tests at the firm (manufacturer).

**5.11.3** Main parts of the boiler, namely: shells, headers (chambers) after completion of hydraulic tests as well as combustion chambers, furnaces, stays before assembly shall be surveyed and marked with the Register preliminary brand.

In case the boiler components are produced at the same firm (manufacturer) where a boiler is assembled, branding of the above components is not mandatory.

**5.11.4** Safety valves of the boilers shall be finally tested on board, one of them shall be sealed by the Register.

## **5.12 AIR RECEIVERS**

**5.12.1** On the upper spherical or cylindrical (depending on the bottle size) part of the air receiver casing the following data shall be clearly marked:

- firm (manufacturer) trademark;
- year of manufacture;
- manufacturer's number;
- air receiver index;
- working pressure;
- capacity;
- final brand of the Register.

**5.12.2** The Register final brand is put on the air receiver upon completion of hydraulic tests at the firm (manufacturer).

**5.12.3** In case end plates or cylindrical parts of air receivers are produced at another manufacturer, they shall be branded with the Register preliminary brand.

**5.12.4** Safety valves installed on air receivers shall be tested and sealed by the Register.

## **5.13 MACHINERY, PRESSURE VESSELS AND APPARATUS OF REFRIGERATING PLANTS**

**5.13.1** The Register final brand is put on the manufacturer's plate of compressors and refrigerant pumps upon completion of bench tests at the firm (manufacturer).

**5.13.2** The Register final brand is put on the manufacturer's plate of pressure vessels and apparatus working under a refrigerant pressure upon completion of hydraulic and air tests with satisfactory results at the firm (manufacturer).

**5.13.3** Safety valves installed on the pressure vessels and apparatus working under a refrigerant pressure shall be tested and sealed by the Register.

## **5.14 ELECTRICAL EQUIPMENT**

**5.14.1** The Register final brand is put on the plates of generators, motors, electromagnetic couplings upon completion of the required surveys and tests at the firm (manufacturer).

## **5.15 SIGNAL MEANS**

**5.15.1** In a conspicuous place on each navigation and flashing lantern the Register final brand is put and manufacturer's plate shall be secured containing the following data:

- firm (manufacturer) trademark;
- lantern designation;
- lantern index;
- sequence number;
- year of manufacture.

**5.15.2** Directly on every sound signal means, such as whistle, typhon, horn, hong, bell the following shall be marked:

- firm (manufacturer) trademark;
- sequence number;
- year of manufacture;
- final brand of the Register.

**5.15.3 Pyrotechnic signal means (rocket parachute flares, signal rockets, hand flares).**

Every pyrotechnic signal means shall be marked with the following data in Russian and English:

manufacturer's name or trademark;

name of the product;

brief instructions or diagrams clearly illustrating how it shall be operated;

number of Type Approval Certificate (CTO) with "RS" letters;

date of manufacture;

date of its expiry or date when it shall be renewed.

**5.16 CARGO HANDLING GEAR**

**5.16.1** Cargo handling gear shall be marked in compliance with the provisions of Sections 7 and 11 of the Rules for the Cargo Handling Gear of Sea-Going Ships.

## **PROCEDURE FOR TECHNICAL SUPERVISION DURING MANUFACTURE OF RADIO EQUIPMENT AND NAVIGATIONAL EQUIPMENT**

### **1 Amendments to Sections 4 — 7 of Part I "General Regulations for Technical Supervision" as regards groups of codes of radio equipment and navigational equipment.**

In relation to items of technical supervision specified in Appendix 1, for groups of codes of radio equipment and navigational equipment, the provisions of Sections 1 — 4, Part I "General Regulations for Technical Supervision" of the present Rules considering the amendments to Sections 4 — 7 given in this Appendix shall apply during technical supervision from 1 July 2018.

Para 4.5 of Part I "General Regulations for Technical Supervision" shall be amended to read:

"4.5 The contract on technical supervision becomes invalid in case of inadequate fulfilment of the commitments under the contract, including payments for the RS services as well as in the following cases:

- .1 upon expiry of type approval for material or product manufactured by the manufacturer;
- .2 subject to non-compliance of the manufacturer with the survey requirements;
- .3 if the CKK Certificate becomes invalid in compliance with 3.6;
- .4 upon expiry of validity of the contract;
- .5 cancellation of the contract if desired by the parties who signed it."

Sections 5 — 7 of Part I "General Regulations for Technical Supervision" shall be amended to read:

### **"5 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS**

**5.1** Materials and products used in construction of ships and floating facilities classed with the Register are permitted to be installed subject to the availability of the certificates of conformity or other documents confirming their compliance with the RS requirements, IMO conventions and recommendations.

The list of materials and products subject to mandatory technical supervision is given in the RS Nomenclature (refer to Annex 1).

In separate cases, at the RS discretion, technical supervision may be performed of the materials and products not contained in the RS Nomenclature, which are newly developed or are the components of the products listed in the RS Nomenclature and which functionally provide the safety of the items of technical supervision (refer to 2.4).

**5.2** When determining forms of technical supervision, items of technical supervision shall be divided into 5 groups. Possible schemes of technical supervision during manufacture of materials and products for different groups are given in Table 5.2 and Fig. 5.2. In case of a single approval given for the equipment of groups 2 — 4, the materials or products are surveyed to the extent of group 5. This procedure can also be used for statutory equipment if it is permitted by the provisions of conventions, resolutions and/or additional requirements of the Administration. Where a single approval is issued to single products, approval of technical documentation and survey results for the prototype cover only the material or product for which the certificates of conformity have been issued.

Table 5.2

Stage of technical supervision	Type of survey/document issued by RS	Product group							
		Group 1	Group 2	Group 3			Group 4		Group 5
		1.1	2.1	3.1	3.2	3.3	4.1	4.2	5.1
Type approval	Approval of technical documentation		×	×	×	×	×	×	×
	Type testing of a prototype		×	×	×	×	×	×	× <sup>1</sup>
	Kind of type approval document issued by RS		CTO/CTHK	CTO			CTO		
Survey of serial products	Survey of the manufacturer's quality control system				CKK1	CKK2		CKK2	
	Type of a document issued by RS				CKK Certificate	CKK Certificate		CKK Certificate	
	Survey of products by the Register			×			×		×
	Document issued by the Register			C	C3		C	C3	C
	Document issued by the manufacturer	M	MC			MC			
<sup>1</sup> Tests are performed to the extent prescribed by the RS rules. A part of tests can be re-scheduled for the mooring trials, sea trials or operational tests if it is provided by the RS rules and/or documentation approved by RS. Notes: 1. "×" means "required". 2. CKK1 — refer to 7.3 of this Appendix. 3. CKK 2 — refer to 7.4 of this Appendix.									

**5.3** The compliance of materials and products with the RS requirements shall be confirmed by the following documents:

- .1** Certificate filled-in and signed by the Register (C);
- .2** Certificate filled-in and signed by an official of the manufacturer and drawn up (endorsed) by the Register (C3);
- .3** MC — Document drawn up by the manufacturer in which the material or product compliance with the RS requirements is declared;
- .4** M — Document drawn up by the manufacturer according to the standards of the firm; it shall contain data satisfactory to RS.

**5.4** The contents of the above certificates and documents (C, C3 and MC) shall identify the material and/or product, their/its types, main parameters, as well as the manufacturer of materials and products.

MC shall at least contain:

address of the manufacturing location;

name of technical documentation for the item and date of its approval by RS;

name, type of product or grade of material;

manufacturer's or serial number, batch number (as applicable);

name of the document containing data on surveys and tests performed by the manufacturer;

number, date of issue and period of validity of the Type Approval Certificate (CTO);

manufacturer's statement on item conformity to the approved type specified in the Type Approval Certificate (CTO) or approved technical documentation;

signature of the authorized person of the manufacturer.

Validity period of the certificates and documents (C, C3, MC, M) is not specified.

For products of group 2, the contents of MC shall be agreed at type approval.

**5.5** In order to obtain the Certificate filled-in and signed by the Register (C), if there is no Type Approval Certificate (CTO), the request shall be submitted together with the technical documentation on the materials or products within the scope regulated by the RS rules.

**5.6** Upon review of the technical documentation, the Register shall send a conclusion letter to the applicant. Where deemed necessary, the applicant shall submit the testing programme to the Register to be agreed upon.



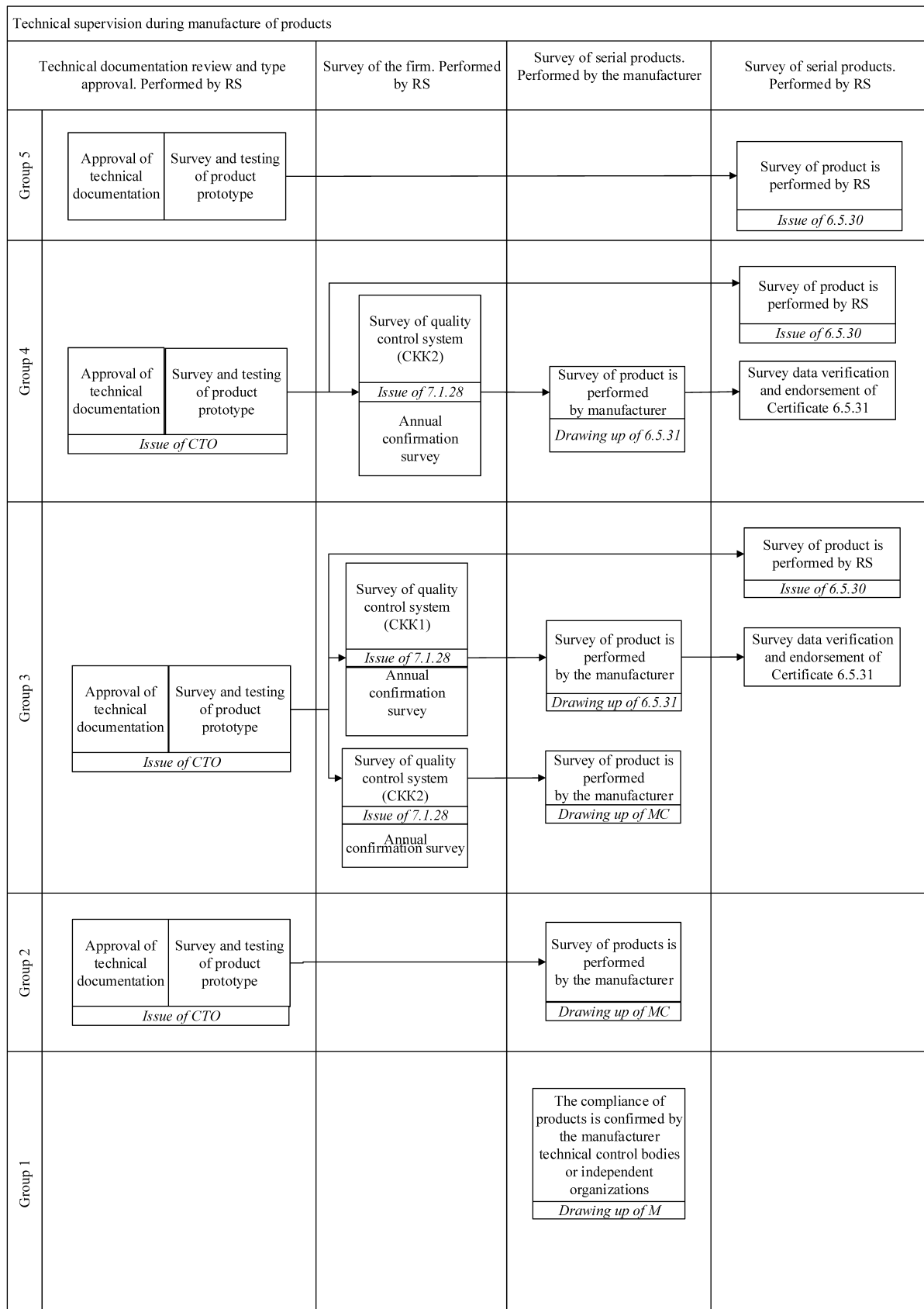


Fig. 5.2

**5.7** The items of technical supervision are surveyed by the Register at the final stage of production (finished products) after acceptance of the products by the firm (manufacturer) technical control body and issue of the appropriate documents.

In cases where it is required by the production process, the RS rules and/or design of the product, at the discretion of the Register, surveys may be carried out on a step-by-step basis and simultaneously with the manufacturer's control.

Surveys at the intermediate stages of production of the items of technical supervision are carried out in the cases prescribed by the Register after completion of manufacturer's functional control or at the discretion of the Register, if determined by particular conditions of production.

Tests may be carried out in the laboratories recognized by the Register and/or in the laboratories that have state accreditation for carrying out the appropriate type of tests.

**5.8** The manufacturer shall provide all the conditions necessary for the Register to carry out technical supervision, namely:

- submit the required technical documentation, in particular, manufacturer's documents on quality control of the products;

- prepare the items of technical supervision for survey in the scope required;

- ensure safe execution of the surveys;

- provide for the attendance of the officials authorized to submit the items of technical supervision for surveys and tests;

- timely notify the Register on the time and place of surveys and tests of the items of technical supervision.

Where the conditions required for performance of surveys are not fulfilled by the manufacturer, the Register has the right to refuse to carry out the surveys to witness tests.

**5.9** During manufacture of forgings, castings, machinery and equipment components needed for own production (further processing, assembling, construction), as well as of mass-production products (ship fittings, hull fittings, etc.), the technical supervision may be confirmed by the manufacturer's documents endorsed by the Register.

Where the above products are manufactured by the same manufacturer for cooperation shipments or as the spare parts, the technical supervision shall be confirmed by the certificates and documents (C, C3, MC, M) according to the RS Nomenclature.

**5.10** Signing of certificates of conformity and manufacturer's documents to be issued is performed using digital signature or by signing and stamping of a hard copy.

## **6 TYPE APPROVAL OF MATERIALS, PRODUCTS, PRODUCTION PROCESSES AND SOFTWARE**

### **6.1. GENERAL**

**6.1.1** The Type Approval Certificate (CTO) is a document of the Register, which certifies that a construction, properties, parameters, characteristics of a type material or product found in the course of surveys and indicated in the approved technical documentation, meet the RS requirements and may be used for ships and items of technical supervision for the intended purpose.

**6.1.2** The Type Approval Certificate (CTO) may be issued to the manufacturer of a material or a product, or to the firm that places these products on the market under its own trademark and asserts itself as the manufacturer of materials or products even if the design and/or manufacture and/or assembly are partially or completely given to another firm under the agreement on contract manufacturing.

In this regard, the following conditions shall be fulfilled:

the firm is an owner of technical documentation or has a documentary confirmation from the owner on the possibility to use the technical documentation for obtaining a separate Type Approval Certificate (CTO);  
the firm commits itself to ensure the compliance of a material or a product with the RS requirements;  
when submitting a request, the firm shall inform the Register about other firms engaged in the design, manufacture or assembly of the finished material or product.

*Note.* Contract manufacturing (Original Equipment Manufacturer (OEM)) is a manufacture of materials and products at the firms and manufacturer's production sites, independent of the holder of the Type Approval Certificate (CTO), when the manufacturing process and quality control of the finished products are provided in compliance with the RS requirements.

**6.1.3** The Type Approval Certificate (CTO) certifies that the approval of the technical documentation and satisfactory results of surveys of the material or product prototype are accounted for by the Register in technical supervision of these materials and products manufactured under the established production conditions and intended for multiple deliveries to ships and floating facilities of various types.

**6.1.4** In order to obtain the Type Approval Certificate (CTO) the manufacturer shall apply to the Register with a request and submit the technical documentation on the material, product, software or production process, as well as the test program. When reviewing and approving this documentation, the scope of surveys during the manufacture and testing of specimens shall be specified.

**6.1.5** The Type Approval Certificate (CTO) is issued by the Register upon approval of the technical documentation and satisfactory results of the surveys of the material, product, software or production process submitted.

For the material or product manufactured according to the established production process the Type Approval Certificate (CTO) is issued, having regard to the data on earlier tests, production and operation experience. Account may be taken of the Type Approval Certificate (CTO) of ACS or competent body or results of the tests of a type specimen conducted with the participation of the above organizations. The number of documents to be submitted is in each case specified proceeding from the type of material or product.

**6.1.6** The Type Approval Certificate (CTO) is issued for a period of up to 5 years.

**6.1.7** Validity of the Type Approval Certificate (CTO) shall not exceed the period of approval of the technical documentation of the item of technical supervision.

**6.1.8** After the expiry of validity, the Type Approval Certificate (CTO) is renewed on request from the manufacturer. If during the validity of the Type Approval Certificate (CTO) no new RS requirements applicable to the item of technical supervision came into force, and the manufacturer confirms the constancy of the construction, software, and earlier specified technical characteristics of the material and/or product, the Type Approval Certificate (CTO) is renewed based on the documentation review and the material and/or product survey in the scope of serial materials and products unless otherwise stipulated in the appropriate sections of these Rules.

In case of amendments, the scope of surveys and tests shall be agreed with the Register taking into account the effect of the applied amendments on the material and/or product characteristics.

**6.1.9** For welding consumables the Certificate of Approval for Welding Consumables (COCM) is issued, being at the same time the document certifying recognition by the Register of the firm as the manufacturer of welding consumables in accordance with the requirements of the RS rules.

The Certificate of Approval for Welding Consumables (COCM) is issued for a period of up to 5 years subject to its annual endorsement.

**6.1.10** The Welding Procedure Approval Test Certificate (COTIIC) is a Register document certifying that a welding procedure used at a shipyard or manufacturer of welded structures has been tested and approved by the Register for application.

The Welding Procedure Approval Test Certificate (COTIIC) shall be endorsed not less than once every 2,5 years.

## **7 SURVEY OF SERIAL PRODUCTS**

### **7.1 GENERAL**

**7.1.1** This Section contains the regulations on technical supervision during manufacture and tests of serial products at established production.

**7.1.2** The Register technical supervision during manufacture and tests of serial products at established production shall be carried out in accordance with the requirements of the relevant sections of Part IV "Technical Supervision during Manufacture of Products" of these Rules and the RS Nomenclature.

**7.1.3** Serial products are tested according to the RS approved test program.

**7.1.4** Quality control system (CKK) is a set of procedures providing control of compliance of the production with the RS requirements, and control of materials and products used by the manufacturer during the serial manufacture.

**7.1.5** The following types of technical supervision shall be provided:

**.1** direct technical supervision. All surveys prescribed by the RS rules shall be carried out by the Register;

**.2** survey based on the approval of the firm's quality control system (CKK 1). The technical personnel of the firm is entrusted to perform check tests and fill in certificates of conformity. The firm (manufacturer) shall submit the test results to the Register for review as well as the certificates filled in and signed by an official of the firm (manufacturer) and drawn up (endorsed) by the Register (C3);

**.3** survey based on the approval of the manufacturer's quality control system (CKK 2). Approval when RS evaluates the manufacturing processes of the manufacturer and/or its suppliers in terms of ensuring the performance of examinations and tests prescribed by the RS rules. Depending on the group an item of technical supervision belongs to, the document certifying the compliance with the requirements shall be either the document drawn up by the manufacturer in which the material or product compliance with the RS requirements is declared (MC) or the Certificate filled-in and signed by an official of the manufacturer and drawn up (endorsed) by the Register (C3).

**7.1.6** The quality control system (CKK) shall clarify:

the extent of the required examinations and tests;

to which extent and under which conditions the manufacturer may perform all or part of the required examinations and tests without the presence of the RS surveyor when the Certificate filled in and signed by an official of the manufacturer and drawn up (endorsed) by the Register (C3) is required.

**7.1.7** If the materials or products specified in the Type Approval Certificate (CTO) are manufactured completely or partially at different firms and manufacturer's production sites, each firm and manufacturer's production site where inspections, examinations and tests prescribed by the RS requirements are planned to be performed, shall be surveyed within the approval of the quality control system. In this case, a separate CKK Certificate may be issued to the firm and manufacturer's production site being surveyed in addition to the CKK Certificate issued to the manufacturer — the holder of the Type Approval Certificate (CTO).

In case of the manufacture of materials or products under the agreements on contract manufacturing, the CKK Certificate of the manufacturer — the holder of the Type Approval Certificate (CTO) may include the Type Approval Certificates (CTO) issued to the firm that has signed the agreement on contract manufacturing. Validity period of such Type Approval Certificates (CTO) shall not exceed the validity period of the Type Approval Certificate (CTO) issued to the manufacturer — the holder of the Type Approval Certificate (CTO).

**7.1.8** Serial products shall be supplied with the certificates or documents (C, C3, or MC) depending on the group (2 — 5) of the item of technical supervision (refer to Table 5.2) and the scheme of technical supervision applicable to the group.

**7.1.9** To evaluate the quality control system (CKK) compliance with the RS requirements, the Register shall verify if there is a type approval for the manufactured products, approval of production processes (if applicable) and carry out the initial survey of the manufacturer. To verify the manufacturer's compliance with the requirements for the quality control system (CKK), the Register shall carry out periodical surveys.

**7.1.10** In cases provided for in the RS rules, the Register may carry out unscheduled surveys of the manufacturer and/or its supplier.

**7.1.11** The CKK Certificate may be renewed subject to the survey. The scope of the renewal survey shall:

- .1** verify if the conditions of the quality control system approval specified in 7.3 and 7.4 are still met;
- .2** verify that the check tests and examinations of the manufactured products included in the CKK Certificate are appropriately controlled.

## **7.2 DIRECT TECHNICAL SUPERVISION**

**7.2.1** As a rule, the survey shall be performed at the manufacturer's production site. During the survey, the manufacturer or applicant, in the presence of the RS representative, shall ensure performance of all examinations and tests specified in the preliminary agreed program.

**7.2.2** In case of satisfactory results of the survey, the Certificate filled-in and signed by the Register (C) shall be drawn up.

## **7.3 SURVEY BASED ON APPROVAL OF THE MANUFACTURER'S QUALITY CONTROL SYSTEM (CKK 1)**

**7.3.1** The Register may entrust the manufacturer's technical personnel with performance of the check tests or part thereof, to which effect the Manufacturer's Quality Control System Certificate (CKK Certificate) shall be drawn up.

**7.3.2** CKK 1 is considered as meeting the RS requirements provided the manufacturer complies with the requirements of Sections 7 and 10, and in case the type approval is available for materials or products (refer to Section 6).

**7.3.3** When drawing up the CKK Certificate, the agreement on technical supervision shall be signed with the manufacturer. The rights and responsibilities of the manufacturer, responsibilities of the Register and terms of payment to the Register for technical supervision are stated in the agreement on technical supervision.

**7.3.4** In order to ensure the compliance with the RS requirements for the manufactured products, to draw up of the supporting documentation, to fill in and sign the RS documents, and to meet the CKK 1 requirements, an official competent in production and quality control of the items of technical supervision shall be appointed at the manufacturer.

## **7.4 SURVEY BASED ON APPROVAL OF THE MANUFACTURER'S QUALITY CONTROL SYSTEM (CKK 2)**

### **7.4.1 Application.**

**7.4.1.1** Survey based on approval of the quality control system (CKK 2) is applied to the manufacturers of materials and products of groups 3, 4 (refer to Table 5.2) having the Type Approval Certificate (CTO) issued by the Register.

**7.4.1.2** For the manufacturer, CKK 2 shall define the incoming check of the subcontracted materials and products which are the items of the RS technical supervision (those that require the RS certificates or manufacturer's documents). For the purpose of ensuring incoming check, the following shall be provided: materials and products are supplied according to the RS Nomenclature; or the supplier may be included in CKK of the manufacturer.

**7.4.2 Requirements for quality control system — CKK 2.**

**7.4.2.1** The manufacturer shall meet the general requirements for the firms, listed in Section 7.

**7.4.2.2** The manufacturer shall have an implemented quality management system according to a national or international standard approved by an accredited certification body. The availability of the quality management system certified for compliance with the current version of ISO 9001 is sufficient to meet this condition;

**7.4.2.3** The manufacturer shall have a quality control system, current drawings, and rules and standards that cover the materials and products to be certified.

**7.4.2.4** The manufacturer commits itself to ensure compliance of the serial products with the type approval.

**7.4.2.5** The examinations and tests required by the RS rules are either the quality management system procedures of the manufacturer, or separate documents agreed with RS.

**7.4.2.6** The type of the RS certificates and documents (C/C3/MC/M) confirming the compliance of components of the manufactured products with the RS requirements shall be agreed with RS. If the documents on components do not correspond to the list agreed with RS, by the form and/or contents, such components are not permitted to be used.

**7.4.2.7** The manufacturers commit themselves to notify the Register when changes to the design, manufacturing process or testing are made.

**7.4.3 Information and documents to be submitted.**

**7.4.3.1** The Register shall evaluate the opportunity to perform the technical supervision based on CKK 2. The manufacturer shall provide the following data for assessment:

- .1 material or product details;
- .2 existing RS approvals of the manufacturer's products as far as required;
- .3 procedures relevant to the manufacturing process;
- .4 data on all production sites where products are manufactured;
- .5 a list of suppliers of material and main components with an indication of their approval by the Register (as far as required by the RS rules) and the type of technical supervision in each case. In this regard, the type of the RS and/or manufacturers' documents these components to be supplied with, shall be agreed;
- .6 quality control plans relating to the products and relevant components to be approved within CKK 2. The plans shall detail the types of surveys required by the RS rules with an indication of which surveys are delegated to the manufacturer and which shall be done in the presence of the RS surveyor;
- .7 procedures relating to the quality control, examinations and tests of the materials and products, including their methods and frequency of performance;
- .8 forms of reporting documents on tests and examinations, as well as forms of documents (MC) specified in 5.4;
- .9 the quality management system details;
- .10 list of the nominated personnel:
  - for marking/stamping of products;
  - for tests and examinations (responsible persons);
  - for drawing up of the data and information (e.g. declaration of conformity, test reports, etc.);
- .11 the manufacturers of items of the RS technical supervision with codes 06010100MK, 06020000, 07010008, 07010009, 0700600, 07020300, 07020301, 08011400MK, 08030000, 08120000MK, 09010000, 09020000, 09024000, 09025000, 09030000, 09040000, 09050000, 09060000, 09060100, 09070000, 09080000, 9100000, 09120000, 10010000, 10020000, 10030000, 11000000 (as regards insulation materials), 12090000 and other items listed in IACS UI SC249 shall submit procedures for purchasing and controlling the supply of asbestos free material and components. Such procedure shall include the following:
  - supplier evaluation and selection methods;
  - asbestos free verification practices for supplied products;
  - issuance of asbestos-free declarations as supporting documentation for the manufactured item of technical supervision;

.12 any other additional data that the Register may require in order to evaluate the manufacturing process and product quality control.

**7.4.3.2** The documentation submitted shall be reviewed regarding the compliance with the requirements of Part III "Technical Supervision during Manufacture of Materials" and Part IV "Technical Supervision during Manufacture of Products".

**7.4.4 Manufacturer's survey procedure.**

**7.4.4.1** After completion of review of the set of quality control system documentation, the manufacturer's divisions involved in the production process shall be surveyed by the Register. The survey shall verify that the incoming check of the materials and components, the manufacture and testing of the items of technical supervision are performed in accordance with the approved quality control system documentation and comply with the requirements specified in the quality control system documentation and the RS rules. Upon satisfactory results of survey, the CKK Certificate shall be issued in which the extent, duration and conditions of the quality control system are documented.

**7.4.4.2** During the periodical survey:

information on products manufactured during the previous period, data on the examinations, inspections and tests performed during the manufacture, data on claims shall be provided;

availability of valid Type Approval Certificates (CTO), compliance of drawn up reporting documents on the manufactured materials and/or products shall be verified,

check inspections and tests of manufactured products and/or materials shall be demonstrated."

**2 Amendments to the Nomenclature of Items of the Register Technical Supervision as regards groups of codes of radio equipment and navigational equipment.**

Annex 1 shall be introduced reading as follows:

*"ANNEX 1*

**NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION**

1. Nomenclature of Items of the Register Technical Supervision is a list of materials, products, production processes and software regulated by the RS rules.

2. Definitions and abbreviations given in Section 1 of Part I "General Regulations for Technical Supervision" of these Rules are used in the RS Nomenclature, as well as:

K — branding of items of technical supervision;

MK — item subject to technical supervision in compliance with the requirements of international conventions.

3. The RS Nomenclature is presented in the form of the table comprising six columns:

Column 1: "Code of item of technical supervision" — identification code of the material, product, production process or software is indicated, which consists of eight characters grouped in the following groups, each group consisting of two characters:

1st group — part of the RS rules, serial number;

2nd group — groups of machinery, systems, constructions, materials, production processes, software;

3rd group — types of machinery, systems, constructions, materials;

4th group — parts, assemblies;

5th group ("letter group") — items of technical supervision covered by the international conventions.

Column 2 "Item of technical supervision" — name of the material, product, production process or software according to the RS rules is indicated.

Column 3 "Group of item of technical supervision" — number of the group of item of technical supervision is indicated in accordance with which the type of technical supervision is assigned. Forms of technical supervision for the groups are described in Table 5.2.

Column 4 "Other documents issued by RS" — the RS documents are indicated, which are issued in addition to (Type Approval Certificate (COTO), Type Test Certificate (COTИ), EIAPP Certificate) or instead of (Type Approval Certificate for Fire-Proof Division (CTПK), Recognition Certificate for Manufacturer (CПИ), Certificate of Approval for Welding Consumables (COCM)) those specified in Table 5.2, or issued in compliance with other standards (the European Union Recognized Organization (EU RO) Mutual Recognition Procedure for Type Approval (EU RO MR Procedure)).

Column 5 "branding" — obligation of branding of items of technical supervision in compliance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2) is indicated.

Column 6 "Notes" — additional information (requirements) is indicated.

4. RS Nomenclature contains the following sections:

04000000MK Radio equipment

05000000MK Navigational equipment.

#### NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Code of item of technical supervision	Item of technical supervision	Item of technical supervision			
		Group of item of technical supervision (1 — 5)	Other documents issued by RS	Branding	Notes
04000000MK	<b>RADIO EQUIPMENT</b>				
04020000	<b>Radiotelephone communication facilities:</b>				
04020900	VHF radiotelephone station	3		—	
04021100	UHF radiotelephone station	3		—	
04021200MK	two-way VHF radiotelephone apparatus for communications with aircraft	3		—	
04030500	portable two-way radiotelephone station	2		—	
04040000MK	Command broadcast facilities (command broadcast apparatus, public address system, microphone posts)	3			
04070000	Aerial	1		—	
04090000	Satellite radio communication equipment	3		—	
04110000MK	<b>GMDSS radio equipment:</b>				
04110100MK	digital selective calling (DSC) encoder	3		—	
04110200	facsimile device	2		—	
04110300MK	terminal printing device	3		—	
04110400MK	telephony and NBDP receiver	3		—	
04110500MK	telephony, DSC and NBDP transmitter	3		—	
04110600MK	VHF radiotelephone station	3		—	
04110700MK	MF radiotelephone station	3		—	
04110800MK	MF/HF radiotelephone station	3		—	
04110900MK	direct-printing apparatus of improved fidelity	3		—	
04111100MK	radio equipment power supply device, automatic battery charger	3		—	
04111200	GMDSS workstations	2		—	
04120000MK	VHF radio installation (set)	3		—	
04130000MK	MF radio installation (set)	3		—	
04140000MK	MF/HF radio installation (set)	3		—	
04150000MK	INMARSAT ship earth station	3		—	
04150100MK	INMARSAT ship earth station with EGC receiver	3		—	
04150200MK	ship security alert system (SSAS)	3		—	
04160000MK	COSPAS-SARSAT satellite EPIRB	3		—	
04170000MK	VHF EPIRB using DSC on channel 70	3		—	
04180000MK	NAVTEX service receiver	3		—	
04190000MK	enhanced group calling (EGC) receiver	3		—	
04200000MK	DSC watch receiver	3		—	
04210000MK	HF direct-printing radiotelegraph receiver	3		—	
04220000MK	radar transponder	3		—	
04220100MK	ship's and survival craft AIS search and rescue transmitter (AIS-SART)	3			
04230000MK	two-way VHF radiotelephone apparatus	3		—	
04240000	diagnosis and checking systems for GMDSS equipment	2		—	
04250000MK	integrated GMDSS radio communication system	3		—	
04400000	radio equipment not mentioned above	2		—	
04410000	Ship security surveillance TV system (video surveillance system)	2		—	



Code of item of technical supervision	Item of technical supervision	Item of technical supervision			
		Group of item of technical supervision (1 — 5)	Other documents issued by RS	Branding	Notes
05000000MK	<b>NAVIGATIONAL EQUIPMENT</b>				
05010000MK	Magnetic compasses (standard, spare, lifeboat)	3		—	
05010100MK	transmitting heading devices (THD)	3		—	
05020000MK	Gyrocompasses	3		—	
05030000MK	Logs (speed and distance measuring devices)	3		—	
05040000MK	Deck logs	2		—	
05050000MK	Echo sounders	3		—	
05060000MK	Heading control systems/track control systems	3		—	
05070000MK	Integrated navigation systems	3		—	
05080000	Combined ship's workstations	2		—	
05090000	Horizontal sonar navigational systems	2		—	
05100000MK	Gyro-magnetic compasses and gyro-azimuths	3		—	
05110000	Unified timing systems	2		—	
05120000MK	Rate-of-turn indicators	3		—	
05130000MK	Electronic chart display and information system (ECDIS)	3		—	
05140000MK	<b>Radio navigation equipment:</b>				
05140210MK	radar equipment intended for ships below 500 gross tonnage	3		—	
05140220MK	radar equipment intended for ships below 10000 gross tonnage	3		—	
05140230MK	radar equipment intended for ships of 10000 gross tonnage and upwards	3		—	
05140240MK	radar ice display	3		—	
05140250	radar equipment intended for ships below 300 gross tonnage	3		—	
05140300MK	radio navigation system receivers	3		—	
05140400MK	Ship's radar reflectors (shipborne and for lifesaving appliances)	3		—	
05150000MK	Equipment of the universal automatic identification system (U AIS), class "A"	3		—	
05150000	Equipment of the automatic identification system (AIS), class "B"	3		—	
05160100MK	Voyage data recorders (VDR)	3		—	
05160200MK	Simplified voyage data recorders (S-VDR)	3		—	
05170000MK	Sound reception systems	3		—	
05180000	Alarm and communication systems (for OMBO ships)	2		—	
05190000MK	Bridge navigational watch alarm systems (BNWAS)	3		—	
05200000MK	Equipment for long-range identification and tracking of ships (LRIT)	3		—	
05210000	Remote camera systems	2		—	
05220000	Hydrometeorological complexes	2		—	
05220100MK	HSC night vision equipment	3		—	
05220100	Night vision equipment	3		—	
05300000	Navigational equipment not mentioned above	2		—	

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**Общие положения по техническому наблюдению**

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