

RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF HIGH-SPEED CRAFT

PART I CLASSIFICATION

ND No. 2-020101-158-E



St. Petersburg
2023

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF HIGH-SPEED CRAFT

Rules for the Classification and Construction of High-Speed Craft 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 March 2023.

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

The procedural requirements, unified requirements, unified interpretations and recommendations of the International Association of Classification Societies (IACS) and the relevant resolutions of the International Maritime Organization (IMO) have been taken into consideration.

The Rules are published in the following parts:

Part I "Classification";

Part II "Hull Structure and Strength";

Part III "Equipment, Arrangements and Outfit";

Part IV "Stability";

Part V "Reserve of Buoyancy and 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 "Live-Saving Appliances";

Part XVII "Radio Equipment";

Part XVIII "Navigational Equipment";

Part XIX "Signal Means";

Part XX "Equipment for Pollution Prevention";

Part XXI "Craft for Personnel Transportation".

REVISION HISTORY¹

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

Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
General Provisions of the 2018 edition	General Provisions have been transferred to Section 1 of Part I "Classification"	—	01.03.2023
Section 1	Section has been completely revised	—	01.03.2023
Para 1.3.1	Requirements have been specified	311-05-1943c of 30.05.2023	01.06.2023
Para 1.3.2	Para has been deleted	311-05-1943c of 30.05.2023	01.06.2023
Chapter 1.5	Chapter has been deleted in connection with transfer of the requirements to Section 4	311-05-1943c of 30.05.2023	01.06.2023
Para 2.3.1	Editorial amendment: number of floodable compartments has been specified	—	01.03.2023
Para 2.9	New para containing instructions on conditions for assigning distinguishing marks in the class notation of a high-speed craft has been introduced	312-14-1888c of 31.01.2023	01.04.2023
Para 3.1.2.1	Requirements have been specified	311-05-1943c of 30.05.2023	01.06.2023
Paras 3.1.2.2 — 3.1.2.5	Table has been deleted in connection with transfer of the requirements to the Rules for the Classification Surveys of Ships in Service New para containing requirements for initial surveys of HSC under construction has been introduced	311-05-1943c of 30.05.2023	01.06.2023
Para 3.1.2.5 (renumbered 3.1.2.3)	Section has been completely revised in connection with transfer of the requirements from Chapter 1.5	311-05-1943c of 30.05.2023	01.06.2023
Table 3.1.2	Requirements have been specified	311-05-1943c of 30.05.2023	01.06.2023
Para 3.1.3	Table has been deleted in connection with transfer of the requirements to the Rules for the Classification Surveys of Ships in Service	311-05-1943c of 30.05.2023	01.06.2023
Section 4	New para containing requirements for initial surveys of HSC under construction has been introduced	311-05-1943c of 30.05.2023	01.06.2023

¹ Amendments and additions introduced at re-publication or by new versions based on circular letters or editorial amendments.

1 GENERAL

1.1 SCOPE OF APPLICATION

1.1.1 Rules for the Classification and Construction of High-Speed Craft¹ apply to high-speed craft² as they defined in [1.2.1](#), including:

- .1** passenger ships of whatever gross tonnage which in the course of their voyage do not proceed more than 4 h distance at operational speed from a place of refuge in fully loaded condition;
- .2** cargo ships of 500 gross tonnage and over which in the course of their voyage do not proceed more than 8 h distance at operational speed from a place of refuge in fully loaded condition;
- .3** self-propelled ships not specified in [1.1.1.1](#) and [1.1.1.2](#) with power output of their main engines 55 kW and over.

1.1.2 Rules for Safety of Dynamically Supported Craft, 1990, apply to non-self-propelled air-cushion platforms with power output of their main engines 55 kW and over.

1.1.3 The scope of requirements of these Rules for ships referred to in [1.1.1.3](#) and not covered by the International Code of Safety for High-Speed Craft, 2000, adopted by IMO resolution MSC.97(73)³ as amended, is specified by the Register based on their dimensions, purpose, area of navigation etc., but not less than the scope determined by the applicable provisions of:

.1 Part I "Classification", Part II "Hull Structure and Strength", Part IV "Stability", Part V "Reserve of Buoyancy and Subdivision", Part VII "Machinery Installations Machinery Installations", Part XVII "Radio Equipment", Part XVIII "Navigational Equipment", Part XXI "Craft for Personnel Transportation" of these Rules;

.2 Part III "Equipment, Arrangements and Outfit", Part V "Machinery Installations. Machinery. Systems and Piping", Part VI "Automation", Part VII "Electrical Equipment", Part IX "Life-Saving Appliances", Part X "Fire Protection" of the Rules for the Classification and Construction of Pleasure Craft.

Area of navigation of such ships may be established taking into account the provisions of Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships⁴ (as for area of navigation **R3** or **R3-RSN**) depending on the type of signal means and radio equipment (for sea areas 1, 2, 3 or 4), as well as subject to fulfillment of the requirements for stability and strength.

Scope of requirements may be amended/specified upon agreement with — the Register Head Office⁵ in each particular case.

1.1.4 The requirements of these Rules apply to ships which were under construction or in service on the date of coming into force of these Rules as far as it is reasonable and practicable.

1.1.5 Unless provided otherwise in these Rules, the General Regulations for the Classification and Other Activity apply to high-speed craft as far as they are applicable to such ships.

1.1.6 The Rules for the Classification and the Rules for the Equipment of Sea-Going Ships apply to HSC as far as it is specified in each Section of these Rules.

1.1.7 Conditions and general provisions for assignment of class to the ship shall meet the requirements of 2.1 of Part I "Classification" of the Rules for the Classification.

¹ Hereinafter referred to as "these Rules".

² Hereinafter referred to as "HSC".

³ Hereinafter referred to as "the 2000 HSC Code".

⁴ Hereinafter referred to as "the Rules for the Classification".

⁵ Hereinafter referred to as "RHO".

1.2 DEFINITIONS AND EXPLANATIONS

1.2.1 For the purpose of these Rules the following definitions have been adopted.

Administration is the Government of the State the flag of which the craft is flying.

Failure mode and effects analysis (FMEA) is an assessment of craft systems and equipment aiming at determining whether some rather probable failure mode may cause a hazardous or catastrophic effect to the craft made in compliance with Annex 4 of the 2000 HSC Code.

Base port is a specific port identified in the route operational manual and provided with: appropriate facilities providing continuous radio communications with craft at all times while in ports and at sea;

means for obtaining a reliable weather forecast for the corresponding region and its due transmission to all craft in operation;

for category A craft-access to facilities provided with appropriate rescue and survival equipment;

access to craft maintenance services with appropriate equipment.

Design waterline is the waterline corresponding to the maximum operational weight of craft with no lift or propulsion machinery active.

Maximum operational weight is the overall weight up to which craft operation in the intended mode is permitted by the Administration.

Displacement of a light craft is the displacement of a craft in tonnes without cargo, oil fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, passengers and crew and their effects.

High-speed craft is a craft capable of operating at a maximum speed, in metres per second (m/s), equal to or exceeding:

$$3,7 \times \nabla^{0,1667}$$

where ∇ – displacement equal to the design waterline, in m³.

Significant wave height is the average height of the one-third highest observed wave heights over a given period and equal to $0,752h_{3\%}$.

Base port state is the state in which the base port is located.

Length of craft (L) is the overall length of the underwater watertight envelope of the rigid hull, excluding appendages, at or below the design waterline in the displacement mode with no lift or propulsion machinery active.

Flap is an element formed as an integrated part of, or an extension of, a foil, used to adjust the hydrodynamic or aerodynamic lift of the foil.

Foil is a profiled plate or three-dimensional construction at which hydrodynamic lift is generated when the craft is under way.

Fully submerged foil is a foil having no lift components piercing the surface of the water in the foil-borne mode.

Place of refuge is any naturally or artificially sheltered aquatorium which may be used as a shelter by a craft under conditions likely to endanger its safety.

Muster station is an area where passengers can be gathered in case of emergency, given instructions and prepared to abandon the craft, if necessary. The passenger spaces may serve as muster stations if all passengers can be instructed there and prepared to abandon the craft.

Passenger is every person other than: the Master and members of the crew or other persons employed or engaged in any capacity on board a craft on the business of that craft; a child under one year of age.

Auxiliary machinery spaces are spaces containing:
diesel-generators and other essential auxiliary machinery driven by internal combustion engines of power output up to and including 110 kW;
sprinkler, drencher or fire pumps;
bilge pumps;
oil filling stations;
switchboards of aggregate capacity exceeding 800 kW;
and trunks to such spaces (refer to 1.3 of Part VI "Fire Protection" of these Rules).

Auxiliary machinery spaces of little or no fire risk are spaces containing:

refrigerating machinery;
stabilizing systems;
ventilation and air conditioning machinery;
switchboards of aggregate capacity 800 kW or less; and
trunks to such spaces (refer to 1.3 of Part VI "Fire Protection" of these Rules).

Cargo spaces are all spaces other than special-category spaces and ro-ro spaces used for cargo and trunks to such spaces.

Crew accommodation spaces are spaces allocated for the use of the crew, and include cabins, sick bays, offices, lavatories, lounges and similar spaces.

Machinery spaces are spaces containing internal combustion engines with aggregate total power output of more than 110 kW, generators, oil fuel units, propulsion machinery, major electrical machinery and trunks to such spaces (refer to 1.3 of Part VI "Fire Protection" of these Rules).

Public spaces are spaces allocated for passengers and include kiosks, smoke rooms, main seating areas, lounges, dining rooms, recreation rooms, lobbies, laboratories and similar permanently enclosed spaces allocated for passengers.

Open vehicles spaces are spaces:
to which any passengers carried have access; intended for carriage of motor vehicles with fuel in their tanks for their own propulsion;

either open at both ends or open at one end and provided with adequate natural ventilation effective over their entire length through permanent openings in the side plating or deckhead, or from above.

Open ro-ro spaces are those ro-ro spaces:
to which any passengers carried have access;
and either:
are open at both ends; or
have an opening at one end and provided with permanent openings distributed in the side plating or deckhead or from above, having total area of at least 10 % of the total area of the space sides.

Ro-ro spaces are spaces not normally subdivided in any way and normally extending to either a substantial length or the entire length of the craft in which motor vehicles with fuel in their tanks for their own propulsion and/or goods (packaged or in bulk, in or on rail or road cars, vehicles (including road or rail tankers), trailers, containers, pallets, demountable tanks or in or on similar stowage units or other receptacles) can be loaded or unloaded, normally in horizontal direction.

Service spaces are enclosed spaces used for pantries containing food-warming equipment but no cooking facilities with exposed heating surfaces, lockers, sales shops, store-rooms and enclosed baggage rooms.

Such spaces containing no cooking appliances may contain:

.1 coffee automats, toasters, dish washers, micro-wave ovens, water boilers and similar appliances, each of them with the maximum power of 5 kW; and

.2 electrically heated cooking plates and hot plates for keeping food warm, each of them with the maximum power of 2 kW and a surface temperature not above 150 °C.

Special category spaces are those enclosed ro-ro spaces to which passengers have access. Special category spaces may be accommodated on more than one deck provided that the total overall area clear height for vehicles does not exceed 10 m.

Operating station is a confined area of the control station equipped with necessary means for navigation, manoeuvring and communication, and from where the functions of navigating, manoeuvring and communication, commanding, conning and lookout are carried out.

Continuously manned control station is a control station which is continuously manned by a responsible member of the crew while the craft is in normal service.

Control stations are spaces in which the craft radio or navigating equipment or the emergency source of power and emergency switchboard are located, or where the fire recording or fire control equipment is centralized, or where other functions essential to the safe operation of the craft, such as propulsion control, public address, stabilization systems, etc, are located.

Displacement mode is the regime, whether at rest or in motion, when the weight of the craft is fully or predominantly supported by hydrostatic forces.

Transitional mode is the regime between displacement and operational modes, the time taken for which shall be regulated by the design documentation and confirmed by tests.

Operational mode is the normal operational regime when the weight of high-speed craft is supported by forces other than hydrostatic forces.

Operating compartment is the enclosed area from which the navigation and control of the craft is exercised.

Maximum speed is the speed achieved at the maximum continuous propulsion power at maximum operational weight and in smooth water.

Operational speed is 90 % of the maximum speed.

Cargo ship is any high-speed craft other than a passenger ship, which is capable of maintaining the main functions and safety systems of unaffected spaces after damage in any one compartment on board.

Category A craft is any high-speed passenger craft:

operating on a route where it has been demonstrated to the satisfaction of the Flag and Port States that there is a high probability that, in the event of an evacuation at any point of the route, all passengers and crew can be rescued safely within the least of:

the time to prevent persons in survival craft from exposure causing hypothermia in the worst intended conditions;

the time appropriate with respect to environmental conditions and geographical features of the route;

4 h;

carrying not more than 450 passengers.

Category B craft is any high-speed passenger craft, other than a category A craft, with machinery and safety systems arranged so that, in the event of damage or flooding disabling any essential machinery and safety systems in one compartment, the craft retains the capability to navigate safely.

Air-cushion vehicle (ACV) is a craft such that the whole or a significant part of its weight can be supported, whether at rest or in motion, by a continuously generated cushion of air.

Amphibious air-cushion vehicle (amphibious ACV) is an air-cushion vehicle the design of which allows to travel over water and hard surface.

Air-cushion vehicle side-wall craft (side-wall ACV)/Surface-effect ship (SES) is an air-cushion vehicle where the air cushion is partially sealed off by hard structures (side walls).

Hydrofoil is a craft which is supported above the water surface in non-displacement mode by hydrodynamic forces generated on foils.

Passenger ship is a ship which carries more than twelve passengers.

Ro-ro craft is a craft fitted with one or more ro-ro spaces.

Special-purpose ship is a mechanically self-propelled ship which by reason of its function carries on board more than 12 persons of special personnel including passengers.

Flashpoint is a flashpoint determined by a test using the closed-cup apparatus referenced in the International Maritime Dangerous Goods (IMDG) Code.

Critical design conditions are the limiting specified conditions, chosen for design purposes, which the craft shall keep in a displacement mode. Such conditions shall be more severe than the worst intended conditions by a suitable margin to provide for adequate safety in the survival condition.

Worst intended conditions are the specified environmental conditions within which the operation of the craft is intended. This shall take into account such parameters as the worst conditions of wind force allowable, significant wave height (including unfavourable combinations of length and direction of waves), minimum air temperature, visibility and depth of water for safe operation and such other parameters as the Register may require in considering the type of the craft in the area of operation.

Oil fuel unit is the equipment used for the preparation of oil fuel for delivery to an oil-fired boiler, or equipment used for the preparation for delivery of heated oil fuel to an internal combustion engine, and includes any oil fuel pressure pumps, filters and heaters dealing with oil fuel at a pressure of more than 0,18 N/mm².

Breadth of a craft (*B*) is breadth, in metres, of the broadest part of the moulded watertight envelope of the rigid hull, excluding appendages at or below the design waterline in the displacement mode with no lift or propulsion machinery active.

1.3 CONDITIONS OF SAFETY

1.3.1 The required level of safety of HSC in service is provided by fulfilment of the requirements of these Rules regulating safety by technical means provided on board the craft and, if applicable, of the organizational and technical measures described in Chapter 18 of the 2000 HSC Code.

A complex of organizational and technical measures shall be provided by a shipowner.

1.4 GENERAL REQUIREMENTS

1.4.1 The first HSC of a series shall be tested according to a programme approved by the Register, which includes inspections in the scope which is sufficient for confirmation of the craft reliability and safety of its operation under the worst intended conditions.

The programme shall provide for testing the behaviour of HSC, its machinery and systems in case of simulations of emergency situations, failures, errors in control approved by the Register as well as for determination, if necessary, of external loads for which structures are calculated. Such tests shall be carried out in the presence of the RS surveyors.

1.4.2 Based on the test results, wave height, wind velocity under which HSC may move in the displacement mode in forced circumstances according to good marine practice shall be specified. Such parameters and recommendations on control in the displacement mode shall be indicated in the operational manual.

1.4.3 All cases of impairing HSC stability, i.e. abnormal angles of heel and trim, loss of controllability and other abnormal facts in the craft behaviour shall be reported by the shipowner to the Register Branch Office in charge of supervision of the craft.

1.4.4 Any substitution of materials, machinery, instruments and other equipment subject to technical supervision by the Register shall be agreed with the Register.

1.4.5 The Register may exempt HSC craft from complying with some requirements of these Rules provided it will be proved that it hinders further improvement of the craft. In this case, the level of safety not lower than that provided by these Rules shall be ensured.

1.4.6 In case a craft where some requirement of these Rules are not met is intended for international voyages, the level of safety shall be recognized as adequate by the Register and Administration of the country at the ports of which the craft will call.

2 CLASS NOTATION OF CRAFT

2.1 The character of classification of a craft built according to the rules and under the Register technical supervision shall be **KM⊕** or **KE⊕**:

KM⊕ for self-propelled craft;

KE⊕ for non-self-propelled air-cushion platforms where machinery and equipment with power output of prime movers 55 kW and over are installed subject to technical supervision in accordance with the RS rules.

2.2 Character of classification of a craft built without the Register technical supervision.

2.2.1 If a craft as a whole or its hull or its machinery installation, machinery and equipment were built according to the rules and under the supervision of another classification body recognized by the Register and then the craft was classed by the Register, the character of classification shall be **KM★** or **KE★**:

KM★ for self-propelled craft;

KE★ for non-self-propelled air-cushion platforms where machinery and equipment with power output of prime movers 55 kW and over are installed subject to technical supervision in accordance with the RS rules.

2.2.2 If a craft as a whole or its hull, or machinery installation, or machinery, or equipment were built and/or manufactured without being surveyed by ACS — IACS member or without any survey of a classification society at all, when classed with the Register, are assigned a class notation with the character of classification:

(KM)★ for self-propelled craft;

(KE)★ for non-self-propelled air-cushion platforms where machinery and equipment with power output of prime movers 55 kW and over are installed subject to technical supervision in accordance with these Rules.

2.3 Subdivision distinguishing marks.

2.3.1 For craft complying with the applicable requirements of Part V «Reserve of Buoyancy and Subdivision» and fully complying with the requirements of Section 4 of the above-mentioned Part in the case of flooding of any two adjacent compartments over the entire length of the craft with the assumed side damages specified in 4.3 of Part V «Reserve of Buoyancy and Subdivision», the subdivision distinguishing mark [2] is added to the character of classification.

2.3.2 Distinguishing mark [1] may be added to the character of classification only for the craft referred to in [1.1.1.3](#) and [1.1.2](#), in case the Register considers it possible.

2.4 Automatic stabilization mark.

If an automatic or semi-automatic stabilization system is installed on HSC, and the craft cannot move in the operational mode without the system, letters **AUTstab** are added to the character of classification.

2.5 Designation of HSC in the class notation.

HSC — high-speed craft.

2.6 Designation of HSC type in the class notation.

ACV — air-cushion vehicle.

SES — surface-effect ship.

Hydrofoil craft.

SWATH — small waterplane area twin hull craft.

MHC — multihull craft.

2.7 Descriptive notation.

The descriptive notation represents a craft category and shall be put as follows:

for passenger craft of A category — **passenger-A**;

for passenger craft of B category — **passenger-B**.

For HSC intended for transportation of the industrial personnel servicing offshore installation and complying with the requirements of Part XXI "Craft for Personnel Transportation", in addition to the designation of HSC in the class notation according to [2.5](#) of this Part and, if applicable, designation of HSC type in the class notation according to [2.6](#) of this Part, the descriptive notation **Crew boat** may be added on agreement with the Administration.

For HSC complying with the requirements of [1.1.1.3](#), in addition to the designation of HSC in the class notation according to [2.5](#) and, if applicable, designation of HSC type in the class notation according to [2.6](#) of this Part, the descriptive notation **light ship** is added.

2.8 Distinguishing marks are put in the class notation in the order given in this Section.

2.9 Distinguishing marks.

2.9.1 Upon request of the Party applying for the classification and/or review of the technical documentation, and upon agreement with the Register, distinguishing marks specified in 2.2 of Part I "Classification" of the Rules for the Classification may be assigned to a high-speed craft.

3 CARRYING OUT AND SCOPE OF SURVEYS

3.1 TYPES AND SCHEDULE OF SURVEYS

3.1.1 Initial surveys of HSC.

The following types of the initial surveys of HSC are established by the Register:
surveys to be carried out during the construction under the Register technical supervision;
surveys of HSC in service (in case of transfer to the RS class of the craft constructed under the technical supervision of another classification society or having no class, reassignment of class, etc.).

3.1.2 Surveys of craft in service.

3.1.2.1 Requirements for survey of HSC in service are given in the relevant sections of the Rules for the Classification Surveys of Ships in Service¹ and the Guidelines on Technical Supervision.

3.1.2.2 In amendment of 6.1 of Part I "General Provisions" of the RCSSS, the technical documentation listed in [Section 5](#) of this Part of the Rules shall be available on board HSC.

3.1.2.3 During the initial surveys of the craft in service in connection with transfer to the RS class, the provisions of Sections 5 and 6 of Part II "Carrying Out Classification Surveys of Ships" of the Guidelines on Technical Supervision of Ships in Service, as well as the appropriate provisions of the RCSSS as regards the scope of survey shall be met.

3.1.3 Initial surveys of HSC under construction.

3.1.3.1 During construction, HSC shall be surveyed in the scope prescribed by these Rules and the Guidelines on Technical Supervision of Ships under Construction, according to the technical documentation (technical design and detailed (design) documentation, which are given in [Section 5](#) of this Part of the Rules) approved by the Register.

3.1.3.2 Date of the HSC survey upon construction is the date of the actual completion of the survey and issue of a Classification Certificate and other ship's documents for HSC (as appropriate, considering [Section 4](#)).

¹ Hereinafter referred to as "the RCSSS".

4 DOCUMENTS TO BE ISSUED

4.1.1 For issue/confirmation/retainment of documents specified in [4.1.2 — 4.1.10](#), HSC shall be subjected to survey by the Register in compliance with the requirements of [Section 3](#).

4.1.2 A Classification Certificate is issued by the Register for the RS-classed HSC to confirm compliance with the requirements of Parts I — XV of these Rules. The worst intended conditions under which the craft motion in the operation mode is permitted, the maximum distance allowed to proceed from the place of refuge, a particular route, routes or water area where the craft is allowed to operate with regard to weather conditions and distance allowed to proceed from the place of refuge and other limitations, where necessary, shall be indicated in the Classification Certificate.

4.1.3 A Safety Equipment Certificate and a Load Line Certificate of High-Speed Craft (except for amphibious ACVs) are issued for HSC flying the RF flag to confirm compliance with the requirements of these Rules. The specified Certificates may be issued for HSC flying the flags other than RF, provided the appropriate authorization of the Administration is available.

4.1.4 Based on the certificates referred to in [4.1.2 — 4.1.3](#) (where applicable), a Seaworthiness Certificate may be issued for HSC flying the flags of the states, by the maritime legislation of which this document is provided, e.g. Kazakhstan, and Turkmenistan. The Seaworthiness Certificate may be issued for crafts flying other flags, provided the appropriate authorization of the Administration is available. The Seaworthiness Certificate shall contain all conditions and limitations stated in the Certificates, on which basis the Certificate is issued.

4.1.5 The certificates referred to in [4.1.2 — 4.1.4](#) are issued for the period up to 5 years with the mandatory annual confirmation.

4.1.6 In addition, a High-Speed Craft Safety Certificate and a List of Equipment to confirm the compliance with the requirements of the 2000 HSC Code shall be issued for HSC engaged in the international voyages (for crafts covered by the 2000 HSC Code), provided the appropriate authorization of Administration is available. The instructions related to the Certificate validity, verification and extension are specified in Section 1.8 of the 2000 HSC Code.

4.1.7 Where the appropriate authorization from the Administration is available (and in case the crafts are covered by the 2000 HSC Code — in a mandatory manner), the provisions of IMO circular MSC/Circ.652 on application of the International Load Line Convention, 1966 (LL-66) shall be taken into consideration. The necessity of issuing an International Load Line Exemption Certificate is specified in the IMO circular.

4.1.8 In addition to the documents specified in [4.1.5](#), a Permit to Operate High-Speed Craft is also issued for the craft engaged in international commercial voyages to confirm the compliance with the requirements of 1.2.2 — 1.2.7 of the 2000 HSC Code and specify the conditions of the craft operation based on the information identified in the route operational manual specified in Chapter 18 of the 2000 HSC Code. Transit voyages without passengers or cargo may be performed without the Permit. Instructions on drawing-up and issuing the above-stated Permit are given in Section 1.9 of the 2000 HSC Code.

4.1.9 In accordance with IMO circular MSC.1/Circ.1266, IMO resolutions MSC.269(85) and MSC.271(85), a Document of Compliance with the Special Requirements for High-Speed Craft Carrying Dangerous Goods shall be issued for HSC carrying dangerous goods (complying with the requirements of Part D, Chapter 7 of the 2000 HSC Code, as amended).

4.1.10 As regards the pollution prevention, a Pollution Prevention Certificate shall be issued for HSC flying the RF flag to confirm the compliance with the requirements of the Rules for the Prevention of Pollution from Ships Intended for Operation in Sea Areas and Inland Waterways of the Russian Federation. The certificates, as prescribed by MARPOL 73/78, shall be issued for the craft in compliance with MARPOL 73/78. The Pollution Prevention Certificate shall not be issued when it is required to issue the international certificates for the craft as per the forms prescribed by MARPOL 73/78 or the Pollution Prevention Certificates in compliance with 1.11.3 of Part III "Survey of Ships in Compliance with International Conventions, Codes, Resolutions and Rules for the Equipment of Sea-Going Ships" of the Guidelines on Technical Supervision of Ships in Service.

Combined issue of the specified certificates, namely, the Pollution Prevention Certificate together with pollution Prevention Certificates in compliance with 1.11.3 of Part III "Survey of Ships in Compliance with International Conventions, Codes, Resolutions and Rules for the Equipment of Sea-Going Ships" of the Guidelines on Technical Supervision of Ships in Service depending on fulfillment of any requirements is not allowed.

5 TECHNICAL DOCUMENTATION

5.1 Technical documentation submitted to the Register shall comply with the requirements of 3.1 of Part I "Classification" of the Rules for the Classification.

In addition to the list of technical documentation indicated in 3.2 — 3.5 of Part I "Classification" of the Rules for the Classification, the documents stated below (whatever is applicable) shall be submitted to the Register.

5.1.1 Technical design documentation.

5.1.1.1 Additional documentation to Section "Hull":

.1 calculations of external forces;
.2 strength calculations of foil arrangement or flexible skirt;
.3 structural drawings of hull and foil arrangement or flexible skirt with indication of the material used;

.4 drawings of foils or flexible skirt attachment to the hull of high-speed craft;

.5 structural drawings of non-tilting stabilizers and pylons.

5.1.1.2 Additional documentation to Section "Stability and Subdivision":

.1 documents on stability in displacement, transitional and operational modes;
.2 documents on stability in case of failures in automatic stabilization system (for high-speed craft with distinguishing mark **AUTstab** in the class notation);
.3 calculations of damage trim and stability.

5.1.1.3 Additional documentation to Section "Machinery Installations":

.1 strength and torsional vibration calculations of transmissions to propellers and lift fans;

.2 drawings of transmissions to propellers (angular, tilting columns, tilting pylons, etc.) and lift fans;

.3 drawings of lift fans, their attachment and air supply controls; blade strength calculations;

.4 drawings of air propellers with pitch actuating mechanism and blade strength calculations;

.5 drawings of stabilization control machinery installation and attachment;

.6 drawings of stabilization control machinery;

.7 failure mode and effect analysis for main machinery and essential auxiliary machinery.

5.1.1.4 Additional documentation to Section "Automation Equipment":

.1 circuit diagrams of automatic stabilization system;

.2 circuit diagrams of protection system which automatically transfers the craft into the displacement or another safe mode;

.3 arrangement diagram of transducers of automatic stabilization system.

5.1.1.5 Additional documentation to Section "Systems and Piping":

.1 drawings of air intake systems of gas turbine installations.

5.1.1.6 Additional documentation to Section "Electrical Equipment":

.1 circuit diagrams for charging of accumulator batteries which are main and emergency sources of electrical power and charging time calculation results.

5.1.1.7 Together with technical design documentation, the following documents may be submitted to the Register:

reports on model, full-scale and other tests on the basis of which the stability and subdivision calculations have been made;

backgrounds for external forces assumed in the calculations of the ship's strength;

calculations for foils, skirts and stabilization controls, which confirm their effectiveness.

5.1.2 Plan approval documentation.

5.1.2.1 Additional documentation to Section "Hull":

- .1 structural drawings of hydrofoil installation and assemblies by which it is attached to the hull;
- .2 drawings of flexible skirt and assemblies by which it is attached to the hull;
- .3 structural drawings of non-tilting stabilizers and pylons;
- .4 weld control scheme for hydrofoil installation and flexible skirt joint control scheme;
- .5 calculations of hull lifting using ropes, calculations of pad eyes strength for high-speed craft lifting by ropes, arrangement diagram of pad eyes on board, structural drawings of pad eyes;
- .6 calculations of high-speed craft positioning on keel blocks (platforms, etc.), diagrams of high-speed craft dry-docking (on keel blocks, platforms, etc.).

5.1.2.2 Additional documentation to Section "Arrangements, Equipment and Outfit":

- .1 general view plans, drawings of assemblies and parts of stabilization controls;
- .2 general view plans, drawings of assemblies and parts of air intake systems for gas turbine installations;
- .3 general view plans, drawings of assemblies and parts of reverse-reduction gear.

5.1.2.3 Additional documentation to Section "Stability and Subdivision":

- .1 documents on stability in displacement, transitional and operational modes;
- .2 documents on stability in case of failures in automatic stabilization system (for high-speed craft with distinguishing mark **AUTstab** in the class notation);
- .3 calculations of damage trim and stability.

5.1.2.4 Additional documentation to Section "Systems and Piping":

- .1 drawings of air intake systems of gas turbine installations.

5.1.2.5 Additional documentation to Section "Machinery Installations":

- .1 drawings of transmissions, reduction gears, bearings, couplings;
- .2 strength and torsional vibration calculations of transmissions to propellers and lift fans as well as proved data on service life of transmissions;
- .3 general view plans, drawings of assemblies and parts of angular and steering nozzles with their machinery;
- .4 general view plans, drawings of assemblies and parts of tilting pylons with machinery;
- .5 drawings of lift fans, their attachment and air supply controls; blade strength calculations, proved data on their service life;
- .6 general view plans, drawings of assemblies and parts of air propellers, blade strength calculations, proved data on their service life;
- .7 general view plans, drawings of assemblies and parts of water-jet propellers, equalizing arrangements and nozzles, reversing devices;
- .8 general view plans, drawings of assemblies and parts of stabilization control machinery, installation drawings of stabilization control machinery, proved data on their service life;
- .9 general view plans, drawings of assemblies and parts of lift fans and air supply devices;
- .10 installation drawings of reverse-reduction gear machinery;
- .11 installation drawings of stabilization control machinery and proved data on their service life;
- .12 failure mode and effect analysis for main machinery and essential auxiliary machinery.

5.1.2.6 Additional documentation to Section "Automation Equipment":

- .1 functional diagrams and drawings of automatic stabilization system;
- .2 functional diagrams and drawings of protection system which automatically transfers the high-speed craft into the displacement or another safe mode;

- .3 arrangement diagram of transducers of automatic stabilization system.
- 5.1.2.7 Additional documentation to Section "Electrical Equipment":**
 - .1 circuit diagrams for charging of accumulator batteries which are main and emergency sources of electrical power and charging time calculation results.
- 5.1.3 Detailed design documentation for a ship under construction.**
 - 5.1.3.1 Additional documentation to Section "Hull":**
 - .1 structural drawings of hydrofoil installation and assemblies by which it is attached to the hull;
 - .2 structural drawings of flexible skirt and assemblies by which it is attached to the hull;
 - .3 structural drawings of non-tilting stabilizers and pylons;
 - .4 weld control scheme for hydrofoil installation and flexible skirt joint control scheme;
 - .5 calculations of hull lifting using ropes, calculations of pad eyes strength for high-speed craft lifting by ropes, arrangement diagram of pad eyes on board, structural drawings of pad eyes;
 - .6 calculations of high-speed craft positioning on keel blocks (platforms, etc.), diagrams of high-speed craft dry-docking (on keel blocks, platforms, etc.).
 - 5.1.3.2 Additional documentation to Section "Arrangements, Equipment and Outfit":**
 - .1 general view plans, drawings of assemblies and parts of stabilization controls;
 - .2 general view plans, drawings of assemblies and parts of air intake systems for gas turbine installations;
 - .3 general view plans, drawings of assemblies and parts of reverse-reduction gear.
 - 5.1.3.3 Additional documentation to Section "Stability and Subdivision":**
 - .1 documents on stability in displacement, transitional and operational modes;
 - .2 documents on stability in case of failures in automatic stabilization system (for high-speed craft with distinguishing mark **AUTstab** in the class notation);
 - .3 calculations of damage trim and stability.
 - 5.1.3.4 Additional documentation to Section "Systems and Piping":**
 - .1 air intake system drawing for gas turbine installations.
 - 5.1.3.5 Additional documentation to Section "Machinery Installations":**
 - .1 drawings of transmissions, reduction gears, bearings, couplings;
 - .2 general view plans, drawings of assemblies and parts of angular and steering nozzles with their machinery;
 - .3 general view plans, drawings of assemblies and parts of tilting pylons with machinery;
 - .4 general view plans, drawings of assemblies and parts of air propellers;
 - .5 general view plans, drawings of assemblies and parts of water-jet propellers, equalizing arrangements and nozzles, reversing devices;
 - .6 general view plans, drawings of assemblies and parts of stabilization control machinery;
 - .7 general view plans, drawings of assemblies and parts of lift fans and air supply devices;
 - .8 installation drawings of reverse-reduction gear machinery;
 - .9 installation drawings of stabilization control machinery and proved data on their service life.

Russian Maritime Register of Shipping

Rules for the Classification and Construction of High-Speed Craft

Part I

Classification

FAI "Russian Maritime Register of Shipping"

8, Dvortsovaya Naberezhnaya,

191186, St. Petersburg,

Russian Federation

www.rs-class.org/en/