RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF SMALL SEA FISHING VESSELS

PART I

CLASSIFICATION

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RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SMALL SEA FISHING VESSELS

Rules for the Classification and Construction of Small Sea Fishing Vessels of Russian Maritime Register of Shipping (RS, the Register) have been approved in accordance with the established approval procedure and come into force on 1 January 2022.

The present edition of the Rules is based on the 2021 edition taking into account the amendments and additions developed immediately before publication.

The Rules are published in the following parts:

Part I "Classification";
Part II "Hull";
Part III "Equipment, Arrangements and Outfit";
Part IV "Stability and Freeboard";
Part V "Subdivision";
Part VI "Fire Protection";
Part VII "Machinery Installations";
Part VIII "Systems and Piping";
Part IX "Machinery";
Part X "Boilers, Heat Exchangers and Pressure Vessels";
Part XI "Electrical Equipment";
Part XII "Refrigerating Plants";
Part XIII "Materials";
Part XIV "Welding";
Part XV "Automation";
Part XVI "Structure and Strength of Fiber-Reinforced Plastic Ships";
Part XVII "Radio Equipment";
Part XVIII "Navigational Equipment".

REVISION HISTORY
(purely editorial amendments are not included in the Revision History)

For this version, there are no amendments to be included in the Revision History.

1 GENERAL

1.1 APPLICATION

1.1.1 Russian Maritime Register of Shipping as the body of technical supervision and classification of ships establishes the technical requirements ensuring conditions of safe navigation of small sea fishing vessels.

Rules for the Classification and Construction of Small Sea Fishing Vessels[1] are applied by the Register for carrying out the technical supervision and classification of small sea fishing vessels having the length of 12 up to 24 m and with the power of main engines from 55 to 375 kW. For the vessels in service having the same characteristics, these Rules may be applied to the possible and reasonable extent.

1.1.2 These Rules do not cover undecked vessels.

1.1.3 Small sea fishing vessels are to the full extent covered by the Rules for the Prevention of Pollution from Ships Intended for Operation in Sea Areas and Inland Waterways of the Russian Federation. Rules for the Classification and Construction of Sea-Going Ships[2] and the Rules for the Equipment of Sea-Going Ships are applied to the extent specified in the respective parts of these Rules.

1.1.4 During performance of technical supervision over small sea fishing vessels, in addition to the above-mentioned Rules, also the Rules for the Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, the Rules for the Classification Surveys of Ships and respective guidelines for technical supervision of ships under construction and in service are applied.

1.1.5 These Rules establish the requirements, compliance with which will allow the ship to be classified by the Register.

1.1.6 Confirmation of the ship or its separate parts compliance with the requirements of these Rules is a prerogative of the Register and is carried out according to the procedure established by the Register.

Any statements of the item of supervision compliance with the requirements of these Rules made or laid out in the form of a document by organization another than the Register, which are not approved by the Register in the due way, may not serve the confirmation of such compliance.

1.1.7 Technical supervision of the Register does not substitute the activity of the technical supervisory bodies of the shipowners, shipyards and manufacturers.

1.1.8 The Register is responsible for failure to perform or for improper performance of its commitments only when found guilty (by intent or carelessness). The Register covers the losses to persons entering with it into contractual relations, as stipulated by the Rules, and whose losses result from its failure to perform or improper performance of its contractual commitments due to carelessness, to the amount not exceeding the contract fees determined on the basis of the Register scales of fees and provided solely the causal relationship has been proved between such failure to perform or improper performance of contractual commitments by the Register and the suffered losses.

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1 Hereinafter referred to as "these Rules".

2 Hereinafter referred to as "the Rules for the Classification".

1.2 DEFINITIONS AND EXPLANATIONS

For the purpose of these Rules, the following definitions and explanations have been adopted, unless expressly provided otherwise in particular parts.

1.2.1 Definitions.

Amidships is at the middle of the ship's length L.

Crew of a fishing vessel are persons engaged in any business aboard the vessel connected with its purpose.

Deckhouse is a decked structure on the freeboard or superstructure deck, which is set in from the sides of the ship for more than 4 % of the breadth B, and has doors, windows or other similar openings in the outer bulkheads. The deckhouses may be arranged in a single or several tiers.

Existing ship is a ship, which is not a new ship.

Fishing vessel is a vessel used for catching or for catching and processing of fish and other living resources of the sea.

Forward and after perpendiculars are the vertical lines passing in the centre line at the fore and after ends of the ship's length L, respectively.

Freeboard deck is the deck, from which the freeboard is measured.

In a ship having a discontinuous deck the lowest line of this deck and the continuation of that line parallel to upper part of the deck is taken as a freeboard deck.

Full-load displacement is the ship's displacement up to the load line mark.

Length of ship L is taken as 96 % of the total length on a waterline at 85 % of the least moulded depth or as the length from the fore side of the stem to the axis of the rudder stock on that waterline, if that be greater.

Where the stem contour is concave above that waterline, the length of the ship shall be measured from the vertical projection to that waterline of the aftermost point of the stem contour (above that waterline).

In ships designed with a rake of keel the waterline, on which this length is measured, shall be parallel to the design waterline.

Light weight ship is a completely outfitted ship less deadweight. The deadweight comprises liquid ballast.

Load waterline is the waterline indicated by the upper edge of the line, which passes through the center of the ring of the load line mark for a ship in upright position.

Moulded breadth B is the maximum breadth measured amidships from outside of frame to outside of frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material.

Moulded depth D is the vertical distance measured amidships from the top of the plate keel, or from the point where the inner surface of the shell abuts upon the bar keel, to the top of the freeboard deck beam at side.

In ships having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the freeboard deck and side, the lines extending as though the gunwale were of angular design.

Where the freeboard deck is stepped in the longitudinal direction and the raised part of the deck extends over the point, at which the moulded depth shall be determined, the moulded depth shall be measured to a line of reference extending from the lower part of the deck along a line parallel with the raised part.

Moulded draught d is the vertical distance measured amidships from the top of the plate keel or from the point where the inner surface of the shell (outer surface in a ship with a non-metal shell) abuts upon the bar keel, to the summer load waterline.

New ship is a ship constructed after the Rules for the Classification and Construction of Small Sea Fishing Vessels have come into force.

Raised quarter deck is the after upper part of a stepped deck, the forward lower part of which is taken as a portion of the freeboard deck.

Ship in service is a ship, which is not a ship under construction.

Ship under construction is a ship during the period from the date of laying the keel till the date of issuing the documents to the ship.

The date of laying the keel means the beginning of construction identifiable with a specific ship when the mass of the assembled part of the hull comprises not less than 1 % of the estimated mass of all structural material.

Spacing is the distance between the primary members determined on the basis of the value of standard spacing a_0, in m, determined by the formula $a_0 = 0{,}002L + 0{,}48$.

Deviation from standard spacing within the range of $0{,}65a_0$ to $1{,}25a_0$ may be permitted.

Superstructure is a decked structure on the freeboard deck, extending from side to side of the ship or with the side plating not being inboard of the shell plating more than 4 % of the breadth B.

Superstructure deck, deckhouse top or trunk deck is the deck forming the top of a superstructure, deckhouse or trunk, respectively.

The superstructure may be either complete, i.e. extending over the entire ship's length L, or detached, i.e. extending only over a definite part of this length. Both complete and detached superstructures may be arranged either in a single or several tiers.

Tight under pressure head up to... is the term pertaining to closing appliances of openings, which means that under specified pressure the liquid will not penetrate through the openings inside the ship.

Trunk is a decked structure on the freeboard deck, which is set in from the sides of the ship for more than 4 % of the breadth B, and has no doors, windows or other similar openings in the outer bulkheads.

Upper deck is the uppermost continuous deck extending for the full length of the ship.

The upper deck may be stepped.

Weathertight is the term pertaining to closing appliances of openings in the above-water hull, which means that in any sea conditions water will not penetrate through the openings inside the ship. The specified closing appliances shall withstand testing by water pouring from hose nozzle, the output opening of which is at least 16 mm in diameter and water head in the hose ensures at least 10 m height of the water stream jetted upwards; at that water shall be poured transversely to the tested surface from the distance till the tested area being not more than 3 m.

1.2.2 Explanations.

1.2.2.1 For the purpose of these Rules classification means development, publication and application of the rules, continuous compliance with which along with maintenance of the objects by the shipowner in the due technical state will ensure safe operation of ship in compliance with its purpose.

1.2.2.2 Where in the text of these Rules the arising stresses are mentioned, such stresses stand for reduced stresses σ_{red}, in MPa, calculated by the formula

$$\sigma_{red} = \sqrt{\sigma^2 + 3\tau^2} \qquad (1.2.2.2)$$

where σ = normal stresses in the considered cross-section, in MPa;
τ = shear stresses in the considered cross-section, in MPa.

Strength conditions shall be tested on the basis of these stresses.

1.2.2.3 Permissible stresses, with which the reduced stresses are compared during testing of strength conditions, are specified by these Rules as parts of yield stress of the material applied; at that (unless expressly provided otherwise) the yield stress shall be accepted equal to not more than 0,7 of the ultimate strength of the same material.

1.3 DEVIATIONS FROM THE RULES

1.3.1 On agreement with the Register, deviations from these Rules may be allowed, provided that the data are submitted proving that safety of the ship operation, safety of life at sea, safe carriage of goods by sea and prevention of pollution from ships are ensured.

1.4 DOCUMENTS

1.4.1 Based on results of technical supervision and classification of small sea fishing vessels the Register issues documents in compliance with the applicable provisions of the General Regulations for the Classification and Other Activity.

1.4.2 Ship measurement is carried out in compliance with Section 4 of the Rules for the Measurement of Sea-Going Ships.

2 CLASS OF A SHIP. AREA OF NAVIGATION

2.1 If the ship complies with the requirements of these Rules, it may be assigned a class notation with the character of classification:

.1 **KM⊛SFV** — for self-propelled ships built according to the rules and under the supervision of the Register;

.2 **KM★SFV** — for self-propelled ships, which were as a whole (or their hull, or machinery installation, machinery and equipment) built and/or manufactured according to the rules and under the supervision of another classification body recognised by the Register;

.3 **(KM)★SFV** — for self-propelled ships, which were as a whole (or their hull, or machinery installation, machinery and equipment) built and/or manufactured without supervision of the classification body recognised by the Register, or without any supervision of the classification body at all.

2.2 For the ships, which comply with the requirements of the respective parts of these Rules, the following marks are added to the character of classification:

.1 ice class mark **Ice1**;

.2 distinguishing automation mark **AUT3** (ship's operation with unattended machinery spaces).

2.3 For the ships, which comply with the requirements of these Rules, area of coastal navigation with an allowable distance from the place of refuge not more than 25 miles is determined.

2.4 The Register may delete or alter any mark in the class notation in the case of any alteration of, or non-compliance with the requirements defining the insertion of this mark in the class notation.

3 TECHNICAL DOCUMENTATION

3.1 Prior to the beginning of the construction of the ship, technical design documentation proving that the requirements of these Rules, applicable to the ship concerned, are complied with shall be submitted to the Register for review. The documentation shall be submitted to the Register in electronic format as PDF file completed in accordance with the lists given in 3.2.1 — 3.2.12.

3.2 Amount of technical design documentation.

3.2.1 General:

.1 general ship's specification (no stamps of approval are needed);

.2 general arrangement plans with indication of escape routes and explosion-dangerous zones.

3.2.2 Hull documentation:

.1 midship section;

.2 constructional profile;

.3 deck plan with indication of openings;

.4 shell expansion with indication of openings;

.5 drawings of transverse bulkheads;

.6 drawing of propeller brackets and bossings.

In drawings listed in 3.2.2.1 — 3.2.2.6 hull member scantlings, their material, typical details, types and dimensions of fillet welds shall be indicated;

.7 drawings of seatings of main machinery;

.8 drawing of superstructure/deckhouse;

.9 scheme of welding quality control and table of hull welding containing the following information:

.9.1 marks of materials of hull member scantlings and welding consumables;

.9.2 names of structural components to be joined and their thickness;

.9.3 symbol of edge preparation;

.9.4 method of welding and position of welded joints.

If the data listed in 3.2.2.9.1 — 3.2.2.9.4 are stated to the full in the drawings of the ship hull, then submission of the table of welding is not required;

.10 scheme of tightness test of hull structures;

.11 for fiber-reinforced plastic ships — detailed procedure for hull construction containing the information on materials, methods of hull elements' formation and on the required and mandatory conditions of hull construction.

3.2.3 Documentation on the arrangements, equipment and outfit:

.1 arrangement plan of openings in hull, superstructures and deckhouses with indication of coamings height and type of closing appliances;

.2 general arrangement plans of the steering gear, anchor, mooring and towing arrangement, life-saving appliances, cargo handling gear, signal masts, guard railing;

.3 calculations of steering gear, anchor, mooring and towing arrangements, life-saving appliances, cargo handling gear, signal masts, guard railing (no stamps of approval are needed);

.4 general arrangement plan of signal means.

3.2.4 Documentation on stability (no stamps of approval are needed):

.1 lines drawing, coordinate table of lines drawing;

.2 hydrostatic curves;

.3 curves of areas of hull cross-sections;

.4 curves of arms of form stability;

.5 table of displacements, position of center of gravity, trim and initial stability for various loading conditions;

.6 summary table of the stability verification according to these Rules;

.7 capacity curves.

3.2.5 Documentation on fire protection:

.1 arrangement plan of fire-proof divisions;

.2 diagram fire-extinguishing systems;

.3 schemes of insulation;

.4 list of fire-fighting outfit.

3.2.6 Documentation on machinery installations:

.1 general arrangement plans of machinery and equipment in the engine room;

.2 diagram and description of the remote control for main machinery;

.3 drawings of shafting and the sterntube;

.4 drawings of shaft connections, shafting bearings and their fastening to the seatings;

.5 strength calculation of shafts (no stamps of approval are needed);

.6 drawing of propeller;

.7 torsional vibration calculations in compliance with the requirements of Section 8, Part VII "Machinery Installations" (no stamps of approval are needed).

3.2.7 Documentation on automation equipment:

.1 list of systems, devices and elements used in automation systems, their technical description with indication of the purpose and principle of operation, data on reliability and approval by the Register;

.2 circuit schemes and block diagram of alarm and warning systems (including diagrams of power supply) with the list of controlled parameters;

.3 technical documentation on remote automated control of main engines, automation of electric generating plant, auxiliary machinery and systems (bilge systems, compressed air systems and service systems of main engines): circuit schemes and block diagrams with indication of all devices, diagrams of power supply, protection, signaling and indication of parameters;

.4 drawings of front panels and general arrangement plans of automation equipment on navigating bridge.

3.2.8 Documentation on systems and piping:

.1 diagrams of ship's systems: bilge, ballast systems, air, overflow and sounding pipes, sewage, ventilation systems;

.2 diagrams of machinery installation systems (cooling, fuel, lubrication, gas exhausting, starting air, shafting bearings cooling and lubrication).

3.2.9 Documentation on electrical equipment:

.1 output calculation results of the main source of electrical power with regard to the following ship's operating conditions (no stamps of approval are needed):

running;

manoeuvring;

emergency (fire, hole in the hull, etc.);

fish catching, cooling, processing, catch delivery;

.2 output calculation of emergency sources of electrical power (no stamps of approval are needed);

.3 circuit diagrams of power generation and distribution from the main and emergency sources of electrical power: ship's mains, lighting, navigation lights;

.4 circuit diagrams and general arrangement plans of the main and emergency switchboards and other current switchboards of non-standard design;

.5 calculations of cable cross-sections with indication of their types, currents and protection (no stamps of approval are needed);

.6 calculations of illumination intensity of compartments and spaces (no stamps of approval are needed);

.7 calculations of voltage dip when a consumer with the maximum starting power is switched on (no stamps of approval are needed);

.8 circuit diagrams of essential electric drives;

.9 drawings of electrical equipment arrangement and installation in all spaces and zones of the ship;

.10 circuit diagram of cable runs with indication of spaces, which they pierce, and tightenings for their penetration through the watertight bulkheads and decks;

.11 circuit diagrams of general alarm system, fire detection systems, alarms to warn that fire smothering system is put into action, ship's communication system.

3.2.10 Documentation on radio equipment:

.1 wiring diagram of radio equipment and commutation of aerials (with indication of types and cross-sectional areas of cables and protective means from radio interference);

.2 arrangement plans (plan and side view) of radio equipment with indication of heating, ventilation, communication, alarm and lighting systems;

.3 arrangement plan of aerials (plan and side view).

3.2.11 Documentation on navigational equipment:

.1 wiring diagram of navigational instruments (with indication of types and cross-sectional areas of cables and protective means from radio interference);

.2 arrangement plans (plan and side view) of navigational equipment with indication of heating, ventilation, communication, alarm and lighting systems.

3.2.12 In addition programme of mooring tests and sea trials for the objects listed in 3.2.3, 3.2.5 — 3.2.9 is submitted.

3.3 Amount of working documentation fora ship under construction is defined for each particular case on agreement with the RS Branch Office for supervision under construction.

Working documentation may be submitted for approval both prior to commencement of the ship construction and in the course of its construction.

3.4 After the ship construction, tests and commissioning, the final documentation on a ship shall be submitted to the Register; this is one of the mandatory conditions for issue of the Seaworthiness Certificate to the ship.

Amount of the reports shall be agreed with the RS Branch Office for supervision under construction before completion of the ship construction.

Russian Maritime Register of Shipping

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