RUSSIAN MARITIME REGISTER OF SHIPPING

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RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS

PART I

CLASSIFICATION

ND No. 2-020101-152-E

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RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS

Rules for the Classification and Construction of Sea-Going Ships of Russian Maritime Register of Shipping have been approved in accordance with the established approval procedure and come into force on 1 January 2022 (except for Part XX which came into force on 15 March 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 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";

Part III "Equipment, Arrangements and Outfit";

Part IV "Stability";

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 "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

Part XVIII "Additional Requirements for Structures of Container Ships and Ships, Dedicated Primarily to Carry their Load in Containers". The text of the Part is identical to IACS UR S11A "Longitudinal Strength Standard for Container Ships" (June 2015) and S34 "Functional Requirements on Load Cases for Strength Assessment of Container Ships by Finite Element Analysis" (May 2015);

Part XIX "Additional Requirements for Cargo Ships of Less Than 500 Gross Tonnage";

Part XX "Additional Requirements for Yachts";

Supplement to Rules and Guidelines of Russian Maritime Register of Shipping "IACS Procedural Requirements, Unified Requirements, Unified Interpretations and Recommendations".

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REVISION HISTORY[1]

(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
Annotation	Annotation has been amended in connection with issuing new Part XX. Annotation has been specified due to renaming of Part XX	— 312-09-1747c of 14.04.2022	15.03.2022 14.04.2022
Para 1.1.1	New definition "Floating museum" has been introduced. New definition "Polar waters" has been introduced	312-09-1686c of 24.01.2022 312-09-1719c of 17.03.2022	01.02.2022 01.05.2022
Table 2.2	New Note 8 regarding assignment of descriptive notation **Berth-connected floating museum (‹operation condition›)** has been introduced. Existing Notes 8 and 9 have been renumbered 9 and 10, accordingly	312-09-1686c of 24.01.2022	01.02.2022
Table 2.2.3.3.2	Description of ice classes **Arc4 — Arc9** has been amended based on the experience in application of the Rules. Notes to the Table have been amended	312-11-1682c of 20.12.2021	14.01.2022
Para 2.2.4	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Para 2.2.5.1.6	Requirements for distinguishing mark **R3** have been specified regarding justifications to be provided for assigning allowable distances from places of refuge and imposing restrictions on the wave height	312-09-1719c of 17.03.2022	01.05.2022
Para 2.2.26.2	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Para 2.2.34	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Para 2.2.43	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Table 2.5	Editorial amendment in item 1.4 for distinguishing mark **R1**: reference to the applicable requirements has been specified. Editorial amendment in item 1.5 for distinguishing mark **GFS**: reference to the applicable requirements has been specified.	— —	15.03.2022 15.03.2022

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

Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
	Editorial amendment in item 1.13: reference to the applicable requirements has been specified.	—	15.03.2022
	New item 1.17 has been introduced containing requirements for assignment of distinguishing mark **highPRESS(pressure)**. Existing items 1.17 — 1.19 have been renumbered 1.18 — 1.20 accordingly. In item 1.17 (new number 1.18) for descriptive notation **Berth-connected ship (‹operation condition›)**, the references to the RS requirements have been specified. In item 1.17 (new number 1.18) for descriptive notations **Crane vessel**, **Dredger**, **Escort tug**, **Hopper barge**, **Hopper dredger**, **Pipe laying barge**, **Pipe laying vessel**, **Salvage ship**, **Supply vessel**, **Supply vessel (OS)**, **Standby vessel** and **Tug**, the references to Chapter 5.3 of Part II "Life-Saving Appliances" of the Rules for the Equipment of Sea-Going Ships have been deleted. In item 1.17 (new number 1.18) for descriptive notation **Gas carrier**, the short description has been specified.	312-11-1679c of 14.12.2021	01.01.2022
	In item 1.18, descriptive notation **Berth-connected floating museum (‹operation condition›)** has been introduced.	312-09-1686c of 24.01.2022	01.02.2022
	Editorial amendment in item 1.18 for descriptive notation **Pipe laying vessel**: reference to the applicable requirements has been specified.	—	15.03.2022
	In item 1.18, descriptive notations **Passenger yacht** and **Yacht for commercial service** have been introduced.	312-09-1747c of 14.04.2022	14.04.2022
	In item 2.1 for distinguishing marks **Icebreaker6**, **Icebreaker7**, **Icebreaker8** and **Icebreaker9**, the references to Chapter 5.3 of Part II "Life-Saving Appliances" of the Rules for the Equipment of Sea-Going Ships have been deleted.	312-11-1679c of 14.12.2021	01.01.2022

Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
	Editorial amendment in item 2.1 for distinguishing mark **Ice1** of a small sea fishing vessel: reference to the applicable requirements has been specified. In item 2.5 for distinguishing marks **FF1**, **FF2**, **FF1WS**, **FF2WS** and **FF3WS**, the references to Chapter 5.3 of Part II "Life-Saving Appliances" of the Rules for the Equipment of Sea-Going Ships have been deleted. New item 2.32 has been introduced containing requirements for assignment of distinguishing marks **COAT**, **COAT(PSPC)**, **COAT(PSPC-COT)** and **CORRES** confirming application of protective coatings or utilization of other means of protection in ship's spaces. New item 2.33 has been introduced containing requirements for assignment of distinguishing mark **ICE-COAT** confirming application of ice-resistant coating for protection of outer shell plating. In para 2.33, conditions for assignment of distinguishing mark **ICE-COAT** have been specified	— 312-11-1679c of 14.12.2021 312-09-1708c of 25.02.2022	15.03.2022 01.01.2022 15.03.2022
Paras 3.2.1.6 — 3.2.1.10	Para 3.2.1.6 has been deleted. Existing paras 3.2.1.7 — 3.2.1.10 have been renumbered 3.2.1.6 — 3.2.1.9 accordingly	312-09-1758c of 12.05.2022	15.05.2022
Para 3.2.6.1.1	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Para 3.2.10.1.23	Requirements for the scope of plan approval documentation have been specified	312-11-1680c of 14.12.2021	01.01.2022
Para 3.2.16	New para has been introduced containing requirements for documentation forming part of plan approval documentation for supply vessels of manned submersibles and ship's diving systems (ships having distinguishing marks **SDS** or **MS** in the class notation).	312-11-1679c of 14.12.2021	01.01.2022

Amended paras/chapters/ sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
	Requirements for the documentation forming part of the plan approval documentation for supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks **SDS** or **MS** in the class notation)	312-11-1682c of 20.12.2021	01.01.2022
Paras 3.3.1.5 — 3.3.1.7	Para 3.3.1.5 has been deleted. Existing paras 3.3.1.6 and 3.3.1.7 have been renumbered 3.3.1.5 and 3.3.1.6 accordingly	312-09-1758c of 12.05.2022	15.05.2022
Para 3.3.6.1.1	Editorial amendment: reference to the applicable requirements has been specified	—	15.03.2022
Para 3.3.10.22	Requirements for the scope of technical design documentation have been specified	312-11-1680c of 14.12.2021	01.01.2022
Para 3.3.16	New para has been introduced containing requirements for the documentation forming part of technical design documentation for supply vessels of manned submersibles and ship's diving systems (ships having distinguishing marks **SDS** or **MS** in the class notation).	312-11-1679c of 14.12.2021	01.01.2022
	Requirements for the documentation forming part of the technical design documentation for supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks **SDS** or **MS** in the class notation)	312-11-1682c of 20.12.2021	01.01.2022

1 GENERAL

1.1 DEFINITIONS AND EXPLANATIONS

Definitions and explanations pertinent to the general terminology used in the normative documents of the Register are given in Part I "General Regulations for Technical Supervision" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

For the purpose of the Rules for the Classification and Construction of Sea-Going Ships[1] the following definitions and explanations have been adopted (unless expressly provided otherwise in particular Parts of the Rules).

1.1.1 Definitions.

Barge is a non-self-propelled cargo ship designed to be towed or pushed.

Barge carrier (lighter carrier) is a dry cargo ship carrying cargo in shipborne barges (lighters).

Tug is a ship specially intended for the towage and pushing of other ships and floating facilities.

Displacement of a light ship means the displacement of a ship without cargo, fuel oil, lubricating oil, ballast, fresh and boiler feed water in its tanks, provisions, consumable stores, and also without passengers, crew and their effects.

Cargo ship is any ship which is not a passenger ship (dry cargo ship, tanker, refrigerated cargo ship, icebreaker, tug, pusher, salvage ship, vessel of dredging fleet, cable laying vessel, special purpose ship and another non-passenger ship).

Hopper barge is a self-propelled or non-self-propelled ship intended for the carriage of spoil and slurry (mixture of liquid and spoil or rock formation).

Reid vapour pressure is the pressure of liquid vapour established by standard procedure in the Reid tester at the temperature of 37,8 °C and at the gas to liquid volume ratio of 4:1.

Deadweight is the difference between the displacement of a ship at the load waterline corresponding to the summer freeboard assigned for the water with a density of 1,025 t/m^3 and the displacement of a light ship.

Standby vessel is a supply vessel intended to carry out rescue and standby services in offshore areas of hydrocarbon production.

Dredger (suction dredger) is a self-propelled or non-self-propelled ship intended for extraction of spoil using dredging gear (buckets, suction pipes, grabs, etc.) and having no holds for the storage or carriage of spoil. They include trailing suction hopper dredger (non-self-propelled trailing suction dredgers), multi-bucket dredgers, dipper dredgers, grab dredgers, rock dredgers, floating river-training technical units.

Historical ship (traditional craft) is a ship which, based on its age, its technical nature or construction, its rarity, its meaning for the preservation of traditional principles of seamanship or techniques of inland navigation or its significance for a period from a historic viewpoint, is worthy of being preserved, and is operated for demonstration purposes in particular, or a replica thereof.

Cable laying barge is a non-self-propelled barge intended for cable laying on the sea bottom.

Cable laying vessel is a self-propelled vessel intended for cable laying on the sea bottom.

Catamaran is a ship with two hulls connected by means of deck or truss centrebody.

Combination carrier is a ship intended for the carriage of crude oil and petroleum products in bulk, as well as bulk cargoes (by these ships are meant ore/oil carriers, oil/bulk dry cargo carriers and similar ships).

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[1] Hereinafter referred to as "the Rules".

Container ship is a ship intended for the carriage of goods in containers of the international standard and provided with the cellular guides in the holds.

Replica of a historical ship is a ship which was largely built from original materials, using an appropriate construction method according to plans or templates as a historical ship.

Crane ship is a construction similar to the floating crane, but on a floating hull with ship lines or lines of a similar shape.

Icebreaker is a self-propelled ship intended for various types of icebreaking operations to maintain navigation in the freezing seas (for details refer to 2.2.3.1.1).

Timber carrier is a dry cargo ship intended for the carriage of deck timber cargo.

Pilot boat is a boat intended for transportation and safe embarkation/disembarkation of pilots from one board to another.

Buoy vessel is a vessel intended for laying of floating aids to navigation (navigation marks) in the port approaches and in the harbour, their maintenance in the harbour and retrieval as well as to perform a range of auxiliary functions.

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

Bulk carrier is a ship which is intended primarily to carry dry cargoes in bulk, including such types as ore carriers and combination carriers. To apply the term "bulk carrier" correctly, one should be guided by the provisions of IMO resolution MSC.277(85).

Roll-on/roll-off (ro-ro) ship is a ship which has one or more decks either closed or open and cargo spaces intended for loading and unloading the cargo by roll-on/roll-off (ro-ro cargo spaces), subdivided in any way and extending to either a substantial length or the entire length of the ship, spaces in which motor vehicles with fuel in their tanks for their own propulsion, and/or goods packaged (in tare or in bulk, on rail or road cars, vehicles (including road or rail tanks), trailers, containers, pallets, demountable tanks or similar enlarged units, or other tanks) are normally loaded and unloaded in a horizontal direction.

Note. At transportation of road vehicles it is also recommended to follow the provisions of IMO resolution MSC.479(102) "Revised Guidelines for Securing Arrangements for the Transport of Road Vehicles on Ro-Ro Ships".

Tanker is a ship intended for the carriage of liquid cargoes in bulk, including:

special tanker is a ship intended for the bulk carriage of liquid cargoes other than oil, petroleum products and noxious liquid substances. Such ships include wine tankers, water tankers, fruit juice tankers, etc. The precise purpose of the special tanker is stated by the descriptive notation in the class notation in accordance with 2.5;

NLS tanker is a ship constructed or adapted to carry a cargo of noxious liquid substances (NLS) in bulk and includes an "oil tanker" as defined in Annex I to MARPOL 73/78 when certified to carry a cargo or part cargo of noxious liquid substances in bulk;

oil tanker is a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers, any NLS tanker and any gas carrier as defined in regulation 3.20 of Chapter II-1 of SOLAS-74 (as amended), when carrying a cargo or part cargo of oil in bulk.

Note. Oil means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of MARPOL 73/78) and, without limiting the generality of the foregoing, includes the substances listed in Appendix I to Annex I of MARPOL 73/78;

oil tanker (>60 °C) is a sea-going ship intended for the carriage of petroleum products having a flash point over 60 °C in bulk;

oil tanker (>55 °C) is a ship of inland navigation intended for the carriage of petroleum products having a flash point over 55 °C in bulk;

oil recovery ship is a ship intended for recovery of crude oil and petroleum products having a flash point of 60 °C or below from the sea surface;

oil recovery ship (>60 °C) is a ship intended for recovery of crude oil and petroleum products having a flash point above 60 °C from the sea surface;

bilge water removing ship is a ship designed to remove the bilge water from the machinery spaces of ships.

Docklift ship is a dry cargo ship adapted to carry out cargo handling operations using the docking principle in ports and protected water areas.

Buoyance vessels are multi-purpose vessels, sounding vessels, trawlers, buoy tenders, environmental monitoring vessels, boom-laying boats. Buoyance vessels assist in maintenance of fairway conditions in waterways and fairway aids to navigation (navigation marks), study of channel and hydrological regimes for identification of sources and reasons of drifts, development of proposals on improvement of navigational conditions, provision of real-time technical documentation for all types of engineering channel works (monitoring of fairway condition in inland waterways and in the harbours, monitoring of fairway aids to navigation (navigation marks), control of navigation lights, positioning and retrieval of aids to navigation (navigation marks) as well as their relocation when changing the fairways boundaries; maintenance of fairway marking and repair of light and signal means).

Passenger is every person other than the master and the members of the crew or other persons employed or engaged in any capacity on board a ship (special personnel) on the business of that ship, and a child under one year of age.

Passenger ship is a ship intended for or carrying more than 12 passengers.

Roll-on/roll-off passenger ship (ro-ro passenger ship) is a passenger ship with enclosed or open cargo spaces which are loaded/unloaded in a horizontal direction, or with special category spaces as defined in 1.5.4.3 and 1.5.9 of Part VI "Fire Protection".

Classed among passenger ro-ro ships are also ferries, i.e. ships loaded/unloaded in the horizontal direction which regularly carry passengers and which carry vehicles with fuel in their tanks and/or railway carriages on open and/or enclosed decks at ferry crossings.

Floating crane is a crane structure on a floating hull of pontoon or similar type, which is intended for cargo handling or other working operations (mounting, undersea, hydraulic engineering, salvage, pipe laying, etc.) and may be also used for the carriage of cargoes on deck and/or in the hold.

Lightship is a non-self-propelled ship having special equipment (light appliances, fog signaling arrangements, radar beacons, etc.) intended for bounding navigational hazards and ships orientation to ensure safety of navigation.

Floating museum is a non-self-propelled floating facility, which has been moored at a quay for extended period of time, used for cultural purposes and not engaged in any carriage.

Polar waters — includes both Arctic waters and the Antarctic area:

.1 Arctic waters are those waters which are located north of a line from the latitude 58°00',0 N and longitude 042°00',0 W to latitude 64°37',0 N, longitude 035°27',0 W and thence by a rhumb line to latitude 67°03',9 N, longitude 026°33',4 W and thence by a rhumb line to the latitude 70°49',56 N and longitude 008°59',61 W (Sørkapp, Jan Mayen) and by the southern shore of Jan Mayen to 73°31',6 N and 019°01',0 E by the Island of Bjørnøya, and thence by a great circle line to the latitude 68°38',29 N and longitude 043°23',08 E (Cap Kanin Nos) and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60° N as far as Il'pyrskiy and following the 60th North parallel eastward as far as and

including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60° N and thence eastward along parallel of 0° N, to longitude 056°37',1 W and thence to the latitude 58°00',0 N, longitude 042°00',0 W (refer to Fig. 1.1.1-1);



Fig. 1.1.1-1
Maximum extent of Arctic waters application[1]

[1] It should be noted that this Figure is for illustrative purposes only.

.2 Antarctic area is the sea area south of latitude 60° S (refer to Fig. 1.1.1-2).

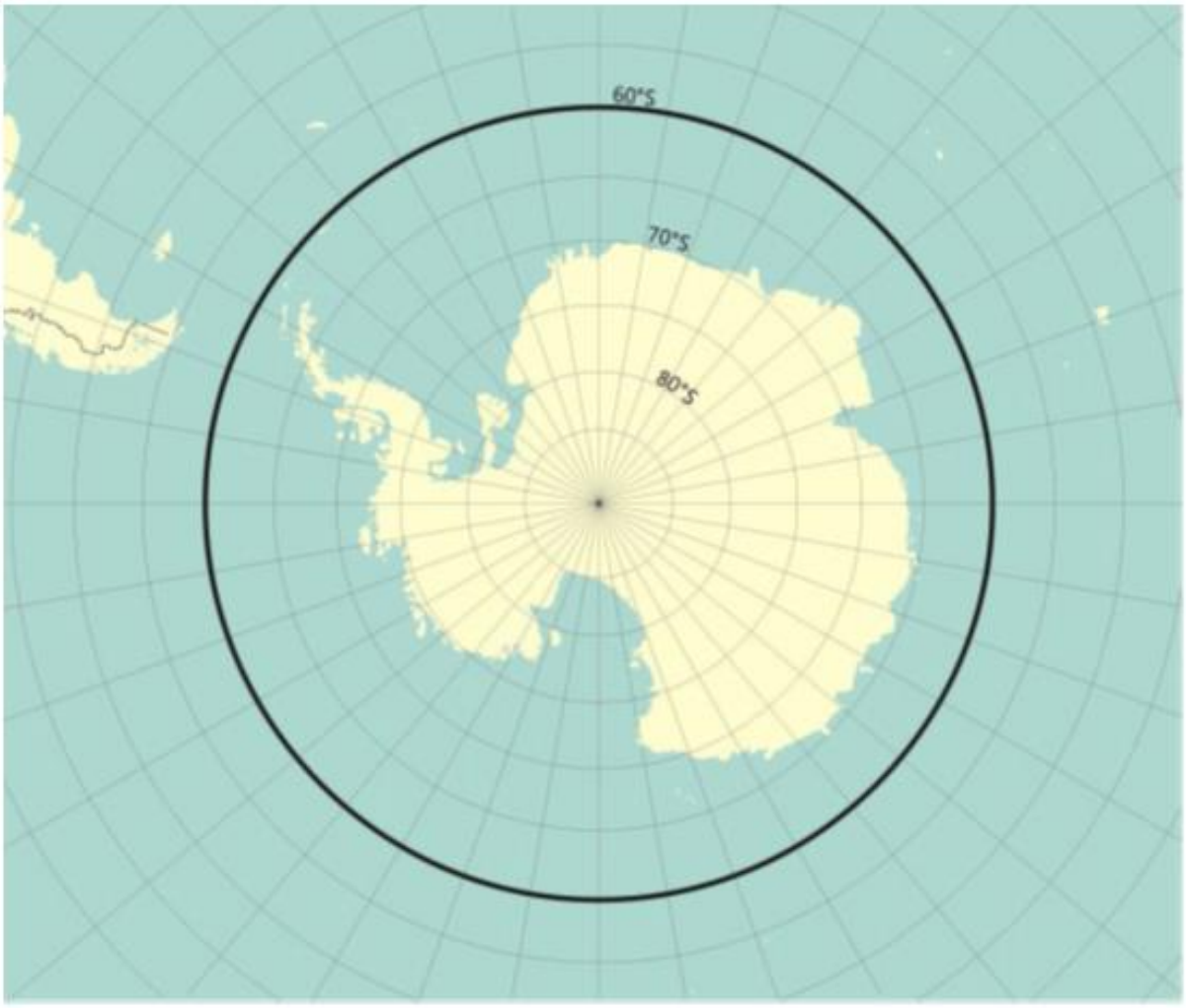


Fig. 1.1.1-2
Maximum extent of Antarctic area application[1]

Crew boat is a boat intended for travelling and for the carriage of not more than 12 passengers and which is not a passenger ship or a pleasure craft.

Ore carrier is a ship primarily designed for the carriage of ore, the structure of which includes longitudinal bulkheads separating the central double bottom ore hatches from the side ones.

Fishing vessel is a vessel used directly for catching or for catching and processing the catch (fish, whales, seals, walrus or other living resources of the sea).

Self-propelled ship is a ship fitted with an operating propulsion plant.

Salvage ship is a self-propelled ship intended for rendering assistance to ships in distress at sea.

[1] It should be noted that this Figure is for illustrative purposes only.

Special personnel means all persons who are not passengers or members of the crew or children of under one year of age and who are carried on board in connection with the special purpose of that ship or because of special work being carried out aboard that ship. Special personnel include the following:

scientists, technicians and expeditionaries on ships engaged in research, non-commercial expeditions and survey;

personnel engaged in training and practical marine experience to develop seafaring skills suitable for a professional career at sea;

personnel who process the catch of fish, whales or other living resources of the sea on factory ships not engaged in catching;

salvage personnel on salvage ships, cable-laying personnel on cable laying vessels, seismic personnel on seismic survey ships, diving personnel on diving support ships, pipe-laying personnel on pipe laying vessels and crane operating personnel on floating cranes and crane ships;

other personnel similar to those referred to above who, in the opinion of the Flag State Maritime Administration, may be referred to this group.

Berth-connected ship is a ship or floating facility, which is in operation when lying at a water area distanced from the shore or aground or when moored at quay. These ships include floating docks, floating power plants, floating warehouses, floating oil storages, floating facilities with not more than 12 passengers on board as well as passenger floating facilities designed to take more than 12 passengers (such as for example floating hotels, hostels, restaurants, museums, workshops and the like), etc.

LNG bunkering ship is a gas carrier engaged in transportation of liquefied natural gas (LNG) and intended to ensure the transfer of LNG on board the ships using LNG as a fuel.

Anchor handling vessel is a supply vessel equipped for servicing (handling, heaving up and shifting) anchors.

Supply vessel is a vessel designed basically for the carriage of supplies and cargoes to the mobile and fixed offshore units intended for the different purposes, and fitted generally with a forward superstructure and an after weather cargo deck for processing of the cargo at sea. The ship may be used for towing operations provided the appropriate requirements of the RS rules are complied with.

General dry cargo ship is a dry cargo ship intended primarily for the carriage of different package cargoes and goods (products) that are carried in packages. Such ships may periodically (i.e. not primarily) carry cargoes in bulk provided the applicable provisions of the RS rules for the carriage of bulk cargoes and, if applicable, IMO resolution MSC.277(85), as amended, are met. The ships in which the cargo loading operations are performed preferably in a horizontal direction, shall also comply with the requirements applied for a roll-on/roll-off ship (ro-ro ships). The ships in which the cargo loading operations are performed preferably in a vertical or combined direction (lo-lo ships (lift on/lift off ships), lo-ro ships) shall comply with the requirements of the RS rules, IACS and IMO normative documents related to bow, side, stern doors, ramps and inner doors and relevant requirements for ro-ro ships (as applicable). Such ships are multipurpose ships.

Ship intended primarily to carry dry cargo in bulk is a ship classified as a bulk carrier and her loading conditions are primarily related to bulk cargoes transportation (carriage, loading and discharge).

Waste disposal collector vessel (collector ship, surface debris collector, etc.) is a ship intended for reception from other ships oil residues, oily bilge waters, sewage, dry garbage and other waste for their subsequent discharge into the shore-based reception facilities.

Ship of river-sea navigation is a ship intended for navigation at sea and on inland waterways.

Special purpose ship is a mechanically self-propelled ship which, by reason of its function, carries on board more than 12 special personnel, including passengers (the later shall not exceed 12 passengers, otherwise such ship should not be considered a special purpose ship as it is a passenger ship). Such ships include research, expedition, hydrographic, training ships; whale and fish factory ships, factory ships and other ships engaged in processing of living resources of the sea and not engaged in catching; salvage ships, cable laying vessels, seismic survey ships, diving support ships, pipe laying vessels, floating cranes and crane ships.

Technical and auxiliary fleet vessel is a ship designed for maintenance of ships and waterways, port facilities, underwater mining etc. (dredgers, suction dredgers, rock dredgers, snag boats and river-training ships, hopper barges, multicats, buoy vessels, buoyance vessels and crew boats designed for navigation support, ecological monitoring and analysis of water environment, bottom soil and ambient air).

Shipborne barge (lighter) is a non-self-propelled cargo ship unmanned and appropriated for transportation in specially equipped ships (barge and lighter carriers) and for towing (pushing) within the specified restricted area of navigation.

Dry cargo ship is a ship intended for the carriage of different cargoes (general cargoes, containers, timber, bulk cargoes, etc.), except for the liquid bulk cargoes.

Pontoon for technological services is a non-self-propelled unmanned ship intended for working operations and having no hatches on deck, except for small manholes for access into the hull, which are closed by covers with seal gaskets.

Refrigerated cargo ship is a ship intended for the carriage of perishable commodities which require temperature control in cargo spaces and/or thermally insulated containers. Types of carried goods are fruit (bananas, etc.), meat, fish, vegetables, dairy products and other items.

Pontoon is a non-self-propelled unmanned ship intended for the carriage of deck cargo and having no hatches on deck, except for small manholes for access into the hull, which are closed by covers with seal gaskets.

Pipe laying barge is a non-self-propelled barge intended for laying the pipelines on the seabed.

Pipe laying vessel is a self-propelled vessel intended for laying the pipelines on the seabed.

Hopper dredger is a self-propelled or non-self-propelled ship intended for the extraction of spoil using dredging gear (buckets, suction pipes, grabs, etc.) and having holds for the storage or carriage of spoil.

Crew means all persons carried on board the ship to provide navigation and maintenance of the ship, its machinery, systems and arrangements essential for propulsion and safe navigation or to provide services for other persons on board.

Crew of a fishing vessel means persons engaged in any business on board a ship connected with its purpose.

Environmental monitoring vessel is a ship intended for monitoring of coastal zone of water basins.

Escort tug is a tug intended for escort service (steering, braking and otherwise controlling the assisted ship).

Definitions of particular types of ships (nuclear ships and offshore installations, nuclear support vessels, high-speed craft, dynamically supported craft, small WIG craft, gas carriers, chemical tankers, pleasure craft, drilling ships, mobile offshore drilling units and fixed offshore platforms, floating offshore oil-and-gas production units, manned submersibles and diving systems, small craft, sport sailing vessels) are given in the relevant RS rules for such types of ships.

The list of the RS rules is given in 1.3 of the General Regulations for the Classification and Other Activity.

1.1.2 Explanations.

For the purpose of these Rules classification means development, publication and application of the rules continuous compliance with which will, along with the proper maintenance of the ship by the owner or by the operator, ensure:

structural strength and integrity of the hull and its elements including structural fire protection;

seaworthiness (stability) of the ship under all specified loading conditions and under particular sea-and-wind conditions;

safe and reliable operation of its propulsion plant, systems and devices for ship control, other systems, auxiliary machinery and equipment including fire-fighting equipment, and thereby permit safe operation of the ship in accordance with its purpose.

Date of contract for construction of a ship (series of ships):

.1 the date of "contract for construction" of a ship is the date on which the contract to build the ship is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the ships included in the contract shall be declared to the Register by the party applying for the assignment of class to a newbuilding;

.2 the date of "contract for construction" of a series of ships, including specified optional ships for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

Ships built under a single contract for construction are considered a "series of ships" if they are built to the same approved plans for classification purposes. However, ships within a series may have design alterations from the original design provided:

.2.1 such alterations do not affect matters related to classification; or

.2.2 if the alterations are subject to classification requirements, these alterations shall comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Register for approval.

The optional ships will be considered part of the same series of ships if the option is exercised not later than 1 year after the contract to build the series was signed;

.3 if a contract for construction is later amended to include additional ships or additional options, the date of "contract for construction" for such ships is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract shall be considered as a "new contract" to which the above explanations apply;

.4 if a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified ship or ships is the date on which revised contract or new contract is signed between the shipowner, or shipowners and the shipbuilder.

Notes: 1. By optional ships, ships are meant, which are included in the contract with the condition of the additional confirmation of their construction (order) by a prospective owner.

2. This explanation became effective on 1 July 2009.

Additional requirements are the requirements caused by the item features or its operational conditions, which are not stipulated by the rules imposed by the Register in writing to ensure the safety of items of technical supervision.

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

Register class (class) is a combination of conventional characters and descriptive notations assigned to the ships, other floating facilities, as well as to fixed offshore platforms, which define their structural features, purpose and operational conditions stipulated by the RS rules.

Operator is a physical person or legal entity operating a ship on the basis of a contract concluded with an owner or shipowner.

Rules (the RS rules) are the set of the regulating and technical requirements for objects under technical supervision.

The RS rules are listed in 1.3, General Regulations for the Classification and Other Activity.

Recognized standards are national and international standards referred to in the appropriate parts of the RS rules.

Owner is a physical person or legal entity having proprietary rights to a ship irrespective of the fact whether he (she) or it operates the ship on his (her) or its own, or has placed it in the operation of another person or entity whether on the fiduciary or some other legal basis.

Dual class is a class of a ship classed with two societies entered into Dual Classification Agreement.

Agreed standards are national and international standards, as well as standards of firms (organizations) specified in the Register approved technical documentation on materials and products, and agreed upon by the Register in compliance with the requirements of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

Special consideration is the determination of the extent, to which an object under technical supervision meets the additional requirements.

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

Keel laying date means: 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 or 1 % of the estimated mass of all structural materials, whichever is less.

For fiber-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 laminate schedule is laid either in or on the mould.

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

Shipowner is a physical person or legal entity operating a ship on his (her) or its own behalf irrespective of the fact whether he (she) or it is the owner or is operating the ship on some other legal basis.

1.2 APPLICATION

1.2.1 Rules for the Classification and Construction of Sea-Going Ships apply to:

.1 self-propelled passenger and cargo ships with the main engines of output 55 kW and upwards;

.2 non-self-propelled ships of 80 gross tonnage and upwards, and in case of availability of machinery and equipment of total power output of prime movers 100 kW and upwards — irrespective of their gross tonnage;

.3 materials and products that shall be installed on the above ships (lists of relevant materials and products are given in the appropriate parts of these Rules);

.4 ship refrigerating plants stated in 4.1.1 of this Part.

1.2.2 These Rules also apply to the following types of ships and offshore installations to the extent specified in the relevant rules for their classification and construction:

.1 nuclear ships and floating facilities (refer to the Rules for the Classification and Construction of Nuclear Ships and Floating Facilities);

.2 nuclear support vessels (refer to the Rules for the Classification and Construction of Nuclear Support Vessels);

.3 gas carriers (refer to the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk and Rules for the Classification and Construction of Ships Carrying Compressed Natural Gas);

.4 chemical tankers (refer to the Rules for the Classification and Construction of Chemical Tankers);

.5 mobile offshore drilling units and fixed offshore platforms (refer to the Rules for the Classification, Construction and Equipment of Mobile Offshore Drilling Units and Fixed Offshore Platforms);

.6 high-speed craft (refer to the Rules for the Classification and Construction of High-Speed Craft);

.7 type A WIG craft (refer to the Rules for the Classification and Construction of Type A WIG Craft);

.8 manned submersibles, ship's diving systems (refer to the Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems);

.9 pleasure craft (refer to the Rules for the Classification and Construction of Pleasure Craft);

.10 small sea fishing vessels (refer to the Rules for the Classification and Construction of Small Sea Fishing Vessels);

.11 floating offshore oil-and-gas production units (refer to the Rules for the Classification, Construction and Equipment of Floating Offshore Oil-and-Gas Production Units).

1.2.3 With the Register consent, these Rules may be applied for the classification of ships not specified in 1.2.1 and 1.2.2.

1.2.4 These Rules apply to special purpose ships of not less than 500 gross tonnage. On agreement with the Register, the requirements of these Rules may also apply as far as reasonable and practicable to special purpose ships of less than 500 gross tonnage.

1.2.5 These Rules set down the requirements regulating the assignment of class to a ship or a shipboard refrigerating plant.

1.2.6 Confirmation of compliance with the requirements of the RS rules is the Register prerogative and is carried out in accordance with the procedure established by it.

Any statements to the effect a supervised item complies with the RS rules requirements, which are made or documentally supported by a body other than the Register and which are not confirmed by the latter in accordance with the established procedure, cannot be considered as evidence of such a compliance.

1.3 COMPLIANCE WITH STATUTORY REQUIREMENTS

1.3.1 As far as practicable, the RS rules consider the requirements of international conventions and codes coming within the Register terms of reference (refer to 2.5, General Regulations for the Classification and Other Activity). Some of them are directly incorporated in the text of the RS rules, while others are referred to in the text of the RS rules.

2 CLASS OF A SHIP

2.1 GENERAL

2.1.1 Assignment of the Register class to a ship means confirmation by the Register that the ship construction complies with the applicable requirements of the RS rules and its technical condition complies with the conditions of the ship operation; the ship is registered with the Register for a specified period with performing the surveys stipulated by the Rules for the Classification Surveys of Ships for this period.

2.1.2 The Register may assign a class to a ship proceeding from the results of survey during its construction, as well as assign or renew a class to a ship in service.

2.1.3 Renewal of a ship's class means confirmation by the Register that the ship and her technical condition comply with the provisions based on which a class has been previously assigned as well as issuance of the Register documents for a period as required by the Rules for the Classification Surveys of Ships in Service.

2.1.4 Class of a ship is, generally, assigned or renewed by the Register for 5 years, however, in sound cases the Register may assign or renew a class for a lesser period.

2.1.5 If a ship has the valid Register class, this means that the ship's technical condition in full measure or to a degree considered adequate by the Register complies with the requirements of the RS rules, which apply to it according to its purpose, operating conditions and class notation. The validity of the ship's class shall be confirmed by the valid Classification Certificate or the Statement of Laid-up Ship (in case the ship is laid up in compliance with the requirements of 4.10 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service) available on board.

2.1.6 Classification Certificate becomes invalid and classification is automatically suspended in the following cases:

.1 when the ship as whole or her separate elements have not been subjected to scheduled periodical or occasional surveys in specified terms (if the special survey has not been completed or the ship is not under attendance for completion prior to resuming trading, by the due date);

.2 if the annual survey has not been completed within three (3) months of the due date of the annual survey;

.3 if the intermediate survey has not been completed within three (3) months of the due date of the third annual survey in each periodic survey cycle;

.4 unless the ship is under attendance for completion of the relevant survey if in the RS rules it is not required otherwise;

.5 after an accident (the ship shall be submitted for occasional survey at port where the accident took place or at the first port of call, if the accident took place at sea);

.6 when alterations not agreed with the Register have taken place in the ship structure, equipment and outfit and her arrangements;

.7 when repair, modernization/conversion of a ship or ship's elements have been performed without approval and technical supervision by the Register;

.8 when a ship navigates with a draught exceeding that specified by the Register for specific conditions as well as in case of operation of a ship in conditions which do not comply with the requirements for assigned class of a ship or the restrictions specified by the Register;

.9 when the prescribed specific requirements, which during previous survey of the ship were the conditions for assignment or retainment of the Register class, have not been fulfilled within the specified period;

.10 when the process of surveying the ship by the Register has been suspended on the shipowner's initiative or through his (her) or its fault;

.11 when the ship has been taken out of service for a long period (more than 3 months) for fulfilment of the Register requirements (except the case when a ship is under repair for these purposes);

.12 in case of the ship's seizure by pirates;

.13 after the ship was abandoned by the crew.

The Register shall specially notify the shipowner of suspension of a ship's class and Classification Certificate.

2.1.7 Ship class and Classification Certificate may be suspended following a decision made by the Register when the commitments to the Register (including those on payment for its services) fail to be performed or are improperly performed as well as in other cases specified in the RS rules.

2.1.8 Suspended (as stated in 2.1.6) class of a ship may be reinstated on the basis of satisfactory results of the appropriate periodical or occasional survey carried out by the Register in the case of ship to be submitted for survey. In so doing when the ship is taken out of service for a long period (more than 3 months), the scope of survey for reinstatement of a ship's class shall be specially established by the Register taking into account the age and condition of the ship as well as the period for which she is taken out of service.

During the period from suspension of class to its reinstatement or renewal, the ship is considered to have been lost the Register class. In case of class suspension, the Classification Certificate becomes invalid. The class may be suspended for a period of no more than six months unless expressly provided otherwise by the RS rules and normative documents.

2.1.9 The class of a ship is withdrawn by the Register in the following cases:

.1 upon expiration of the maximum term of class suspension;

.2 when the Register and/or shipowner consider reinstatement of the class suspended as stated in 2.1.6 to be impossible;

.3 upon transfer of the ship to the class of another classification body;

.4 at the request of the shipowner;

.5 due to ship's loss or her decommissioning as well as in case of obtaining information from the shipowner on the ship demolition or selling for scrapping.

Withdrawal of the ship's class means termination of technical supervision by the Register and invalidation of the Classification Certificate.

2.1.10 After assignment of class, the Register introduces the sea-going self-propelled ships of 100 gross tonnage and upwards into the Register of Ships and excludes them in case of withdrawal of class.

2.2 CLASS NOTATION OF A SHIP. MANDATORY AND OPTIONAL DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN THE CLASS NOTATION ASSIGNED BY RUSSIAN MARITIME REGISTER OF SHIPPING

Ships and offshore installations, complying fully or to a degree considered adequate by the Register with the relevant requirements of the RS rules, are assigned the RS class with the class notation as specified below.

The class notation assigned by the Register to a ship or offshore installation consists of the character of classification, mandatory distinguishing marks and descriptive notations, and optional distinguishing marks defining structure and purpose of a ship or offshore installation.

The character of classification and mandatory distinguishing marks and descriptive notations stipulate requirements for the following:

availability of main functions and the safety of installations supporting the main functions;

structural strength and integrity of essential parts of the ship's hull and the offshore installation;

safety of machinery installations, systems, mechanisms and equipment supporting non-main functions that constitute possible hazards to personnel and ship.

Optional distinguishing marks include requirements to safety levels and availability of equipment beyond those of the character of classification and mandatory distinguishing marks and descriptive notations.

The sequence of mandatory and optional (if any) distinguishing marks and descriptive notations being added in the class notation of a ship is set down by the provisions of this Chapter as well as by relevant provisions concerning the class notation included in rules for the classification and construction of ships of special types, as listed under 1.2.2, with account of Table 2.2.

The summary information on distinguishing marks and descriptive notations is given in 2.5.

Table 2.2

Example of class notation

Sequence of indication of distinguishing marks and descriptive notations in class symbol	**RS distinguishing marks and descriptive notations**
1. Character of classification	**КМ**
2. Construction symbol of ship classed with the Register, ACS[1] or without supervision by a CS[2]	⊛
3. Ice class notation (if any). Distinguishing mark for double acting ships DAS, if applicable	**Arc4 (hull; machinery)** **DAS (ice class mark)**
4. Baltic ice class or IACS polar class (if any)	**IA Super**
5. Subdivision distinguishing mark	**1**
6. Distinguishing mark for restricted areas of navigation (if any)	**R1**
7. Distinguishing automation mark (if any)	**AUT2**
8. Other distinguishing marks in a specific sequence (as applicable). For example, distinguishing marks as per this Part shall be indicated first, and then the distinguishing marks as per Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" shall be indicated	**FF3WS** **DYNPOS-2** **COMF(N – 3; V – 3)**
9. Descriptive notation (as applicable)	**Oil recovery ship** **Supply vessel (OS)** **Tug**
10. Distinguishing marks related to survey arrangement	**(ESP)**, **TMS**, etc.
[1] ACS — another classification society. [2] CS — classification society.	

N o t e s : 1. If ships or offshore installations are fitted with a nuclear power unit and comply with the requirements of the Rules for the Classification and Construction of Nuclear Ships and Floating Facilities, the symbol ⊠ is added before the character of classification.

2. If the scope of the RS rules requirements which a ship complies with allows, two and more descriptive notations may be stated in the class notation of a ship (e.g. **Supply vessel**, **Salvage ship**, **Tug**), or the descriptive notation may be written as a combination of descriptive notations (e.g. **Oil/bulk carrier**, **Oil/bulk/ore carrier**, etc.).

3. For self-propelled ships, when adding descriptive notations to the character of classification such as **Chemical tanker**, **Oil tanker**, **Bulk carrier**, **Self-unloading bulk carrier**, **Ore carrier** or their combinations (**Oil/bulk carrier**, **Oil/ore carrier**, etc.), the distinguishing mark **(ESP)** shall be mandatory added after the descriptive notation. This means the necessity to survey these ships based on the Enhanced Survey Programme. For example: **Oil/ore carrier (> 60 ºC) (ESP)**.

4. For oil tankers and bulk carriers fully complying with the requirements of the IACS Common Structural Rules for Bulk Carriers and Oil Tankers[1], the distinguishing mark **CSR** shall be mandatory added after descriptive notation.

5. When particular scope of the RS rules requirements, serving as the basis for introduction of the appropriate distinguishing marks in the class notation, is met only under limitations specified by the Register, the limitations, exceeding which these distinguishing marks will become invalid, shall be indicated in the class notation in brackets after such distinguishing marks, e.g. **KM ⊛ Arc7 (hull at $d \leq 8{,}44$ m; machinery) 2 (at $d \leq 8{,}4$ m) AUT2 Ro-ro ship**.

At the shipowner's discretion, at the assignment of ice class limitation for ships, maximum draught in fresh water, at which the RS requirements for the specified ice class are complied with, may be additionally indicated, e.g. **Arc7 (hull at $d/d_f \leq 11{,}0$ m/11,265 m; machinery)**, where d_f is the maximum draught in fresh water at which the requirements for ice class are met and which is determined as the sum of draught d and fresh water allowance in accordance with Formula (4.5.5.1) of the Load Line Rules for Sea-Going Ships.

6. In the class notations of nuclear ships and offshore installations, nuclear support vessels, gas carriers, chemical tankers, high-speed craft, type A WIG craft, small sea fishing vessels, mobile offshore drilling units, fixed offshore platforms, floating offshore oil-and-gas production units, manned submersibles and diving systems, sea-going pleasure craft, the distinguishing marks and descriptive notations shall be inserted in conformity with the provisions of rules for the classification and construction of the relevant types of ships (refer to 1.2.2).

7. For ships with descriptive notation **Berth-connected ship**, operation conditions (one of the following conditions: aground **(G) —** ground or moored at quay **(S)** — shore, or when at a water area distanced from the shore **(W)** — waters) are indicated in brackets, and the descriptive notation **Berth-connected ship** is followed by the statement of ship or offshore installation purpose from those listed in the definition "Berth-connected ship" (refer to 1.1.1), or otherwise. Descriptive notation **Berth-connected ship (‹operation condition›) floating oil storage** may be added in each particular case upon agreement with the Register Head Office (RHO) and, if necessary, upon agreement with the Flag State Maritime Administration in the class notation of a ship complying with the requirements for an oil tanker, which can not be classified as FSO in accordance with the Rules for the Classification, Construction and Equipment of Floating Offshore Oil-and-Gas Production Units (FPU) (refer also to FSU according to IMO resolution MEPC.311(73)), and intended only for loading/unloading and storage of oil and petroleum products. Previously assigned descriptive notation (e.g. **oil tanker (ESP)**) may be retained at the shipowner's discretion provided the RS requirements relating to such descriptive notation or distinguishing mark are complied with.

8. Floating museums are assigned descriptive notation **Berth-connected floating museum (‹operation condition›)**, and additionally, operation conditions: moored at quay **(S)** — shore, is indicated in brackets.

9. Classification of small craft consists in establishing a category of navigation in accordance with the Rules for the Classification and Survey of Small Craft.

[1] Hereinafter referred to as "the IACS Common Structural Rules".

10.Classification of sailing racing yachts consists in establishing a category of navigation in accordance with the Rules for the Classification and Survey of Sailing Racing Yachts (approved by Government Decree of Russian Federation No. 820 dated September 18, 2013), the Rules for the Design, Construction, Repair and Operation of Sailing Racing Yachts, Manufacture of Materials and Products for Installation on Board Sailing Racing Yachts.

2.2.1 The character of classification assigned by the Register to a ship or floating facility consists of distinguishing marks:

КМ⊛, КМ★, (КМ)★ — for self-propelled ships and offshore installations;

КЕ⊛, КЕ★, (КЕ)★ — for non-self-propelled ships and offshore installations with total power output of prime movers 100 kW and upwards;

К⊛, К★, (К)★ — for other non-self-propelled ships and offshore installations.

2.2.2 Depending on the rules on the basis of which a ship or an offshore installation was surveyed, and the classification society which carried out the survey, the character of classification is established as follows:

.1 ships and offshore installations built according to the Rules of and surveyed by the Register are assigned a class notation with the character of classification: **КМ⊛** or **КЕ⊛** or **К⊛** (refer to 2.2.1);

.2 ships and offshore installations built according to the rules of ACS — IACS member and surveyed by that society during their construction, when classed with the Register are assigned a class notation with the character of classification: **КМ★** or **КЕ★** or **К★** (refer to 2.2.1). For ships classed within IACS procedural requirement (PR)1A, the provisions of 1.2.2 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service shall apply;

.3 ships and offshore installations which were as a whole (or their hull or machinery installation, machinery and equipment) 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: **(КМ)★** or **(КЕ)★** or **(К)★** (refer to 2.2.1). For ships classed within IACS PR1D the provisions of 1.2.3 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service shall apply;

.4 ships and offshore installations built according to the RS rules and the rules of ACS — IACS member, and classed with the Register along with ACS — IACS member (dual class), are assigned a class notation with the character of classification: **КМ⊛** or **КЕ⊛** or **К⊛** (refer to 2.2.1). Under the dual class arrangement, each classification society acts on behalf of the other classification society in accordance with the Dual Classification Agreement taking into account the requirements of Section 16, Part I "General Regulations for Technical Supervision" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships. The scope of work and the authority of each society during approval of design documentation, certification of materials and products, survey during construction, initial survey after construction, including issuance of statutory certificates (if applicable) are regulated by the Dual Classification Agreement.

2.2.3 The Register ice class marks, the IACS polar class notations and the Baltic ice class notations.

2.2.3.1 Ice class marks are assigned to icebreakers and ice class ships in compliance with the requirements of 2.2.3.2 — 2.2.3.5 of this Part.

The IACS polar class notations are assigned to polar class ships in accordance with the requirements of Section 1 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

The Baltic ice class notations are assigned to the Baltic ice class ships in compliance with the requirements of Section 10 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

The IACS polar class notations and the Baltic ice class notations are assigned at the shipowner's discretion. At the same time, for the RS-classed icebreakers ice class marks are assigned in compliance with the requirements of 2.2.3.2.

At the shipowner's discretion the IACS polar class notations and the Baltic ice class notations may be applied simultaneously with the Register ice class marks (double or triple ice class), provided such ships comply with the requirements for the IACS polar class ships and/or the Baltic ice class ships, and the Register ice class ships.

2.2.3.1.1 Icebreakers are specialized ships intended for all kinds of icebreaking operations: escort of ships in ice, surmount of ice ridges, breaking of a navigable channel, towing, breaking of ice and rescue operations. There are two main regimes of ice navigation while performing icebreaking operations: continuous motion and ramming.

2.2.3.1.2 Ice class ships are ships intended for independent ice navigation including motion in fractures between floes, surmounting of ice isthmuses and portions of relatively thin compact ice, or navigation in ice with icebreaker escort.

2.2.3.1.3 The following definitions are used for the description of ice navigation conditions:

ice concentration is a measure of ice continuity, which is characterized by the ratio of the area covered by ice to the total water area using 10 number scale;

open floating ice is ice of concentration 4 — 6, where most of the floes do not touch each other;

close floating ice is ice of concentration 7 — 8 where most of the floes touch each other forming ice isthmuses;

very close floating ice is ice of concentration 9 or over, but less than 10;

compact ice is ice of concentration 10;

multi-year is ice of thickness more than 3,0 m, which has survived at least two summers' melt;

second-year ice is ice of thickness from 2,0 to 3,0 m, which has survived only one summer's melt;

first-year ice is ice of thickness from 0,3 to 2,0 m, of not more than one winter's growth;

ice cake is any relatively flat piece of sea ice less than 20 m across.

2.2.3.2 If an icebreaker complies with the requirements of these Rules, one of the following ice class marks is added to the character of classification: **Icebreaker6**, **Icebreaker7**, **Icebreaker8**, **Icebreaker9**.

Icebreakers of the above ice classes have the following tentative service characteristics:

Icebreaker6 — intended for ice breaking operations in harbour and roadstead water areas as well as in freezing seas where the ice is up to 1,5 m thick. Continuous motion capability in unbroken ice up to 1 m thick;

Icebreaker7 — intended for ice breaking operations in the arctic seas on coastal routes during winter/spring navigation in ice up to 2,0 m thick and summer/autumn navigation in ice up to 2,5 m thick; in non-arctic freezing seas and mouths of rivers flowing into arctic seas in ice up to 2,0 m thick. Continuous motion capability in unbroken ice up to 1,5 m thick. The total shaft power not less than 11 MW;

Icebreaker8 — intended for ice breaking operations in the arctic seas on coastal routes during winter/spring navigation in ice up to 3,0 m thick and summer/autumn navigation without restrictions. Continuous motion capability in unbroken ice up to 2,0 m thick. The total shaft power not less than 22 MW;

Icebreaker9 — intended for ice breaking operations on coastal routes in arctic seas during winter/spring navigation in ice up to 4,0 m thick and summer/autumn navigation without restrictions. Continuous motion capability in unbroken ice over 2,0 m thick. The total shaft power not less than 48 MW.

2.2.3.3 Register ice classes.

2.2.3.3.1 If a self-propelled ice class ship complies with the relevant requirements of these Rules, one of the following ice class marks shall be added to its character of classification: **Ice1**, **Ice2**, **Ice3**, **Arc4**, **Arc5**, **Arc6**, **Arc7**, **Arc8**, **Arc9** and the compliance of hull **(hull)** and machinery installation **(machinery)** with the requirements of these Rules in full scope, e.g. **КМ⊛ Arc4 (hull; machinery)**.

In case the ship hull corresponds to one ice class and the machinery installation corresponds to another ice class, the applicable ice classes shall be specified separately, e.g. **КМ⊛ Arc4 (hull) Ice3 (machinery)**. In such case, a ship with mark **(hull)** in the class notation shall comply with the requirements of Section 2 of Part III "Equipment, Arrangements and Outfit" of these Rules and 3.1.3.3 of Part III "Signal Means" of the Rules for the Equipment of Sea-Going Ships, in addition to the requirements of Part II "Hull". A ship with mark **(machinery)** in the class notation shall comply with the applicable requirements of Part VI "Fire Protection" of Part VII "Machinery Installations" of Part VIII "Systems and Piping" and Part IX "Machinery" of the Rules.

Where a non-self-propelled ship complies with the requirements for ice class, a mark **(hull)** shall be added to its character of classification.

2.2.3.3.2 Register ice classes and their reference descriptions are given in Table 2.2.3.3.2.

Table 2.2.3.3.2

Ice class	Description
Arc9	Year-round operation in all areas of the oceans
Arc8	In summer/autumn navigation — voyage in all areas of the World Ocean. In winter/spring navigation in Arctic — voyage in close floating second-year ice up to 2,5 m thickness and in freezing non-arctic seas without restrictions
Arc7	In summer/autumn navigation — voyage in all areas of the World Ocean. In winter/spring navigation in Arctic — voyage in close floating first-year ice up to 2,1 m thickness and in freezing non-arctic seas without restrictions
Arc6	In summer/autumn navigation in Arctic — voyage in open floating first-year ice up to 1,5 m thickness. In winter/spring navigation in Arctic — voyage in open floating first-year ice up to 1,3 m thickness. Year-round voyage in freezing non-arctic seas
Arc5	In summer/autumn navigation in Arctic — voyage in open floating first-year ice up to 1,2 m thickness. In winter/spring navigation in Arctic — voyage in open floating first-year ice up to 0,9 m thickness. Year-round voyage in freezing non-arctic seas
Arc4	In summer/autumn navigation in Arctic — voyage in open floating first-year ice up to 0,9 m thickness. In winter/spring navigation in Arctic — voyage in open floating first-year ice up to 0,7 m thickness. Year-round voyage in freezing non-arctic seas in light ice conditions
Ice3	Regular voyage in open floating ice-cake ice of non-arctic seas up to 0,7 m thickness
Ice2	Regular voyage in open floating ice-cake ice of non-arctic seas up to 0,5 m thickness
Ice1	Episodical voyage in open floating ice-cake ice of non-arctic seas up to 0,4 m thickness
Notes: 1 The possibility of operation of a vessel in a particular area is determined depending on the season, current weather conditions, actual ice conditions, presence of assistance for navigation in ice and this is the responsibility of the shipowner. 2 For ships having distinguishing mark **DAS** in class symbol ice conditions are assigned on the basis of the descriptions of ice classes.	

2.2.3.3.3 For tugs, depending on their compliance with the requirements of these Rules for ice class, one of the following ice class marks is added to the character of classification: **Ice2, Ice3, Arc4, Arc5, Arc6** taking into account the provisions of 2.2.3.3.1.

Determination of possible periods and areas of navigation as well as regimes of navigation with icebreaker escort is within the shipowner's.

2.2.3.3.4 An ice class ship which is not an icebreaker in accordance with 2.2.3.1.1, but occasionally involved in icebreaking operations, and complies with the relevant requirements of these Rules, may be assigned one of the following ice class marks added to the character of classification: **Icebreaker6** or **Icebreaker7**.

2.2.3.3.5 Double acting ships (DAS) are ice navigation ships fitted with active means of the ship's steering (refer to 1.2 Part VII "Machinery Installations") and designed for both bow-first operation and stern-first operation in ice condition.

If double acting ships comply at least with the requirements of Section 19, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **DAS (‹ice class mark›)** may be added to the character of classification, where the RS ice class is indicated in brackets according to 2.2.3.3.1 or 2.2.3.3.4 in case of stern-first operation.

When the RS ice class in case of stern-first operation differs from that in case of bow-first operation, the appropriate limitation is introduced to the RS ice class assigned according to 2.2.3.3.1 or 2.2.3.3.4, for example: **Arc4 (hull at d ≤11 m; ahead) DAS (Arc6 hull at d ≤11 m) Arc6 (machinery)**.

2.2.4 Subdivision distinguishing marks.

Ships complying with the applicable requirements of Part V "Subdivision" and fully complying with the requirements of Section 3 of the above Part in the case of flooding of any one compartment or any two or three adjacent compartments over complete length of the ship in the case of design side damage specified in 3.2 of Part V "Subdivision" are assigned subdivision distinguishing mark 1, 2 or 3 added to the character of classification, respectively.

2.2.5 Distinguishing marks for restricted areas of navigation.

2.2.5.1 Ships complying with these Rules requirements provided for ships operating only in restricted areas of navigation are assigned one of the following distinguishing marks: **R1**, **R2**, **R2-RSN**, **R2-RSN(4,5)**, **R3-RSN** or **R3** added to the character of classification to clarify restrictions of the ship navigation as follows:

.1 R1 — navigation in sea areas at seas with a wave height of 8,5 m with 3 % probability of exceeding level and with the ships proceeding not more than 200 miles away from the place of refuge and with an allowable distance between the places of refuge not more than 400 miles;

.2 R2 — navigation in sea areas at seas with a wave height of 7,0 m with 3 % probability of exceeding level with ships proceeding not more than 100 miles away from the place of refuge and with an allowable distance between the places of refuge not more than 200 miles;

.3 R2-RSN — river-sea navigation at seas with a wave height of 6,0 m with 3 % probability of exceeding level with ships proceeding from the place of refuge:

in open seas up to 50 miles and with an allowable distance between the places of refuge not more than 100 miles;

in enclosed seas up to 100 miles and with an allowable distance between the places of refuge not more than 200 miles;

.4 R2-RSN(4,5) — river-sea navigation at seas with a wave height of 4,5 m with 3 % probability with ships proceeding from the place of refuge:

in open seas up to 50 miles and with an allowable distance between the places of refuge not more than 100 miles;

in enclosed seas up to 100 miles and with an allowable distance between the places of refuge not more than 200 miles;

.5 R3-RSN — river-sea navigation at seas with a wave height of 3,5 m with 3 % probability of exceeding level with due regard for particular restrictions on the area and conditions of navigation resulting from the wind and wave conditions of the basins with determination of a maximum allowable distance from the place of refuge which in no case shall be more than 50 miles;

.6 **R3** — harbor, roadstead and coastal navigation in a 20-mile coastal zone with a wave height up to 2,5 m with 3 % probability of exceeding level with ships proceeding from the place of refuge in accordance with Table 2.2.5.1.6 or with restrictions imposed on the distance from the places of refuge and the height of the wave with 3 % probability based on the justifications submitted to the Register taking into account the wind and wave conditions in specific restricted sea areas.

Particular restrictions for operation of floating cranes (cargo-handling operations and navigation with carriage of cargoes on deck and/or in the hold) shall be imposed by the Register in each particular case.

Table 2.2.5.1.6

Nos.	Basin, geographical restrictions	Permissible distance from place of refuge, in miles[1]
1	The Adriatic Sea, the Sea of Azov, the White Sea, the East Siberian Sea, the Black Sea, the Laptev Sea	50
2	The Baltic Sea	20 (50)
3	The Barents Sea (except para 3.1)	(20)
3.1	The Barents Sea to the south of 70°30'N, to the east of 45°E	(30)
4	The Bering Sea (except para 4.1)	(10)
4.1	The Bering Sea to the north of 63°N, to the west of 173°40'W	10 (25)
5	The Ionian Sea, the Aegean Sea	15 (45)
6	The Kara Sea	35 (50)
7	The Caspian Sea	20 (50)
8	The Sea of Okhotsk (except paras 8.1 and 8.2)	(25)
8.1	The Sea of Okhotsk to the west of 142°E	10 (40)
8.2	The Sea of Okhotsk to the north of 56°N, to the west of 147°30'E	10 (50)
9	The Mediterranean Sea	
9.1	The Mediterranean Sea to the east of 28°30'E	30 (50)
9.2	Northwestern part of the Mediterranean Sea to the north of 39°30'N, to the west of 9°30'E	(45)
10	The Tyrrhenian Sea	10 (45)
11	The Sea of Japan	(40)

[1] Permissible distances from the place of refuge assigned subject to confirmation of the stability of a ship of restricted area of navigation **R3** under weather criterion in accordance with the requirements of Part IV "Stability" for river-sea navigation ships **R3-RSN** are given in brackets.

2.2.5.2 The restrictions provided for by 2.2.5.1 define the allowable conditions of ship's navigation resulting from ship's stability and strength which are indicated in the Seaworthiness Certificate and in the Classification Certificate (if issued on behalf of the Flag State MA).

2.2.5.3 Particular restrictions on the area and conditions of navigation for ships of river-sea navigation **R3-RSN** are determined as the geographical place names of basins or their parts with the indication, where necessary, of the geographical boundary of the navigation area within the basin, the restrictions on proceeding from the place of refuge and the restrictions of ship navigation by calendar periods, or an indication of voyage between the terminal ports. In this case, the restrictions with due regard to the wind and wave conditions of the basins shall be determined by using the data of Table 2.2.5.3 or the data from the submitted to the Register justifications of possibility of ship's navigation in the certain area or passage, made in accordance with the procedure approved by the Register.

Table 2.2.5.3

Basin	Geographical restrictions	Navigation season
The Adriatic Sea	To the south of 42°N, 20-mile coastal area along the eastern and western coasts, crossing the sea in the Strait of Otranto in the area of the port of Brindizi (the port of Bari) — the port of Bar, as well as in the area of Cape San Francesco — Lastovo Island; 40-mile coastal area to the north of 42°N, along the eastern coast with calling at ports of the western coast	Throughout the year
The Sea of Azov	No restrictions	Throughout the year
The Baltic Sea	No restrictions, including the Gulf of Bothnia, the Gulf of Finland and the Gulf of Riga; the Strait of Zund, the Great Belt and the Little Belt Straits, the Kattegat Strait to the south of 57°45'N	Throughout the year
The Barents Sea	10-mile coastal area to the east of Cape Kanin Nos along the coast of the Kanin Peninsula, and to the south of 68°00'N	June — August
	20-mile coastal area along the southern coast from Cape Svyatoy Nos (Timansky) to Pechorskaya Guba bay with calls at Remenka bay on the southern coast of Kolguev Island	June — September
	20-mile coastal area along the southern coast from Pechorskaya Guba bay to the Yugorsky Shar Strait; Pechorskaya Guba bay; Khaypudyrskaya Guba bay; the Yugorsky Shar Strait	June — October
	Coastal area along the Kola Peninsula within the boundaries of established ship traffic from the line connecting the Lumbovsky Gulf with Cape Kanin Nos to Kola Bay; Kola Bay	May — September
The White Sea	The Gulf of Onega, the Gulf of Dvina and the Gulf of Kandalaksha; 20-mile coastal area to the south of 66°45'N	May — October
The Bering Sea	20-mile coastal area of the Gulf of Anadyr in the following areas: the sea port of Anadyr — the sea port of Beringovsky; the sea port of Anadyr — the sea port of Egvekinot — the sea port of Provideniya — the Gulf of Lavrentiya	July — September
The East Siberian Sea	Coastal area along the southern coast within the limits up to 15-meter isobath curve from the mouth of the Kolyma River to the sea port of Pevek with permissible distance from the coast up to 7 miles in the area of Letyatkina Cape, Bolshoy Baranov Cape, Malaya Baranikha Cape, the mouth of the Milkera River and the north-western coast of Ayon Island	August — September[1]
The Ionian Sea	The Gulf of Corinth; the Gulf of Patraikos; 20-mile coastal area from the Gulf of Patraikos to the Strait of Otranto; the Strait of Otranto	Throughout the year
The Kara Sea	10-mile coastal area from the Yugorsky Shar Strait to Kharasavey village; Baidaratskaya Guba bay	July — October
	The south-west part of the sea to the south of the line connecting Kharasavey village and the crossing point of 70°00'N with the eastern coast of the Vaygach Island	July — September
	20-mile coastal area along the western and northern coast of the Yamal Peninsula from Kharasavey village to Obskaya Guba bay through the Malygina Strait	August — October
	20-mile coastal area from Dickson Island to the mouth of Pyasina	July — September

Basin	Geographical restrictions	Navigation season
The Caspian Sea	To the north of 44°30'N as well as to the south of 44°30'N within 20-mile coastal area along the eastern coast up to the port of Turkmenbashi (port of Bekdash)[2] and along the western coast up to the port of Makhachkala; 20-mile coastal area from the port of Baku to Anzali, with permissible distance from the coast up to 25 miles in the area from Shakhovaya Spit (39°50'N, 50°20'E) to Kurinskaya Spit (39°00'N, 49°44'E); sea crossing line from the eastern coast in the area of the port of Turkmenbashi (port of Bekdash) — southern extremity of the Krasnovodsky Gulf to the western coast in the area of Shakhovaya Spit	March — November
The Baltic Sea	No restrictions, including the Gulf of Bothnia, the Gulf of Finland and the Gulf of Riga; the Strait of Zund, the Great Belt and the Little Belt Straits, the Kattegat Strait to the south of 57°45'N	Throughout the year
The Barents Sea	10-mile coastal area to the east of Cape Kanin Nos along the coast of the Kanin Peninsula, and to the south of 68°00'N	June — August
	20-mile coastal area along the southern coast from Cape Svyatoy Nos (Timansky) to Pechorskaya Guba bay with calls at Remenka bay on the southern coast of Kolguev Island	June — September
	20-mile coastal area along the southern coast from Pechorskaya Guba bay to the Yugorsky Shar Strait; Pechorskaya Guba bay; Khaypudyrskaya Guba bay; the Yugorsky Shar Strait	June — October
	Coastal area along the Kola Peninsula within the boundaries of established ship traffic from the line connecting the Lumbovsky Gulf with Cape Kanin Nos to Kola Bay; Kola Bay	May — September
The White Sea	The Gulf of Onega, the Gulf of Dvina and the Gulf of Kandalaksha; 20-mile coastal area to the south of 66°45'N	May — October
The Bering Sea	20-mile coastal area of the Gulf of Anadyr in the following areas: the sea port of Anadyr — the sea port of Beringovsky; the sea port of Anadyr — the sea port of Egvekinot — the sea port of Provideniya — the Gulf of Lavrentiya	July — September
The East Siberian Sea	Coastal area along the southern coast within the limits up to 15-meter isobath curve from the mouth of the Kolyma River to the sea port of Pevek with permissible distance from the coast up to 7 miles in the area of Letyatkina Cape, Bolshoy Baranov Cape, Malaya Baranikha Cape, the mouth of the Milkera River and the north-western coast of Ayon Island	August — September[1]
The Ionian Sea	The Gulf of Corinth; the Gulf of Patraikos; 20-mile coastal area from the Gulf of Patraikos to the Strait of Otranto; the Strait of Otranto	Throughout the year
The Kara Sea	10-mile coastal area from the Yugorsky Shar Strait to Kharasavey village; Baidaratskaya Guba bay	July — October
	The south-west part of the sea to the south of the line connecting Kharasavey village and the crossing point of 70°00'N with the eastern coast of the Vaygach Island	July — September
	20-mile coastal area along the western and northern coast of the Yamal Peninsula from Kharasavey village to Obskaya Guba bay through the Malygina Strait	August — October
	20-mile coastal area from Dickson Island to the mouth of Pyasina	July — September

Basin	Geographical restrictions	Navigation season
The Caspian Sea	To the north of 44°30'N as well as to the south of 44°30'N within 20-mile coastal area along the eastern coast up to the port of Turkmenbashi (port of Bekdash)[2] and along the western coast up to the port of Makhachkala; 20-mile coastal area from the port of Baku to Anzali, with permissible distance from the coast up to 25 miles in the area from Shakhovaya Spit (39°50'N, 50°20'E) to Kurinskaya Spit (39°00'N, 49°44'E); sea crossing line from the eastern coast in the area of the port of Turkmenbashi (port of Bekdash) — southern extremity of the Krasnovodsky Gulf to the western coast in the area of Shakhovaya Spit	March — November
The Laptev Sea	the Khatanga Gulf; the Vostochny and Severny straits; 20-mile coastal area along the northern and eastern coasts of Bolshoy Begichev Island and from the Nordvik Peninsula to Cape Terpyay-Tumsa; the Gulf of Anabar; the Olenek Gulf limited by the line 5 miles distant to the north from the line connecting Cape Terpyay-Tumsa and the northern extremity of the Aerosemki Islands; 5-mile area around the Aerosemki Islands; 25-mile area from the Aerosemki Islands to the sea port of Tiksi; 20-mile coastal area from Cape Bykovto the mouth of the Yana River, including the Guba Buor-Khaya bay	20 July — September
The Laptev Sea and the East-Siberian Sea	20-mile coastal area along the southern coast from the mouth of the Yana River to the mouth of the Kolyma River; 20-mile coastal area along the southern and western coast of Bolshoy Lyakhovsky Island from Cape Shalaurov to Cape Vagin	20 July — September
	20-mile coastal area around Maly Lyakhovsky Island and along the southern and western coasts of Kotelny Island from the Malygintsev Bay to Stantsiay Lagoon; sea area between the northern coast of Bolshoy Lyakhovsky Island and south-western coast of Kotelny Island, and between 140°E and the western extremity of Kotelny Island	August — September
The Sea of Marmora	No restrictions from Bosporus to Dardanelles Straits	Throughout the year
The Persian Gulf (the Arabian Sea)	Eastern part: from Ormus Strait to 54°E; central part: the coastal area along the western coast in the area restricted by 54°E, parallel 28°59'N and a line connecting islands Abu-Musa, Khalul, Al-Kharkus, Failaka; northern part: from parallel28°59'N	Throughout the year
The North Sea	Kattegat to the south of parallel 57°45'N; Helgoland Bay to the south of parallel 54°02'N and to the east to 7°5'E	Throughout the year
	Coastal area along the southern coast in the zone of traffic separation from the Helgoland Bay to the port of Antwerp	March — October
	Skagerrak Strait to the east of the line of Cape of Skagen — Oslo-Fjord and to the south of parallel 59°N and also along the coast of Sweden in Sekken and Single-Fjord Straits	May — August
Eastern part of the Mediterranean Sea	20-mile coastal area along the eastern coast from Rhodes Strait to the ports of Izrael inclusive with calls at the ports of Cyprus Island	April — November
The Black Sea	20-mile coastal area along the northern, western and eastern coasts from the port of Batumi to the Strait of Bosphorus	Throughout the year
The Aegean Sea	From the Dardanelles to Karpathos and Kithira Straits to the north of 36°N; Passage to the Ionian Sea through the Gulf of Saronikos, Corinth Canal, Gulf of Corinth, Gulf of Patraikos	Throughout the year

Basin	Geographical restrictions	Navigation season
The Sea of Japan and the Sea of Okhotsk	The Tatar Strait and the Amur Firth to the north of the line connecting the sea port of Sovetskaya Gavan and Uglegorsk City to the line connecting Cape Menshikova and Cape Tamlavo	June — October
	20-mile coastal area along the western coast from the port of Vladivostok to Preobrazhenia Bay	Throughout the year
[1] In the years of low and medium ice coverage to be determined by the position of Ayon ice massif. [2] For ships having the Register-approved area of navigation to the south of the port of Turkmenbashi (the port of Bekdash) within 20-mile coastal area along the eastern coast up to ports of Iran, from Cheleken Peninsula (at 39°26'N, 52°40'E) up to the southern extremity of Ogurchinsky Island (at 38°40'N, 53°00'E), the 20-mile coastal area shall be counted from the coast of Ogurchinsky Island.		

2.2.5.4 Notwithstanding the area of navigation of ships, whose stability does not comply with the requirements of part IV "Stability" imposed upon ships navigating to the north of parallel 66°30' and to the south of parallel 60°00' as well as in winter in the Bering Sea, the Sea of Okhotsk and in the Tatar Strait, or within seasonal winter zones in winter, determined in LL-66/88 or the Load Lines Rules for Sea-Going Ships, the Register specifies the appropriate restrictions by introducing the entry into the Classification Certificate in section "Permanent restrictions" about impossibility of the ship to navigate in the above mentioned seasonal winter zones and water areas.

2.2.6 Distinguishing automation marks.

Ships and offshore installations fitted with automation equipment complying with the requirements of Part XV "Automation" are assigned one of the following distinguishing marks added to the character of classification, namely:

.1 AUT1 — where the automation extent is sufficient for the machinery installation operation with unattended machinery spaces and the main machinery control room;

.2 AUT2 — where the automation extent is sufficient for the machinery installation operation by one operator at the main machinery control room with unattended machinery spaces;

.3 AUT3 — where the automation extent is sufficient for the machinery installation operation of a ship with the main machinery power output not more than 2250 kW with unattended machinery spaces and the main machinery control room;

.4 AUT1-C, **AUT2-C** or **AUT3-C** — where automation is based on computers or programmable logic controllers meeting the requirements of Section 7 of Part XV "Automation";

.5 AUT1-ICS, **AUT2-ICS** or **AUT3-ICS** — where automation is made with the use of a computerized integrated monitoring and control system meeting the requirements of Section 7 of Part XV "Automation".

2.2.7 Distinguishing mark of one man bridge operated ship.

If the navigational equipment of self-propelled ship installed on the navigation bridge complies with the requirements for self-propelled one man bridge operated ships specified in Part V "Navigational Equipment" of the Rules for the Equipment of Sea-Going Ships, a distinguishing mark **OMBO** is added to the character of classification.

2.2.8 Distinguishing mark for a ship carrying equipment for fire fighting aboard other ships.

If a ship carries supplementary systems, equipment and outfit for fire fighting aboard other ships, offshore drilling units, floating and shore facilities and if the ship is in full compliance with the relevant requirements of these Rules in respect to those appliances, distinguishing marks **FF1WS**, **FF1**, **FF2WS**, **FF2** or **FF3WS** are added to the character of classification proceeding from the degree of the ship equipment with these appliances.

The degree of the ship equipment for fire fighting in other structures is determined on the basis of the list of fire fighting equipment and systems prescribed by 6.6 of Part VI "Fire Protection".

2.2.9 Distinguishing mark for ships fitted with a dynamic positioning system.

If a ship is fitted with a dynamic positioning system complying with the requirements of Section 8 of Part XV "Automation", one of the following distinguishing marks: **DYNPOS-1**, **DYNPOS-2** or **DYNPOS-3** is added to the ship's character of classification, depending on the redundancy of the dynamic positioning system.

2.2.10 Distinguishing mark of availability of position-keeping/position mooring systems.

Ships and offshore installations equipped with the position-keeping system/automated control system for power equipment of position mooring or thruster assisted position mooring systems, are assigned one of the following distinguishing marks added to the character of classification:

.1 POSIMOOR-FIX — if the position-keeping system meets the requirements of 21.1.1.1, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.2 POSIMOOR — if the position mooring system meets the requirements of 21.1.1.2, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.3 POSIMOOR-TA — if the position mooring system meets the requirements of 21.1.1.3, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

2.2.11 Distinguishing mark for a ship intended for carriage of refrigerated cargo.

Ships intended for carriage or storage of refrigerated cargo or catch in ship's cargo spaces and/or in thermal containers with the use of a refrigerating plant available on board and classed in compliance with Section 4 of this Part and meeting the requirements of Part XII "Refrigerating Plants" are assigned the distinguishing mark **REF** added to the character of classification.

Ships intended for carriage or storage of refrigerated cargo or catch in ship's cargo spaces and/or in thermal containers and using non-classed refrigerating plant for maintaining the required temperature, complying with the relevant requirements of Part XII "Refrigerating Plants", are assigned the distinguishing mark **(REF)** added to the character of classification.

2.2.12 Distinguishing mark for ships fitted with the main electric propulsion plant.

If a ship is fitted with the main electric propulsion plant complying with the requirements of Section 17 of Part XI "Electrical Equipment", the distinguishing mark **EPP** is added to the character of classification.

2.2.13 Distinguishing mark for ships fitted with equipment for icing protection.

If a ship is fitted with equipment providing effective icing protection in compliance with the requirements of Section 4 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **ANTI-ICE** is added to the character of classification.

2.2.14 Distinguishing mark for a ship intended for carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF cargo).

Ships intended for carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes, which comply with the requirements of 7.3 of Part VI "Fire Protection", are assigned one of the following distinguishing marks added to the character of classification:

INF1 for Class **INF1** ships;

INF2 for Class **INF2** ships;

INF3 for Class **INF3** ships.

2.2.15 Distinguishing mark for ships fitted with a loading instrument/onboard software for stability calculations.

2.2.15.1 If a ship is equipped with a loading instrument complying with the requirements of 1.4.9.4 of Part II "Hull" of these Rules and 12.3 of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, the distinguishing mark **LI** is added to the character of classification.

2.2.15.2 If a ship is provided with onboard software for stability calculations complying with the requirements of 1.4.12 of Part IV "Stability" of these Rules and 12.2 of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, the distinguishing mark **SI** is added to the character of classification.

2.2.16 Distinguishing mark for ships fitted with a cargo vapour discharge system.

If a ship is fitted with a cargo vapour discharge system complying with the requirements of 9.9 of Part VIII "Systems and Piping", the distinguishing mark **VCS** is added to the character of classification.

2.2.17 Distinguishing mark for ships fitted with an inert gas system.

If a ship is fitted with an inert gas system complying with the requirements of 9.16 of Part VIII "Systems and Piping", one of the following distinguishing marks is added to the character of classification:

.1 IGS-IG if a system uses an oil-burning inert gas generator as the inert gas source and the requirements of 9.16.9 of Part VIII "Systems and Piping" are complied with;

.2 IGS-NG if a system uses a nitrogen generator as the inert gas source and the requirements of 9.16.12 of Part VIII "Systems and Piping" are complied with;

.3 IGS-Pad if an inert gas system is only intended for forming an insulating pad in cargo tanks and the requirements of 9.16.11 of Part VIII "Systems and Piping" are complied with. This distinguishing mark may be used where systems with inert gas supplied from cylinders are installed as well as for systems using inert gas and nitrogen generators whose capacity is insufficient for assigning the distinguishing marks **IGS-IG** or **IGS-NG**.

2.2.18 Distinguishing mark for ships fitted with a crude oil washing system.

If a ship is fitted with a crude oil washing system complying with the requirements of 9.12 of Part VIII "Systems and Piping", the distinguishing mark **COW** is added to the character of classification.

2.2.19 Distinguishing mark for ships fitted with a centralized cargo control system.

If a ship is fitted with a cargo control room complying with the requirements of 3.2.11 of Part VII "Machinery Installations", the distinguishing mark **CCO** is added to the character of classification.

2.2.20 Distinguishing marks for ships of high ecological safety.

Ships complying with the requirements of Section 3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" are assigned with one of the following distinguishing marks added to the character of classification:

.1 ECO — if a ship meets the requirements for controlling and limiting operational emissions and discharges, as well as requirements for prevention of environmental pollution in case of emergency, as specified in 3.5 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.2 ECO-S — if a ship meets more stringent requirements than those for assignment of the distinguishing mark **ECO** in the class notation, as specified in 3.6 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

2.2.21 Distinguishing mark for a ship complying with ballast water management requirements.

If a ship performs ballast water management through ballast water exchange at sea and, as appropriate, carries the Guidelines for Safe Ballast Water Exchange at Sea, which complies with the requirements of 1.4.13 of Part IV "Stability" of these Rules and is a part of the approved Ballast Water Management Plan, which complies with the requirements of regulation B-1 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), 2004, and the ship ballast system complies with the requirements of 8.7 of Part VIII "Systems and Piping" of these Rules, one of the following distinguishing marks is added to the character of classification: **BWM (E-S)**, **BWM (E-F)**, **BWM (E-D)**, **BWM (E-SF)**, **BWM (E-SD)**, **BWM (E-FD)** or **BWM (E-SFD)**. **BWM** means that the ship performs ballast water management; **E** means that ballast water management is performed through ballast water

exchange at sea; **S** means that sequential method is used; **F** means that flow-through method is used; **D** means that dilution method is used; **SF**, **SD**, **FD** and **SFD** mean that combined ballast water exchange method is used being a combination of the above methods.

N o t e . Above mentioned distinguishing marks shall not be applied to ships the keels of which are laid or which are at a similar stage of construction on or after 8 September 2017 in accordance with the revised regulation B-3 of the BWM Convention, and may be applied to ships the keels of which are laid or which are at a similar stage of construction on or after 8 September 2017, and shall remain in the class notation of these ships until the date when the ship complies with the regulation D-2 of the BWM Convention but not later than 8 September 2024.

2.2.22 Distinguishing mark for ships fitted with ballast water management system.

If a ship performs ballast water management through the ballast water management system (BWMS) having the Type Approval Certificate of Ballast Water Management System issued in accordance with IMO resolution MEPC.174(58), MEPC.279(70) or Code for Approval of Ballast Water Management Systems (BWMS Code, IMO resolution MEPC.300(72)), as applicable, and carries the approved operations, technical and safety manual for the BWMS specific to the ship, a distinguishing mark **BWM (T)** is added to the character of classification. **BWM** means that the ship performs ballast water management in accordance with the approved Ballast Water Management Plan, which complies with the requirements of regulation B-1 of the BWM Convention, and **T** means that ballast water management through treatment of the ballast water within the BWMS is carried out in compliance with the ballast water performance standard in regulation D-2 of the BWM Convention.

2.2.23 Distinguishing marks for a ship fitted with a diving system permanently installed on the ship.

If ships are fitted with diving system installed permanently on ships that complies with the relevant requirements of the Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems, one of the following distinguishing marks may be added to the character of classification:

.1 **SDS** < **12** for ships fitted with a diving system designed for diving operations at depths less than 12 m;

.2 **SDS** < **60** for ships fitted with a diving system designed for diving operations at depths less than 60 m;

.3 **SDS** ≥ **60** for ships fitted with a diving system designed for diving operations at depths of 60 m and over.

2.2.24 Distinguishing mark for ships fitted with manned submersible.

If ships are fitted with manned submersible complying with the relevant requirements of the Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems, the distinguishing mark **MS** may be added to the character of classification.

2.2.25 Distinguishing mark for a ship to carry out cargo operations at offshore terminals.

Oil tankers to carry out cargo operations at offshore terminals in compliance with the requirements of Section 5 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" are assigned one of the following distinguishing marks added to the character of classification:

.1 **BLS-SPM** — if a ship is fitted with the bow loading system and fully complies with the requirements for equipment of oil tankers to carry out cargo operations at offshore terminals;

.2 **BLS** — if a ship is fitted with the bow loading system and complies with the requirements for equipment of oil tankers to carry out cargo operations at offshore terminals, except for 5.6.2 — 5.6.9 and 5.6.12 — 5.6.14 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.3 SPM — if a ship is not fitted with the bow loading system, though complies with the requirements of 5.6.2 — 5.6.9 and 5.6.12 — 5.6.14 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

This distinguishing mark may also be added to the character of classification of ships carrying liquefied gases in bulk.

2.2.26 Distinguishing mark for a ship fitted with helicopter facilities.

If ships are fitted with helicopter facilities in compliance with the requirements of Section 6 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", one of the following distinguishing marks is added to the character of classification:

.1 HELIDECK — if a ship is fitted with a helideck and complies with the requirements of 6.2, 6.3, 6.4.1, 6.6 and 6.7 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.2 HELIDECK-F — if a ship is fitted with helicopter refuelling facilities and, in addition to 2.2.26.1 of this Part, complies with the requirements of 6.4.2 (as far as applicable), 6.5.1 and 6.5.2 (as far as applicable) of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships";

.3 HELIDECK-H — if a ship is fitted with hangar facilities and fully complies with the requirements of Section 6 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

2.2.27 Distinguishing mark for a ship equipped to ensure long-term operation at low temperatures.

If ships are equipped to ensure long-term operation at low temperatures in compliance with the requirements of Section 7 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion the distinguishing mark **WINTERIZATION(DAT)** is added to the character of classification, where design ambient temperature is indicated in brackets, in Celsius degrees, e.g. **WINTERIZATION(–40)**.

2.2.28 Distinguishing mark for propulsion plant redundancy.

Where provision is made for the redundancy of propulsion plant components complying with the requirements of Section 8 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of the Ship", one of the following distinguishing marks is added to the character of classification: **RP-1**, **RP-1A**, **RP-1AS**, **RP-2** or **RP-2S**, depending on the redundancy arrangement.

2.2.29 Distinguishing mark for a ship equipped to use gas as fuel.

Ships equipped for using gas as fuel in compliance with the requirements of Section 9 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", as well as gas carriers carrying liquefied methane, using cargo as fuel and complying with the requirements of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) and the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk, are assigned the distinguishing mark **GFS** (gas fuelled ships) added to the character of classification.

2.2.30 Distinguishing mark for a planned maintenance scheme for machinery applied on board the ship.

If a planned maintenance scheme for machinery (PMS) is applied on board the ship in compliance with the requirements of 2.7 of Part II "Survey Procedure and Scope" of the Rules for the Classification Surveys of Ships in Service, the distinguishing mark **PMS** may be added to the character of classification.

2.2.31 Distinguishing marks for condition monitoring system and condition based maintenance system applied on board the ship.

If a ship is fitted with an approved condition monitoring system (CM system) complying with the requirements of Section 10 of Part VII "Machinery Installations" of these Rules and requirements of 2.8.1.2 and 2.8.2 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service, the distinguishing mark **CM** (Condition Monitoring) may be added to the character of classification.

If a ship is fitted with an approved condition based maintenance system (CBM system) complying with the requirements of 2.8.1.3 and 2.8.2 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service, the distinguishing mark **CBM** (Condition Based Maintenance) may be added to the character of classification.

2.2.32 Distinguishing mark for ships fitted for possible carriage of the international standard containers.

If a ship without a descriptive notation **Container ship** in the class notation is fitted for carriage of cargo in international standard containers on deck and/or in appropriate holds, the distinguishing mark **CONT** is added to the character of classification and the container transportation area is specified in brackets **(deck) (cargo hold(s) No.)**.

2.2.33 Distinguishing mark for ships fit for carriage of dangerous goods.

If a ship complies with the requirements of Section 7 of Part VI "Fire Protection" of these Rules, was duly surveyed according to 2.1.5 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, and is recognized fit for carriage of dangerous goods, the distinguishing mark **DG** is added to the character of classification with the following specified in brackets depending on the type of dangerous goods: **(bulk)** — in bulk, **(pack)** — packaged.

2.2.34 Distinguishing mark for implementation of modified survey of the shafting.

If a modified survey of the shafting in compliance with the requirements of 2.11.2.7 of Part II "Survey Schedule and Scope" of the Rules for the Classification Surveys of Ships in Service is accepted for a ship, the distinguishing mark **TMS** (Tailshaft Modified Survey) is added to the character of classification.

2.2.35 Distinguishing mark for ships prepared for in-water survey.

For a ship built according to Section 12 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **IWS** is added to the character of classification.

2.2.36 Distinguishing mark for alternative method of reducing SO_x emissions.

If on board a ship, as an alternative, the exhaust gas (SO_x) cleaning system of the fuel oil combustion unit approved by RS is fitted, considering IMO resolution MEPC.259(68), the distinguishing mark **SO_x Cleaning** shall be added to the character of classification.

2.2.37 Distinguishing mark for marine diesel engine to comply with Tier III limit according to Regulation 13 of Annex VI to MARPOL.

If nitrogen oxides emissions from marine diesel engines comply with Tier III limit and Regulation 13 of Annex VI to MARPOL, which is endorsed by the Engine International Air Pollution Prevention Certificate (EIAPP Certificate), the distinguishing mark **DE-Tier III** is added to the character of classification.

2.2.38 Distinguishing mark for ships prepared for conversion for the use of gas fuel.

If a ship is prepared for conversion for the use of gas fuel and complies with the requirements of Section 14 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, the distinguishing mark **GRS** (Gas Ready Ship) or one of the following distinguishing marks shall be added to the character of classification: **GRS-D**, **GRS-H**, **GRS-T**, **GRS-P**, **GRS-E** or, for example, **GRS-D-H-T**, depending on the ship's readiness for conversion to use gas fuel according to 14.2.2 of the above stated part.

2.2.39 Distinguishing mark for ships which are periodically grounded in operation.

If ships may lie aground in safety with partial or full hull baring in places fit for grounding the ships, and comply with the requirements of Section 15 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, one of the following distinguishing marks may be added to the character of classification of a ship:

.1 NAABSA1 — partial or full ship underwater hull baring is permitted on plane homogeneous sand-and-shingle or sand-and-mud seabeds with no motion in calm water as harbours or sheltered areas;

.2 NAABSA2 — in addition to **NAABSA1** distinguishing mark requirements specified above, motion and ship bow impact contact with seabed at defined wave parameters are permitted;

.3 NAABSA3 — in addition to **NAABSA2** distinguishing mark requirements specified above, hull baring of moored ship is permitted at specified distance from seashore line in rolling conditions with impact contact against the seabed in any point of the hull bottom.

2.2.40 Distinguishing mark for ships fitted with boiler plant monitoring system.

If ships are fitted with boiler plant monitoring system that allows to carry out internal surveys of steam boilers without participation of the RS surveyor, and that complies with the requirements of Section 16 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, the distinguishing mark **BMS** (Boiler Monitoring System) may be added to the character of classification.

2.2.41 Distinguishing mark for ships fitted with hull strength and/or stability monitoring system.

If ships are fitted with hull strength and/or stability monitoring system complying with the requirements of Section 17 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, the distinguishing mark **HMS(…)** may be added to the character of classification. The marks added in brackets (**STR**, **STAB** or **STR-STAB**) specify completeness of the system. Where the monitoring system is fitted with additional functions, the distinguishing mark shall be specified as **HMS(‹system completeness›)+‹system function›** with system function (**BS**, **C**, **DD**, **DM**, **N**, **RPM**, **SI**, **SW**, **TS**, **ThS**, **TVS** or **W**) indicated after the "+" sign. If several functions are provided, the system function marks may be combined and shall be specified without separation by commas.

2.2.42 Distinguishing marks for ships complying with the requirements for indoor hygiene and sanitary conditions.

2.2.42.1 If ships comply with the indoor climate requirements specified in 18.1 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", at the shipowner's discretion, the distinguishing mark **COMF(C)** may be added to the character of classification.

2.2.42.2 If ships comply with the requirements for noise level in ship's spaces specified in 18.2 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **COMF(N – 1** or **2**, or **3)** may be added to the character of classification, where grades **1**, **2**, **3** indicate the noise comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).

2.2.42.3 If ships comply with the requirements for sanitary vibration level in ship's spaces specified in 18.3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing mark **COMF(V – 1** or **2**, or **3)** may be added to the character of classification, where grades **1**, **2**, **3** indicate permissible sanitary vibration comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level).

2.2.42.4 If a ship simultaneously complies with the requirements of several Chapters of Section 18 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", distinguishing marks for ships complying with indoor hygiene and sanitary conditions may be combined, e.g.: **COMF(C)**, **COMF(C, N – 1)**, **COMF(N – 1, V – 1)**, etc.

2.2.43 Distinguishing mark for ships fitted with a system of prompt access to computerized shore-based emergency response services (ERS) on damage stability and residual structural strength calculations.

If a ship is fitted with a system of prompt access to computerized shore-based emergency response services (ERS) on damage stability and residual structural strength calculations, the distinguishing mark **ERS** may be added to the character of classification.

A system of prompt access to computerized shore-based emergency response service shall comply with the requirements of 12.2.4 of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

2.2.44 Distinguishing mark confirming fatigue life of a ship.

Where design remaining life of a ship (fatigue life) exceeds 25 years, the distinguishing mark **FTL (years)** may be added to the character of classification, where design remaining life of a ship within the range of 25 — 40 years (at 5-year intervals) is indicated in brackets.

When performing verification by direct calculation with application of spectral method, the distinguishing mark **Spectral North Atlantic** is added after the distinguishing mark **FTL (years)**.

The method for fatigue assessment during the design stage is given in the Guidelines on Fatigue Assessment of Ships.

2.2.45 Distinguishing mark for ships fitted with composite (hybrid) propulsive systems.

If a ship is fitted with composite (hybrid) propulsive systems complying with the requirements of Section 24 of Part XI "Electrical Equipment", the distinguishing mark **CPS** is added to the character of classification.

2.2.46 Distinguishing mark for ships fitted with steerable propellers (azimuth thrusters) being a part of the propulsion plant.

If the propulsion plant includes a steerable propeller (azimuth thruster) with a podded drive, the distinguishing mark **A-Thruster(E)** is added to the character of classification.

If the propulsion plant includes a steerable propeller (azimuth thruster) with mechanical transmission of power to the propeller, the distinguishing mark **A-Thruster(M)** is added to the character of classification.

2.2.47 Distinguishing mark for ship's fitness for long-term operation without dry-docking.

UWILD (underwater inspection in lieu of dry-docking) — a distinguishing mark assigned to a berth-connected ship designed in such a way as to provide the possibility to replace surveys of the outside of the ship's bottom (bottom surveys) in dry dock with underwater inspection (in-water surveys using underwater television). For assignment of distinguishing mark **UWILD**, the requirements specified in Section 20 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", except for provisions of 20.3.1.3.6, shall be complied with.

Where, for a berth-connected ship with distinguishing mark **UWILD**, a possibility of performing any types of maintenance and surveys is provided without interrupting the ship's normal operation for the intended purpose, in the class notation an entry — **S** (the possibility provided by the design for the ship to remain in operation during the maintenance of bottom and side valves, and for systems and mechanisms using temporarily isolated bottom and side valves, to remain operational using the redundancy of isolated components of sea water systems) is added after the distinguishing mark **UWILD**. For the assignment of distinguishing mark **UWILD-S**, the requirements specified in Section 20 of Part XVII "Distinguishing Marks

and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", including 20.3.1.3.6, shall be complied with.

2.2.48 Distinguishing mark for Enhanced Survey Programme.

The distinguishing mark **(ESP)** means the necessity to survey certain ship types based on the Enhanced Survey Programme in accordance with the International Code on the Enhance Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers (if applicable) and Sections 1 — 6 of Part III "Additional Surveys of Ships Depending on Their Purpose and Hull Material" of the Rules for the Classification Surveys of Ships in Service. Such ships include bulk carriers, oil tankers, combination carriers, ore carriers, chemical tankers and self-unloading bulk carriers. To ensure a uniform and correct interpretation, the definitions of types of ships subject to Enhanced Survey Programme (ESP) are given in 2.2 of Part I "General Provisions" of the Rules for the Classification Surveys of Ships in Service.

2.2.49 Distinguishing mark specifying the necessity for monitoring of critical structural areas.

The distinguishing mark **CON-M** may be added in the class notation of a ship complying with the requirements of Section 22 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

2.3 DESCRIPTIVE NOTATIONS IN CLASS NOTATION OF A SHIP

Ships complying with a definite scope of requirements of the RS rules taking account of their structural particulars and service conditions are assigned the appropriate descriptive notation added to the character of classification of a ship.

The current RS rules cover certain requirements the fulfilment of which makes possible introducing of the descriptive notations specified in 2.5 in the class notation.

2.4 ADDITIONAL ENTRIES IN THE CLASSIFICATION CERTIFICATE

2.4.1 When complying with definite requirements of the RS rules stipulated by the structural features or operational characteristics of the ship the fulfilment of which is not reflected by distinguishing marks and descriptive notation in the class notation, the confirmation of compliance of the ship with such requirements is certified by the entry in Section "Other characteristics" of the Classification Certificate stating, for example, that the ship is equipped for occasional loading/unloading of cargoes in a horizontal direction — by a roll-on/roll-off; the ship is suitable for escort operations, towing and serving oil tankers and/or oil recovery ships; the ship may operate in oil harbour water areas; the ship may occasionally carry bulk cargoes; the ship may carry heavy bulk cargoes (with indication of bulk cargo density), and other entries stipulated by the RS rules (refer also to 2.2.5.4 of this Part, 1.1.4.8, 1.1.5.1, 1.1.5.2, 3.3.1.5, 3.10.4.1 and 3.12.1.4.3 of Part II "Hull", 1.1.1.2, 1.1.1.3, 1.1.1.6, 1.1.3.1, 2.4.3, 10.3.2.1 and 13.3.10.3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" of these Rules; 2.2.3.1, 3.2.4.1 and 4.2.3.2 of Part II "Life-Saving Appliances" of the Rules for the Equipment of Sea-Going Ships).

2.4.2 Section "Other characteristics" of the Classification Certificate for supply vessels (OS) and other ships serving offshore oil and gas fields (except for mobile offshore drilling units, floating cranes, pipe laying barges and floating hotels), which comply with the requirements of the Code for the Transport and Handling of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels (OSV Chemical Code), IMO resolution A.1122(30), shall have an entry reading as follows: "The ship is fit to carry hazardous and noxious liquid substances in bulk, as stated in the Certificate of Fitness".

2.4.3 In section "Permanent restrictions" of the Classification Certificate, if necessary, the following information is recorded:

instructions on strengthening for navigation in ice at a certain draught (record example: "For navigation in ice conditions, the ship's draught shall not exceed .... m");

instructions on restrictive properties of ships determined in accordance with the RS rules under which the ships were constructed, and in accordance with the project approved by the Register;

instructions on restricted speed ranges of the main machinery;

restrictions on the area of navigation with explanations to them in accordance with the RS rules (for example, in accordance with 2.2.5). For berth-connected ships, anchorage location coordinates and, if applicable, geographical service area according to Fig. 4.3.3.6 in Part IV "Stability" shall be indicated).

2.5 SUMMARY INFORMATION ON DISTINGUISHING MARKS AND DESCRIPTIVE NOTATIONS IN CLASS NOTATION OF A SHIP

Table 2.5 contains characters, symbols, distinguishing marks and descriptive notations divided into mandatory and optional ones, and references to requirements of the RS rules that are relevant to a specific distinguishing mark, descriptive notation. On the whole, the ships shall comply with the general provisions of applicable RS rules (including requirements for survey of ships during construction and in service) relating to cargo and passenger ships, self-propelled or non-self-propelled, structures of steel or other materials, as applicable. The general provisions of the RS rules, including requirements for survey during construction and in service are not separately given in the table.

If the relevant requirements of the RS rules for mandatory distinguishing marks are not met, the ship's class cannot be assigned, retained, confirmed or renewed.

If the relevant requirements of the RS rules for a specific optional distinguishing mark are not met, such an optional distinguishing mark cannot be assigned, retained, confirmed or renewed.

Table 2.5

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
1 Mandatory distinguishing marks and descriptive notations in class notation		
1.1 Characters of classification		
КМ	Refer to 2.2.1	Provisions of the RS rules applicable to self-propelled ships and offshore installations
КЕ	Refer to 2.2.1	Provisions of the RS rules applicable to specified non-self-propelled ships and offshore installations with total power output of prime movers 100 kW and upwards
К	Refer to 2.2.1	Provisions of the RS rules applicable to non-self-propelled ships and offshore installations
КМ ⊛ **КЕ ⊛** **К ⊛**	Refer to 2.2.2.1	Applicable provisions of the RS rules concerning classification and construction
КМ ★ **КЕ ★** **К ★**	Refer to 2.2.2.2	
(КМ) ★ **(КЕ) ★** **(К) ★**	Refer to 2.2.2.3	
КМ ⊛ **КЕ ⊛** **К ⊛**	Refer to 2.2.2.4	
Note. For inland navigation ships, the distinguishing mark **IN** is added after the character of classification — refer to 2.2.1 — 2.2.2 of Part I "Classification" of the Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways).		
1.2 Distinguishing mark for a nuclear ship and nuclear floating facility		
⊠	A nuclear ship/floating facility is fitted with a nuclear power unit as the main power plant intended to perform the main functions	**Rules for the Classification and Construction of Nuclear Ships and Floating Facilities**

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
1.3 Subdivision distinguishing marks		
1 2 3	Figures in squares mean the number of adjacent compartments in case of flooding of which a ship fully complies with the subdivision requirements. The distinguishing mark is mandatory for the following categories of ships: oil tankers over 150 m in length; fishing vessels of 100 m and above in length carrying more than 100 persons; chemical tankers type 1; chemical tankers type 2; chemical tankers type 3 over 125 m in length; gas carriers type 1G; gas carriers type 2G; gas carriers type 2PG; gas carriers 3G over 80 m in length; ships intended for the carriage of radioactive agents; icebreakers over 50 m in length; drilling ships; lightships; **Arc7** to **Arc9** ice class ships; **Arc5** and **Arc6** ice class ships, not less than 120 m in length. At the request of the Customer the drilling ship may be assigned one of the subdivision distinguishing marks added to the character of classification	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.4 Part III "Equipment, Arrangements and Outfit", 7.12.3.1, 7.12.7.1.1 Part V "Subdivision", 1.1.2, 1.5.2, 1.5.3, 3.3.6, 3.4.5.5, 3.4.6.1, 3.4.9.6, 3.4.9.7, 3.4.10.2, 3.4.10.7, 3.4.12.3 Part VIII "Systems and Piping", 5.1.3, 7.1.5, 7.4.3, 7.6.12, 7.12.4, 10.2.3 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.3.1 **Rules for the Classification, Construction and Equipment of FPU** Part I "Classification" **Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)** Part I "Classification", 2.2.4 **Rules for the Classification and Construction of High-Speed Craft** Part I "Classification", 2.3 **Rules for the Classification and Construction of Type A WIG Craft** Part I "Classification", 2.6 **Rules for the Classification and Construction of Nuclear Ships and Floating Facilities** Part II "Classification", Section 1 Part V "Subdivision" **Rules for the Classification and Construction of Nuclear Support Vessels** Part I "Classification", Section 2 Part III "Stability. Subdivision"
1.4 Distinguishing marks for restricted areas of navigation or navigation conditions (Distinguishing marks for restricted areas of navigation or navigation conditions are mandatory if a ship complies with the RS rules requirements applicable to a specific restriction)		
No special distinguishing mark	Unrestricted area of navigation is assigned to ships of unrestricted service which comply with the RS rules requirements for unrestricted area of navigation	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", applicable requirements without regard to provisions concerning ships of restricted service Part III "Equipment, Arrangements and Outfit", applicable requirements without regard to provisions concerning ships of restricted service Part XI "Electrical Equipment", applicable requirements without regard to provisions concerning ships of restricted service **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", applicable requirements without regard to provisions concerning ships of restricted service **Load Line Rules for Sea-Going Ships** Applicable requirements without regard to provisions concerning ships of restricted service

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
R1	Distinguishing mark for restricted area of navigation for sea-going ships: navigation in sea areas at seas with a wave height of 8,5 m with 3 per cent probability of exceeding level and the ships proceeding not more than 200 miles away from a place of refuge, with an allowable distance between places of refuge not more than 400 miles	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.5.1.1 Part II "Hull", 1.4.1, 1.4.4.3, 1.6.5.1, 1.6.5.2, 2.2.4.8, 2.4.4.4, 2.4.4.6, 2.12.4.1, 2.12.4.2, 3.1.3.6, 3.6.1.3 Part III "Equipment, Arrangements and Outfit", 3.1.3, 7.1.1, 9.2.4, 9.2.9 Part XI "Electrical Equipment", 4.3.3, 9.3.1, 19.1.2.1 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 2.5.1, 4.6.2.3 **Load Line Rules for Sea-Going Ships** 1.1.1.5, 1.1.1.6, 1.3.1.2, 1.1.1.11, 1.1.2.4, 6.1.1, 6.2.3.2, 6.3.2, 6.4.2, 6.5.2.1.2, 8.1.1 **Rules for the Classification, Construction and Equipment of FPU** Part III "Equipment, Arrangements and Outfit"
R2	Distinguishing mark for restricted area of navigation for sea-going ships: navigation in sea areas at seas with a wave height of 7,0 m with 3 per cent probability of exceeding level and with the ships proceeding not more than 100 miles away from a place of refuge, with an allowable distance between places of refuge not more than 200 miles	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.5.1.2 Part II "Hull", 1.1.3, 1.1.4.6, 1.4.4.3, 1.6.4.6, 1.6.5.1, 1.6.5.2, 2.4.4.6, 2.10.4.1, 2.10.4.2, 2.10.4.6, 3.1.3.6, 3.6.1.3 Part III "Equipment, Arrangements and Outfit", 2.10.1.2, 3.1.3, 3.3.4, 7.1.1, 7.2.1.2, 7.2.1.3, 7.2.1.4, 7.2.1.5, 7.5.2.2, 7.6.4, 7.7.1.2, 7.8.1, 7.10.2.1, 7.10.4, 9.2.4 Part VII "Machinery Installations", 5.1.2, 6.2.1 Part VIII "Systems and Piping", 7.1.1, 7.2.1, 7.2.2, 7.4.6, 10.1.4, 11.1.5, 13.1.1, 13.8.3.2, 14.1.3, 14.5.3, 15.1.1.5, 15.2.1, 16.1.2, 16.2.3 Part XI "Electrical Equipment", 3.3.1, 4.3.3, 9.3.1, 13.7.1.2, 13.7.3.2, 19.1.2.1 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 2.5.1 **Load Line Rules for Sea-Going Ships** 1.1.1.5, 1.1.1.6, 1.1.2.4, 6.1.1, 6.2.3.2, 6.3.1.1, 6.3.1.3, 6.3.1.4, 6.3.2, 6.4.2, 6.5.2.1.2, 8.1.1, 8.3.1.1.2, 8.3.1.2, 8.3.1.3 **Rules for the Classification, Construction and Equipment of FPU** Part III "Equipment, Arrangements and Outfit"
R3	Distinguishing mark for restricted area of navigation for sea-going ships: harbor, roadstead and coastal navigation within the limits prescribed by RS in each particular case	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.5.1.6 Part II "Hull", 1.1.3, 1.1.4.6, 1.4.1, 1.4.4.3, 1.4.5.3, 1.6.4.6, 1.6.5.1, 1.6.5.2, 2.4.4.6, 2.10.4.1, 2.10.4.2, 2.10.4.6, 3.1.3.6, 3.6.1.3 Part III "Equipment, Arrangements and Outfit", 2.10.1.2, 3.1.3, 3.3.1, 3.3.4, 3.4.1, 7.1.1, 7.2.1.2, 7.2.1.3, 7.2.1.4, 7.2.1.5, 7.5.2.2, 7.6.4, 7.7.1.2, 7.8.1, 7.10.2.1, 7.10.4, 9.2.4, 9.2.8 Part XI "Electrical Equipment", 2.1.3.2, 3.1.7, 3.3.1, 4.3.3, 9.3.1, 13.7.1.2, 13.7.3.2, 19.1.2.1 **Rules for the Classification, Construction and Equipment of FPU** Part III "Equipment, Arrangements and Outfit" Part VII "Machinery Installations", 5.1.2, 6.2.1, 8.1.3 Part VIII "Systems and Piping", 7.1.1, 7.2.1, 7.2.2, 7.4.6, 10.1.4, 11.1.5, 13.1.1, 13.8.3.2, 14.1.3, 14.5.3, 15.1.5, 15.2.1, 16.1.2, 16.2.2, 16.2.3 Part XI "Electrical Equipment", 2.1.3.2, 3.1.7, 3.3.1, 4.3.3, 9.3.1, 13.7.1.2, 13.7.3.2, 19.1.2.1 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 4.1.1.10, 4.1.3.2, 4.2.3.6 Part III "Signal Means", 2.5.1

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
		Load Line Rules for Sea-Going Ships 1.1.1.5, 1.1.1.6, 1.1.1.11, 1.1.2.4, 6.1.1, 6.2.3.2, 6.3.1.2, 6.3.1.3, 6.3.1.4, 6.4.3, 6.5.2.1.3, 8.1.1, 8.3.1.1.2, 8.3.1.3, 8.3.1.5
R2-RSN **R2-RSN(4,5)** **R3-RSN**	Distinguishing marks for restricted area of navigation for ships of river-sea navigation: **R2-RSN** — river-sea navigation at seas with a wave height of 6,0 m with 3 per cent probability of exceeding level and with the ships proceeding from the place of refuge: in open seas up to 50 mile, with an allowable distance between the places of refuge not more than 100 miles; in enclosed seas up to 100 miles and with an allowable distance between the places of refuge not more than 200 miles; **R2-RSN(4,5)** — river-sea navigation at seas with a wave height of 4,5 m with 3 per cent probability of exceeding level and with the ships proceeding from the place of refuge: in open seas up to 50 miles and with an allowable distance between the places of refuge not more than 100 miles; in enclosed seas up to 100 miles and with an allowable distance between the places of refuge not more than 200 miles; **R3-RSN** — river-sea navigation at seas with a wave height of 3,5 m with 3 per cent probability of exceeding level, with due regard to particular restrictions on the area and conditions of navigation resulting from the wind and wave conditions of the basins, with determination of a maximum allowable distance from the place of refuge, which in no case shall be more than 50 miles	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.5.1.3, 2.2.5.1.4, 2.2.5.1.5 Part II "Hull", 1.1.3, 1.1.4.6, 1.4.1, 1.4.4.3, 1.4.5.3, 1.6.4.6, 1.6.5.1, 1.6.5.2, 2.4.4.6, 3.1.3.6, 3.6.1.3 Part III "Equipment, Arrangements and Outfit", 2.10.1.2, 3.1.3, 3.3.1, 3.3.4, 3.5.1, 3.7.1, 6.1.3, 7.1.1, 7.2.1.2, 7.2.1.3, 7.2.1.4, 7.2.1.5, 7.4.2.3, 7.5.2.2, 7.6.4, 7.7.1.2, 7.8.1, 7.10.2.1, 7.10.4, 9.2.4 Part IV "Stability", 3.12 (for dry cargo ships of **R2-RSN** area of navigation) Part VII "Machinery Installations", 2.1.8, 3.1.11, 6.2.1 Part VIII "Systems and Piping", 7.1.1, 7.2.1, 7.2.2, 7.4.6, 10.1.4, 10.4.7, 11.1.5, 13.1.1, 13.8.3.2, 14.1.3, 14.5.3, 15.1.1.5, 15.2.1, 16.1.2, 16.2.2, 16.2.3 Part XI "Electrical Equipment", 3.3.1, 4.3.3, 9.3.1, 19.1.2.1 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 2.5.1, Section 5 Part IV "Radio Equipment", 2.2.3 Part V "Navigational Equipment", 2.2.1, 5.7.59 **Load Line Rules for Sea-Going Ships** 1.1.1.5, 1.1.1.11, 1.1.2.4, 1.3.1.4, 1.3.1.5, 1.3.1.6, 6.1.1, 6.2.3.2, 6.3.1.3, 6.3.1.4, 6.3.2, 6.4.2, 6.5.2.1.2
Zone 1 **Zone 2** **Zone 3** **Zone 4**	Distinguishing marks for restricted areas of navigation for inland navigation ships (for European inland waterways)	**Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)** Part I "Classification", 2.2.5 **Rules for the Classification and Construction of Pleasure Craft** General Regulations, Section 5

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
A **A1** **A2** **B** **C** **C1** **C2** **C3** **D**	Design categories for pleasure craft	**Rules for the Classification and Construction of Pleasure Craft** General Regulations, 4.2 Part I "Classification", 2.2.2 Part VII "Electrical Equipment", 1.1.5, 2.2.1, 2.6.1.1, 3.1.2, 3.1.3, 3.3.1 Part VIII "Radio and Navigational Equipment", 3.1
T0 **T1** **T2** **T3**	Distinguishing marks for seasonal navigation restriction for pleasure craft	**Rules for the Classification and Construction of Pleasure Craft** Part I "Classification", 2.2.5
O	Distinguishing mark for day time navigation restriction for pleasure craft	**Rules for the Classification and Construction of Pleasure Craft** Part I "Classification", 2.2.6
1.5 Distinguishing mark for a ship equipped to use gas as fuel		
GFS (Gas Fuelled Ship)	The mark is assigned if a ship is equipped for using gas as fuel, as well as to gas carriers carrying liquefied methane, using cargo as fuel and complying with the requirements of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) and the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.29 Part IX "Machinery", 8.10.2 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 9
1.6 Distinguishing mark for a gas carrier fitted with a regasification unit for carried cargo		
RGU (Regasification unit)	A gas carrier is fitted with a regasification unit for cargo export to shore	**Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** Part I "Classification", 2.2.9 Part V "Fire Protection", 2.4, 2.5, 3.3.1, 3.3.12 Part VI "Systems and Piping", 3.22, 8.3.4 Part VII "Electrical Equipment", 2.2.5.5 Part VIII "Instrumentation and Automation Systems", 6.15
1.7 Distinguishing mark for a gas carrier fitted with a reliquefaction unit for cargo vapours		
RLU (Reliquefaction unit)	A gas carrier is fitted with a reliquefaction unit for cargo vapours	**Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** Part I "Classification", 2.2.10, 4.4 Part IV "Cargo Containment", 10.2 Part V "Fire Protection", 3.3.1 Part VI "Systems and Piping", 3.21, 4.2 Part VII "Electrical Equipment", 1.1.2, 5.1, 8.2.3 Part X "Special Requirements", 5.3
1.8 Distinguishing mark for a gas carrier fitted with a gas combustion unit		
GCU (Gas combustion unit)	A gas carrier is fitted with a gas combustion unit	**Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** Part I "Classification", 2.2.11 Part VI "Systems and Piping", 3.21, 4.3
1.9 Distinguishing mark for ships fitted with the main electric propulsion plant		
EPP	A ship is fitted with the main electric propulsion plant	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.12

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
		Part VIII "Systems and Piping", 7.4.9 Part XI "Electrical Equipment", Section 17 Part XV "Automation", 2.4.1.11 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.5, 4.1.12 Part X "Electrical Equipment", Section 17
1.10 Distinguishing mark for ships fitted with steerable propellers (azimuth thrusters) being a part of the propulsion plant		
A-Thruster(E)	A ship is equipped with a propulsion plant that includes a steerable propeller (azimuth thruster) with a podded drive	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.46 Part VII "Machinery Installations", Section 7, 9.9 Part XI "Electrical Equipment", 17.3
A-Thruster(M)	A ship is fitted with a propulsion plant that includes a steerable propeller (azimuth thruster) with mechanical transmission of power to the propeller	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.46 Part VII "Machinery Installations", Section 7, 9.9
1.11 Distinguishing mark for ships fitted with composite (hybrid) propulsive systems		
CPS (Composite (hybrid) propulsion system)	Mandatory for ships fitted with composite (hybrid) propulsive system used in ship's main operation modes, such as running mode, manoeuvring mode	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.45 Part XI "Electrical Equipment", Section 24
1.12 Distinguishing mark for ships fitted with a loading instrument/ onboard software for stability calculations		
1.12.1 Distinguishing mark for ships fitted with a loading instrument		
LI	A ship is fitted with a loading instrument. The distinguishing mark is mandatory for the following categories of ships of 100 m and above in length: ships with large deck openings; ships for which uneven loading, i.e. uneven distribution of cargo and/or ballast, is possible; chemical tankers and gas carriers	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.15.1 Part II "Hull", 1.4.9.4 **Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships** Part II "Technical Documentation", 12.3
1.12.2 Distinguishing mark for ships fitted with onboard software for stability calculations		
SI	A ship is fitted with onboard software for stability calculations. The distinguishing mark is mandatory for oil tankers, chemical tankers, ships carrying liquefied gases in bulk and bulk carriers of less than 150 m in length	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.15.2 Part IV "Stability", 1.4.12 **Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships** Part II "Technical Documentation", 12.2

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
1.13 Distinguishing mark for ships fitted with a system of prompt access to computerized shore-based emergency response services (ERS) on damage stability and residual structural strength calculations		
ERS	Ship is fitted with a system of prompt access to computerized shore-based emergency response services (ERS) on damage stability and residual structural strength calculations. The distinguishing mark is mandatory for oil tankers of deadweight exceeding 5000 t and for passenger ships of 120 m and above in length or having three or more main vertical zones	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.43 Part V "Subdivision" 1.4.8, 2.7.5.2 **Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships** Part II "Technical Documentation", 12.2.4
1.14 Distinguishing mark for ships constructed in compliance with the IACS Common Structural Rules		
CSR	For oil tankers and bulk carriers fully complying with the requirements of the IACS Common Structural Rules. The distinguishing mark is added after descriptive notation	**IACS Common Structural Rules for Bulk Carriers and Oil Tankers**
1.15 Distinguishing mark for bulk carriers complying with the requirements specified in 3.3, Part II "Hull" of these Rules or requirements of the IACS Common Structural Rules (as applicable)		
BC-A **BC-B** **BC-C**	When adding the descriptive notation **Bulk carrier** to the character of classification, for bulk carries of 150 m in length and upwards provided the appropriate requirements of 3.3, Part II "Hull" of these Rules or requirements of the IACS Common Structural Rules (as applicable) are complied with, one of the following distinguishing marks shall be added after the descriptive notation: **BC-A** — for ships designed to carry the bulk cargoes having a density of 1,0 t/m^3 and above with specified holds empty at the maximum draught; **BC-B** — for ships designed to carry the bulk cargoes having a density of 1,0 t/m^3 and above with all holds loaded; **BC-C** — for ships designed to carry the bulk cargoes having a density less than 1,0 t/m^3. For distinguishing marks **BC-A** or **BC-B**, an entry **(maximum cargo density...t/m^3)** shall be made if the maximum cargo density is less than 3,0 t/m^3.	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 3.3 or **IACS Common Structural Rules for Bulk Carriers and Oil Tankers** (as applicable)

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
	For the distinguishing mark **BC-A**, the allowed combination of specified empty cargo holds shall be additionally entered, for example: **(cargo holds Nos. 2, 4, ... may be empty)**. For the distinguishing mark **BC-A**, if the ship is intended to operate in alternate block load condition, any two adjacent cargo holds shall be loaded with the next holds being empty, an entry **(block loading)** shall be made. When the bulk carrier has not been designed for loading and unloading in multiple ports, an entry **(no MP)** shall be added	
1.16 Distinguishing mark for ships with cargo holds designed for loading/unloading by grabs		
GRAB(X)	For bulk carriers having one of the distinguishing marks **BC-A** or **BC-B** in the class notation, and with cargo holds designed for loading/unloading by grabs in compliance with the requirements of Section 6, Chapter 1, Part 2 of the IACS Common Structural Rules, the distinguishing mark **GRAB(X)** shall be mandatory added after the above distinguishing marks, where instead of **X** an unladen grab weight shall be indicated, taken not less than: 35 t for ships with $L \geq 250$ m; 30 t for ships with 200 m $\leq L <$ 250 m; 20 t otherwise. For all other bulk carriers, the addition of the distinguishing mark **GRAB(X)** is voluntary	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 2.4.2.5, 2.4.4.3, 2.4.4.4 (if 3.3 is applicable) Part III "Equipment, Arrangements and Outfit", 7.13.20 **IACS Common Structural Rules for Bulk Carriers and Oil Tankers** (if applicable) Pt2, Ch1, Sec 6
1.17 Distinguishing mark for ships with membrane LNG cargo tanks designed to carry LNG at high pressure		
highPRESS (pressure)	If membrane LNG cargo tanks of LG carrier are capable to withstand vapour pressure exceeding 25 kPa but not more than 70 kPa, the distinguishing mark **highPRESS(pressure)** shall be added to the character of classification where a maximum allowable vapour pressure, in kPa, is indicated in brackets, for example, **highPRESS(50)**	**Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** Part I "Classification", 2.2.12 Part IV "Cargo Containment", 24.1.4 and 24.4 Part VI "Systems and Piping", 3.16.6 Part VIII "Instrumentation and Automation Systems", 4.1

Distinguishing mark or descriptive notation	References to RS requirements
1.18 Descriptive notations in accordance with the Rules for the Classification and Construction of Sea-Going Ships, Rules for the Equipment of Sea-Going Ships, Rules for the Cargo Handling Gear of Sea-Going Ships, Load Line Rules for Sea-Going Ships, Rules for the Classification and Construction of Chemical Tankers, Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk and Rules for the Classification and Construction of Nuclear Support Vessels (Descriptive notation in the class notation is written in English. At the discretion of the shipowner for ships not engaged in international voyages it may be written in two languages, English and Russian, for example: **Oil tanker (нефтеналивное) (ESP)**. Where required, two or more descriptive notations may be stated in the class notation of a ship, for example: **Cable laying vessel Special purpose ship**)	
Anchor handling vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Section 3 — 5 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 13.3
Berth-connected ship (‹operation condition›) Operation conditions (aground **(G, ground)** or moored at quay **(S, shore)**, or when at a water area distanced from the shore **(W, waters)**) are indicated in brackets. The descriptive notation **Berth-connected ship** is followed by the statement of ship or offshore installation purpose from those listed in the definition of the berth-connected ship, or otherwise: **floating dock** **floating facility/passenger floating facility (hotel/hostel/workshop/restaurant** etc.**)** **floating power plant** **floating warehouses** **floating oil storage** or otherwise.	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part III "Equipment, Arrangements and Outfit", 3.1.4, 7.1.14 Part IV "Stability", 4.4 Part V "Subdivision", 1.1.1.17, 3.4.12 Part VI "Fire Protection", Section 1, 2.1, Sections 3 — 5, 6.5 Part VII "Machinery Installations", 1.1.1, 4.5.10 — 4.5.13 Part VIII "Systems and Piping", 7.1.9, 12.2, 13.8.1 Part XI "Electrical Equipment", 19.9 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 5.3 Part III "Signal Means", 2.6 Part IV "Radio Equipment", 2.2.4 **Load Line Rules for Sea-Going Ships** 4.1.4
Berth-connected floating museum (‹operation condition›) Floating museums are assigned descriptive notation **Berth-connected floating museum (‹operation condition›)**, and additionally, operation conditions: moored at quay **(S)** — shore, is indicated in brackets	**Refer to above**
Bilge water removing ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, Sections 3 — 5, 6.4, 8.13 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 9.1.2
Bulk carrier	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.3 (if applicable) Part III "Equipment, Arrangements and Outfit", 7.13, 7.14, 8.4.4 Part IV "Stability", 3.2 Part V "Subdivision", 1.1.1.10, 1.1.1.11, 1.1.1.18, 1.4.9, 3.4.11, 5.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 and 7 (specific requirements to ship type in item 15.4 of Table 5.1.2, 7.2.8); Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.6.11, 7.6.15, 7.9, 8.6, 12.7.1, 12.7.3, 12.7.7, 12.7.10, 12.7.11 Part XI "Electrical Equipment", 7.10, 19.11

Distinguishing mark or descriptive notation	References to RS requirements
	Rules for the Equipment of Sea-Going Ships Part II "Life-Saving Appliances", 4.1.1.8 **IACS Common Structural Rules for Bulk Carriers and Oil Tankers** (if applicable, in which case refer also to the distinguishing mark **CSR**)
Cable laying barge	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Section 3 — 5, 6.2.1 Part VII "Machinery Installations", 4.5.10 — 4.5.13
Cable laying vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 6.2.1 Part VII "Machinery Installations", 4.5.10 — 4.5.13
Catamaran	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part VI "Fire Protection", Sections 1 — 5 and 8 (specific requirements to ship type in 3.2.1.6, 3.2.2.2, 3.2.5.5) Part VII "Machinery Installations", 2.1.10, 3.3.5, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 5.7.1, 7.1.8, 7.2.2, 8.1.1, 13.6.1 Part XI "Electrical Equipment", 19.6
Chemical tanker type 1 **Chemical tanker type 2** **Chemical tanker type 3**	**Rules for the Classification and Construction of Chemical Tankers** (entire document) **Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 2.9.4, 4.2.1, 4.3.2, 5.7, 7.11 Part IV "Stability", 3.4 Part V "Subdivision", 1.1.1.5, 3.4.5.4.2, 3.4.5 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5 (specific requirements to ship type in 1.4.3, 2.1.1.7, 5.1.3) Part VII "Machinery Installations", 2.3.1, 3.2.10, 3.2.11, 3.2.13, 4.2.5, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 8.7.4, 11.1.3, 12.2, 13.7.8 Part IX "Machinery", 6.2.1.2, 6.2.1.8, 6.2.1.11 Part XI "Electrical Equipment", 2.1.2.1, 7.11, 19.11 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.6, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6
Container ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.1.2.1, 3.1.3.5, 3.1.3.8, 3.1.4.6 Part III "Equipment, Arrangements and Outfit", 7.10.6.11, 7.10.6.12, 8.4.8 Part IV "Stability", 3.10 Part V "Subdivision", 1.1.1.10, 1.1.1.11, 1.4.9.2, 2.6.2 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 6.7 (specific requirements to ship type in footnote 9 in Table 3.1.2.1, 3.1.2.13, 3.2.6.2, 3.8.1.5, 4.2.1.7, 4.3.1, 5.1.2, item 3.5 of Table 5.1.2) Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.6.14, 7.14.1, 12.7.9 Part XI "Electrical Equipment", 19.5

Distinguishing mark or descriptive notation	References to RS requirements
	Part XVIII "Additional Requirements for Structures of Container Ships and Ships, Dedicated Primarily to Carry Their Load in Containers"
Crane vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part IV "Stability", 4.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 (specific requirements to ship type in 3.2.1.1, 3.2.5.1, 3.2.5.6, item 13 of Table 5.1.2) Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 19.7 **Rules for the Cargo Handling Gear of Sea-Going Ships** Section 6
Docklift ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.12 (as applicable) Part III "Equipment, Arrangements and Outfit", 7.2.1.7, 7.2.1.8 Part IV "Stability", 3.2, 4.3 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 19.8
Dredger	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part IV "Stability", 3.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, Section 8 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2
Escort tug	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.9 Part III "Equipment, Arrangements and Outfit", 5.3, 5.4, 5.5, 5.6 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part V "Subdivision", 2.1.1 (for ships of 80 m and above) Part VII "Machinery Installations", 8.2.1, 4.5.10 — 4.5.13 Part VIII "Systems and Piping", 11.1.3 Part IX "Machinery", 6.5, 6.6 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 2 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 2.4, 4.4.1 Part V "Navigational Equipment", 3.2.10.2
Fishing vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.7 Part III "Equipment, Arrangements and Outfit", 3.3.3, 3.4.11, 7.2.1.1, 7.10.2.1 Part IV "Stability", 3.5 Part V "Subdivision", 1.1.1.3, 1.6.1.1, 3.4.2 Part VI "Fire Protection", Section 1, 2.5, 2.6, Sections 3 — 5 (specific requirements in 2.1.1.8.2, 2.1.5.1.1, footnotes 13 and 15 in Table 3.1.2.1, 4.2.1.2.9, item 10 of Table 5.1.2) Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2, 8.2.1 Part VIII "Systems and Piping", 13.8.1 Part XI "Electrical Equipment", 19.10

Distinguishing mark or descriptive notation	References to RS requirements
	Rules for the Equipment of Sea-Going Ships Part II "Life-Saving Appliances", 2.3.7, 5.1 Part III "Signal Means", 2.4, 4.4.1, 4.4.2, 4.4.3 Part IV "Radio Equipment", 2.2.4 Part V "Navigational Equipment", 1.1.1 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.3.6 **Load Line Rules for Sea-Going Ships** Section 6
Floating crane	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part III "Equipment, Arrangements and Outfit", 3.2.4 Part IV "Stability", 4.1 Part VI "Fire Protection", 3.2.1.1 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 19.7 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 4.1.6 Part V "Navigational Equipment", 3.2.10.2 **Rules for the Cargo Handling Gear of Sea-Going Ships** Section 6
Floating dock	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.12 Part III "Equipment, Arrangements and Outfit", 7.2.1.7, 7.2.1.8, 7.2.1.9, 7.6.7, 7.8.5, 9.2.10 Part IV "Stability", 4.3 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 (specific requirements in 3.2.1.8, 6.5.2) Part VII "Machinery Installations", 3.2.9, 3.3.4, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 4.3.2.5, 4.3.2.6, 7.13, 8.4, 10.1.17, 10.4.10 Part XI "Electrical Equipment", 19.8 **Rules for the Cargo Handling Gear of Sea-Going Ships** Section 6
Gas carrier type 1G **Gas carrier type 2G** **Gas carrier type 2PG** **Gas carrier type 3G** If LG carrier is intended for the carriage of one specific cargo only, the name of cargo, its design temperature, in °C, and design density, in kg/m^3, may be additionally indicated in brackets after the descriptive notation **Gas carrier**, for example, **Gas carrier type 2G (ethylene, –104 °C, 560 kg/m^3)**	**Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** (entire document) **Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 2.9.4, 5.7, 7.11 Part IV "Stability", 3.4 Part V "Subdivision", 1.1.1.6, 3.4.6 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5 (specific requirement to ship type in 1.4.3, 2.4, item 17 of Table 3.1.2.1, 3.10.2.4, 3.10.3.2, 5.1.3) Part VII "Machinery Installations", 1.1.2, 2.3.1, 3.2.10, 3.2.12, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 8.7.4, 11.1.3, 12.2, 13.7.8, 13.12 Part IX "Machinery", 6.2.1.2, 6.2.1.8, 6.2.1.11 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.6, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6

Distinguishing mark or descriptive notation	References to RS requirements
General dry cargo ship Ships intended for the carriage of dry general cargoes, that may periodically carry bulk cargoes as well as rolling cargoes in specially adapted spaces. In case the bulk cargoes are carried periodically, the ships the keels of which are laid or which are at a similar stage of construction on 1 June 2010 shall comply with the provisions 1.6 and/or 1.7 of IMO resolution MSC.277(85), as amended, if applicable. If these ships carry rolling cargoes in which the cargo loading operations are performed preferably in a horizontal direction, the requirements applied for a roll-on/roll-off ship (ro-ro ship) shall be met. An entry **ro-ro ship** is added to the class notation of these ships. For ships adopted for rolling-on devices in which the cargo loading operations are performed preferably in a vertical or combined direction (lo-lo, lo-ro ships), the distinguishing mark **Multipurpose (Multipurpose dry cargo ship)** shall be added to the class notation. The requirements of the RS rules, IACS and IMO normative documents related to bow, side, stern doors, ramps and inner doors and relevant requirements for ro-ro ships (as applicable) shall be applied	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 1.1.5.2, 1.2.5.1, 1.3.4.2, 1.4.3, 1.7.3.3, 2.3.2.5, 2.3.3.1, 2.3.4.1, 2.3.5, 2.5.4, 2.5.4.5, 2.5.4.7, 2.6.4.6, 3.3 (as applicable: refer to XII/6.2, 6.3, 6.4, XII/10, XII/11 of SOLAS 74, as amended) Part III "Equipment, Arrangements and Outfit", 7.1.13, 7.10, 8.4 Part IV "Stability", 1.4.11.3, 1.4.11.4, 3.2, 3.12 (if applicable) Part V "Subdivision", 1.1.1.10, 1.1.1.11, 1.4.9, 2, 3.4.11 Part VIII "Systems and Piping", 5.3.3, 7.6.11, 7.6.15, 7.9 Part XI "Electrical Equipment", 7.3, 5.12, 7.10, 16.8.4.5, 19.5
Hopper barge	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part IV "Stability", 3.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2
Hopper dredger	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part IV "Stability", 3.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2
LNG bunkering ship For gas carriers engaged in transportation of liquefied natural gas (LNG) and intended to ensure the transfer of LNG on board the ships using LNG as a fuel (hereinafter referred to as "the LNG bunkering ships") in compliance with the requirements of Section 11, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the descriptive notation **LNG bunkering ship** shall be added in the class notation after the descriptive notation **Gas carrier**	**Rules for the Classification and Construction of Sea-Going Ships** Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5 (specific requirements to ship type in 1.4.3, 2.4, item 17 of Table 3.1.2.1, 3.10.2.4, 3.10.3.2, 5.1.3) Part VII "Machinery Installations", 4.5.10 — 4.5.13 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 11 **Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk** (entire document)

Distinguishing mark or descriptive notation	References to RS requirements
Nuclear support vessel Operational capabilities of the nuclear support vessel according to its purpose are shown, where necessary, as additional characteristics in Section "Other Characteristics" of the Classification Certificate (e.g., "treatment of liquid radioactive waste")	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part V "Subdivision", 2.1.1 **Rules for the Classification and Construction of Nuclear Support Vessels** (entire document) **Rules for the Classification and Construction of Nuclear Ships and Floating Facilities** (entire document)
Oil recovery ship If an oil recovery ship complies with the requirements for the ships, which recover from the sea surface and carry petroleum products having flash point above 60 °C, this temperature shall be indicated in the descriptive notation. For example: **Oil recovery ship (> 60 °C)**	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 4.2.1, 4.3.2, 7.11 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5, 6.4, 8.13 (specific requirements to ship type in 2.1.1.7, 5.1.2, 5.1.3, 6.6.7.1) Part VII "Machinery Installations", 4.2.5, 4.2.9, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, Section 9, 10.1.19, 10.4.7, 11.1.3, 11.1.9, 12.2, 12.4, 12.12 Part XI "Electrical Equipment", 19.2 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.7, 5.3.3, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6
Oil recovery ship (> 60 °C)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 7.11 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 6.3, 6.4, 8.13 (specific requirements to ship type in 2.1.1.7, 5.1.2, 5.1.3, 6.6.7.1) Part VII "Machinery Installations", 4.2.5, 4.2.9, 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 8.7.4, Section 9, 11.1.3, 11.1.9, 12.2, 12.4, 12.12 Part XI "Electrical Equipment", 19.2.1 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 5.3.3, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6
Oil tanker If an oil tanker complies with the requirements for the ships, which carry petroleum products having flash point above 60 °C, this temperature shall be indicated in the descriptive notation. For example: **Oil tanker (> 60 °C)**, **Oil/ore carrier (> 60 °C)**. If an oil tanker carries asphalt solutions only, information on specific cargo may be added to the descriptive notation in the class notation. A ship intended for bunkering (i.e. being a "bunkering ship" according to its purpose) is also qualified as an oil tanker	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 (if applicable) Part III "Equipment, Arrangements and Outfit", 2.9.4, 4.2.1, 4.3.2, 5.7, 7.11, 7.14 Part IV "Stability", 3.4 Part V "Subdivision", 1.1.1.2, 3.4.5 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5, 6.3, 8.10 (specific requirements to ship type in 1.4.3, 2.1.1.7, 2.1.5.4, items 20 and 21 of Table 3.1.2.1, 3.1.2.8, 3.2.5.4, 3.7.2.8, 4.3.5, 5.1.3, items 8.1, 10.2, 15.2 — 15.3 of Table 5.1.2, 5.1.6.1, 5.1.15.1.4, 5.1.22) Part VII "Machinery Installations", 1.1.2, 4.2.5, 4.3.4, 4.5.10 — 4.5.13, 4.5.15, 4.5.16, 7.4.7.2, 7.4.8.2

Distinguishing mark or descriptive notation	References to RS requirements
	Part VIII "Systems and Piping", 7.2.5, 7.7, 8.1.6, Section 9, 11.1.3, 12.2, 12.4, 12.13, 13.7.8, 13.11 Part IX "Machinery", 5.2.6, 5.3.3, 6.2.1.2, 6.2.1.8, 6.2.1.11 Part XI "Electrical Equipment", 7.19, 19.2 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 Part V "Navigational Equipment", 3.6.2 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6 **IACS Common Structural Rules for Bulk Carriers and Oil Tankers** (if applicable, in which case refer also to the distinguishing mark **CSR**)
Oil/bulk carrier If an oil tanker complies with the requirements for the ships, which carry petroleum products having flash point above 60 °C, this temperature shall be indicated in the descriptive notation. For example: **Oil tanker (> 60 °C)**, **Oil/ore carrier (> 60 °C)**, etc.	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.3 Part III "Equipment, Arrangements and Outfit", 2.9.4, 4.2.1, 4.3.2, 5.7, 7.13, 7.14, 8.4.4 Part IV "Stability", 3.2, 3.4 Part V "Subdivision", 1.1.1.2, 1.1.1.18, 3.4.5, 3.4.11 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5, 6.3, 8.10 (specific requirements to ship type in 1.4.3, 2.1.1.7, 2.1.5.4, items 20 and 21 of Table 3.1.2.1, 3.1.2.8, 3.2.5.4, 3.7.2.8, 4.3.5, 5.1.3, items 8.1, 10.2, 15.2 — 15.3 of Table 5.1.2, 5.1.6.1, 5.1.15.1.4, 5.1.22) Part VII "Machinery Installations", 1.1.2, 4.2.5, 4.3.4, 4.5.10 — 4.5.13, 4.5.15, 4.5.16, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 7.6.11, 7.7, 7.9, 8.1.6, 8.6, Section 9, 11.1.3, 12.2, 12.4, 12.13, 13.7.8, 13.11 Part IX "Machinery", 5.2.6, 5.3.3, 6.2.1.2, 6.2.1.8, 6.2.1.11 Part XI "Electrical Equipment", 7.10, 19.2 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 Part V "Navigational Equipment", 3.6.2 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6
Oil/bulk/ore carrier If an oil tanker complies with the requirements for the ships, which carry petroleum products having flash point above 60 °C, this temperature shall be indicated in the descriptive notation. For example: **Oil tanker (> 60 °C)**, **Oil/ore carrier (> 60 °C)** etc.	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.3 Part III "Equipment, Arrangements and Outfit", 2.9.4, 4.2.1, 4.3.2, 5.7, 7.13, 7.14, 8.4.4 Part IV "Stability", 3.2, 3.4 Part V "Subdivision", 1.1.1.2, 1.1.1.18, 3.4.5, 3.4.11 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5, 6.3, 8.10 (specific requirements to ship type in 1.4.3, 2.1.1.7, 2.1.5.4, items 20 and 21 of Table 3.1.2.1, 3.1.2.8, 3.2.5.4, 3.7.2.8, 4.3.5, 5.1.3, items 8.1, 10.2, 15.2 — 15.3 of Table 5.1.2, 5.1.6.1, 5.1.15.1.4, 5.1.22) Part VII "Machinery Installations", 1.1.2, 4.2.5, 4.3.4, 4.5.10 — 4.5.13, 4.5.15, 4.5.16, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 7.6.11, 7.7, 7.9, 8.1.6, 8.6, Section 9, 11.1.3, 12.2, 12.4, 12.13, 13.7.8, 13.11 Part IX "Machinery", 5.2.6, 5.3.3, 6.2.1.2, 6.2.1.8, 6.2.1.11 Part XI "Electrical Equipment", 7.10, 19.2 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 Part V "Navigational Equipment", 3.6.2 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6

Distinguishing mark or descriptive notation	References to RS requirements
Ore carrier	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.4 Part III "Equipment, Arrangements and Outfit", 7.13, 7.14 Part IV "Stability", 3.2 Part V "Subdivision", 1.1.1.10, 1.1.1.11, 1.1.1.18, 1.4.9, 3.4.11, 5.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 7.10, 19.11
Oil/ore carrier If an oil tanker complies with the requirements for the ships, which carry petroleum products having flash point above 60 °C, this temperature shall be indicated in the descriptive notation. For example: **Oil/ore carrier (> 60 °C)**	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.4 Part III "Equipment, Arrangements and Outfit", 2.9.4, 4.2.1, 4.3.2, 5.7, 7.13, 7.14 Part IV "Stability", 3.2, 3.4 Part V "Subdivision", 1.1.1.2, 1.1.1.18, 3.4.5, 3.4.11 Part VI "Fire Protection", Section 1, 2.1, 2.4, Sections 3 — 5, 6.3, 8.10 (specific requirements to ship type in 1.4.3, 2.1.1.7, 2.1.5.4, items 20 and 21 of Table 3.1.2.1, 3.1.2.8, 3.2.5.4, 3.7.2.8, 4.3.5, 5.1.3, items 8.1, 10.2, 15.2 — 15.3 of Table 5.1.2, 5.1.6.1, 5.1.15.1.4, 5.1.22) Part VII "Machinery Installations", 1.1.2, 4.2.5, 4.3.4, 4.5.10 — 4.5.13, 4.5.15, 4.5.16, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 7.2.5, 7.6.11, 7.7, 8.1.6, Section 9, 11.1.3, 12.2, 12.4, 12.13, 13.7.8, 13.11 Part IX "Machinery", 5.2.6, 5.3.3, 6.2.1.2, 6.2.1.8, 6.2.1.11 Part XI "Electrical Equipment", 7.10, 19.2, 19.11 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.4.1, 4.1.1.7, 6.16.4, 6.20.1.2 Part IV "Radio Equipment", 2.2.6, 4.1.19 Part V "Navigational Equipment", 3.6.2 **Rules for the Cargo Handling Gear of Sea-Going Ships** 1.6
Passenger ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part III "Equipment, Arrangements and Outfit", 2.9.5, 7.12.5, 8.5.2.1, 8.5.2.2, 8.5.3.1, 8.5.3.5, 8.5.3.7, 8.5.4.2, 8.5.5, 9.2.2, Appendix Part IV "Stability", 3.1 Part V "Subdivision", 1.1.1.1, 2.1.1, 2.2.1, 2.2, 2.5.2, 2.5.4, 2.7, 2.9.1, 2.9.2, 2.9.4 Part VI "Fire Protection", Section 1, 2.1, 2.2, Sections 3 — 5 (specific requirements to ship type in 1.4.7, 2.1.1.4, 2.1.1.6, 2.1.1.7, 2.1.1.8, 2.1.1.9, 2.1.1.10, 2.1.2.3, 2.1.3.2, 2.1.3.6, 2.1.4.2.5, 2.1.4.3.3, footnotes 1, 10, 17 and 21 in Table 3.1.2.1, 3.1.3.4, 3.2.1.2, 3.2.1.4, 3.2.1.5, 3.2.2.1, 3.2.3.1, 3.2.3.8, 3.2.6.2, 3.2.6.9, 3.4.9, 3.12.1, 4.1.2, 4.2.1.1.3, 4.2.1.1.5, 4.2.1.2.2, 4.2.1.2.3, 5.1.1, 5.1.4.4, items 4.1.4, 8.1, 10.1, 16.1, 16.2, 18.1.2 and 18.3 of Table 5.1.2, 5.1.15.2, 5.1.15.3, 5.1.23, 7.2.2, 7.2.3.1) Part VII "Machinery Installations", 2.1.12, 4.3.2, 4.5.5 — 4.5.9, 7.4.7.1, 7.4.8.1, Section 11 Part VIII "Systems and Piping", 5.1.2, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, 7.3.6, 7.4.3, 7.6.12, 8.1.5, 8.1.7, 10.1.18, 10.4.2, 10.4.4, 12.2, 12.3, 13.6.2 Part IX "Machinery", 6.2.1.13, 7.1.1, 7.1.5 Part XI "Electrical Equipment", 7.10, 16.8.1.8, 19.3.3, 7.4.2, 7.3.1.7, 19.1

Distinguishing mark or descriptive notation	References to RS requirements
	Rules for the Equipment of Sea-Going Ships Part II "Life-Saving Appliances", 2.1.1.1, 2.1.1.2, 2.1.3.3, 2.1.4, 2.2.2.1, 2.3.7, 2.4.2, 2.6.1, 3.1, 3.2, 3.3, 6.8.5.3, 6.13.3.1 Part IV "Radio Equipment", 2.2.1, 2.2.3, 3.1.1.6, 3.4.14 — 3.4.17, 3.8.4 Part V "Navigational Equipment", 1.1.4, 1.1.5, 1.1.6, 1.1.7, 1.1.8, 2.2.1, 2.5, 3.1.4 **Load Line Rules for Sea-Going Ships** 2.2.6
Passenger yacht The descriptive notation is assigned to yachts intended for commercial and non-commercial use, carrying from 13 to 36 passengers and not carrying cargoes	**Rules for the Classification and Construction of Sea-Going Ships** Part XX "Additional Requirements for Yachts"
Pipe laying barge	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 6.2.1 Part VII "Machinery Installations", 4.5.10 — 4.5.13
Pipe laying vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.6 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 6.2.1 Part VII "Machinery Installations", 4.5.10 — 4.5.13
Pontoon **Pontoon for technological services** **Pontoon for transportation services**	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part IV "Stability", 4.2 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 8.11 Part VII "Machinery Installations", 4.5.10 — 4.5.13 **Load Line Rules for Sea-Going Ships** 4.1.4
Replica Replica of a historical ship (traditional craft)	Special technical requirements developed by the designer and approved by the Register for further design and construction of a ship
Ro-ro passenger ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.2 Part III "Equipment, Arrangements and Outfit", 2.9.5, 7.4.2, 7.4.3, 7.12.5, 7.12.6, 7.15, 8.4.9, 8.5.2.1, 8.5.2.2, 8.5.2.3, 8.5.3.1, 8.5.3.5, 8.5.3.7, 8.5.4.2, 8.5.5, 8.5.6, 9.2.2, Appendix Part IV "Stability", 3.1, 3.2 Part V "Subdivision", 1.4.6.2.3, 3.3.4.5, 2.1.1, 2.2, 2.2.1, 2.3.1.3, 2.5.2, 2.5.4, 2.7, 2.9.1, 2.9.2, 2.9.4, 3.4.1 Part VI "Fire Protection", Section 1, 2.1, 2.2, Sections 3 — 5 and 7 (specific requirements to ship type in 1.4.7, 2.1.1.4, 2.1.1.6, 2.1.1.7, 2.1.1.8, 2.1.1.9, 2.1.1.10, 2.1.2.3, 2.1.3.2, 2.1.3.6, 2.1.4.2.5, 2.1.4.3.3, footnotes 1, 10, 17 and 21 in Table 3.1.2.1, 3.1.3.4, 3.2.1.2, 3.2.1.4, 3.2.1.5, 3.2.2.1, 3.2.3.1, 3.2.3.8, 3.2.6.2, 3.2.6.9, 3.4.1, 3.4.9, 3.12.1, 4.1.2, 4.2.1.1.3, 4.2.1.1.4, 4.2.1.1.5, 4.2.1.2.2, 4.2.1.2.3, 5.1.1, 5.1.4.4, items 3.4, 4.1.4, 4.14, 8.1, 10.1, 15.1, 16.1 — 16.3, 18.1.2 and 18.3 of Table 5.1.2, 5.1.14.3, 5.1.15.2, 5.1.15.3, 5.1.23, 7.2.2, 7.2.3.1, 7.2.18) Part VII "Machinery Installations", 2.1.12, 4.3.2, 4.5.5 — 4.5.9, 7.4.7.1, 7.4.8.1, Section 11 Part VIII "Systems and Piping", 5.1.2, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.1.6, 7.3.6, 7.4.3, 7.6.12, 8.1.5, 10.1.18, 10.4.2, 10.4.4, 12.1.9, 12.2, 12.3, 12.6, 13.6.2

Distinguishing mark or descriptive notation	References to RS requirements
	Part IX "Machinery", 5.3.3, 6.2.1.13, 7.1.1, 7.1.5 Part XI "Electrical Equipment", 7.10, 7.12, 19.1, 19.3 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 2.1.1.1, 2.1.1.2, 2.1.3.3, 2.1.4, 2.2.2.1, 2.3.7, 2.4.2, 2.6.1, 3.1, 3.2, 3.3, 3.4, 6.8.5.3, 6.13.3.1, 6.11.7, 6.12.5.1 Part IV "Radio Equipment", 2.2.1, 2.2.3, 3.1.1.6, 3.4.14 — 3.4.17, 3.8.4 Part V "Navigational Equipment", 1.1.4, 1.1.5, 1.1.6, 1.1.7, 1.1.8, 2.2.1, 2.5, 3.1.4 **Load Line Rules for Sea-Going Ships** 2.2.6
Ro-ro ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.2 Part III "Equipment, Arrangements and Outfit", 7.4.2, 7.4.3, 7.12.6, 7.15, 8.4.9, 8.5.2.3 Part IV "Stability", 3.2 Part V "Subdivision", 1.1.1.10, 1.4.6.2.3, Section 2, 2.3.1.3, 3.3.4.5 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 7 and 8 (specific requirements to ship type in 2.1.4.7, 2.1.5.5, 3.4.1, 3.7.3.1.12, 3.7.3.3, 3.8.1.1, 4.2.1.1.4, 4.2.1.3, items 3.4, 4.14, 15.1 and 16.3 of Table 5.1.2, 5.1.14.3, 7.2.13, 7.2.18) Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 12.1.9, 12.1.14, 12.2.2, 12.6 Part IX "Machinery", 5.3.3 Part XI "Electrical Equipment", 7.12, 19.3
Salvage ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part V "Subdivision", 1.1.1.13 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 13.2.3 (except for 13.2.3.1 — 13.2.3.3, 13.2.3.12), 13.2.4, 13.2.5, 13.2.10
Self-unloading bulk carrier	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.3.1.6.3 Part IV "Stability", 3.2 Part V "Subdivision", 1.1.1.10, 1.1.1.11, 1.1.1.18, 1.4.9, 3.4.11, 5.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 and 7 (specific requirements to ship type in item 15.4 of Table 5.1.2, 7.2.8) Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 7.10
Shipborne barge	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part III "Equipment, Arrangements and Outfit", 3.1.4 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5, 8.11 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 **Load Line Rules for Sea-Going Ships** 4.1.4

Distinguishing mark or descriptive notation	References to RS requirements
Special purpose ship For ships which carry on board special personnel. The following ship types are included: research, expedition, hydrographic, drill ships, whale factory vessels, fishing vessel base-ships and other ships used for processing of marine life resources and not engaged in their fishing, salvage ships, cable laying vessels, seismic research vessels, diving ships, pipe laying vessels, floating cranes and crane ships	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.7 (only ships intended for processing, storage and/or transportation of catch) Part III "Equipment, Arrangements and Outfit", 2.9.5, 7.12.5, 8.5.2.1, 8.5.2.2, 8.5.3.1, 8.5.3.7, 8.5.4.2, 8.5.5, 9.2.2, Appendix Part IV "Stability", 3.6 Part V "Subdivision", 1.1.1.7, 3.4.3 Part VI "Fire Protection", Section 1, 2.1, 2.2 or 2.3, Sections 3 — 5, 6.2, 8.14 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part VIII "Systems and Piping", 5.1.2, 7.1.2, 7.1.3, 7.1.4, 7.1.5, 7.3.6, 12.2, 12.3 Part VII "Machinery Installations", 4.3.2 Part IX "Machinery", 7.1.1, 7.1.5 Part XI "Electrical Equipment", 7.3.1.11, 19.4 **Rules for the Equipment of Sea-Going Ships** Part II "Life-Saving Appliances", 5.2
Supply vessel **Supply vessel (OS)**	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.8 Part III "Equipment, Arrangements and Outfit", 3.4.2, 7.1.6, 7.6.6, 7.8.4 Part IV "Stability", 3.11 Part V "Subdivision", 1.1.1.8, 3.4.9 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13 Part VIII "Systems and Piping", 9.1.3, 11.1.3 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 13.1
Standby vessel	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 13.2
Tanker The descriptive notation shall be accompanied by a cargo carried specification in brackets such as **Tanker (water)**, **Tanker (wine)**, etc.	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 7.11 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, Sections 3 — 5, 6.3, 8.10 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 7.19
Tanker (water)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 7.11 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 7.19

Distinguishing mark or descriptive notation	References to RS requirements
Tanker (wine)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.5 Part III "Equipment, Arrangements and Outfit", 7.11 Part IV "Stability", 3.4 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 Part XI "Electrical Equipment", 7.19
Timber carrier	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part IV "Stability", 3.3 Part V "Subdivision", 2.8 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2 **Load Line Rules for Sea-Going Ships** Section 5
Tug	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 1.1.1 Part II "Hull", 3.9 Part III "Equipment, Arrangements and Outfit", 5.4, 5.5, 5.6 Part IV "Stability", 3.7 Part V "Subdivision", 2.1.1 Part VI "Fire Protection", Section 1, 2.1, 2.3, Sections 3 — 5 Part VII "Machinery Installations", 4.5.10 — 4.5.13, 7.4.7.2, 7.4.8.2, 8.2.1 Part VIII "Systems and Piping", 11.1.3, 14.1.3 Part IX "Machinery", 6.5, 6.6 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 2.4, 4.4.1 Part V "Navigational Equipment", 3.2.10.2
Yacht for commercial service The descriptive notation is assigned to yachts of 24 m in length and above, intended for commercial use, not carrying cargoes and more than 12 passengers	**Rules for the Classification and Construction of Sea-Going Ships** Part XX "Additional Requirements for Yachts"
1.19 Descriptive notations according to the RS rules not listed under 1.18	
MODU self-elevating **MODU semi-submersible** **MODU tension leg** **Drilling barge** **Drilling ship** **FOP gravity** **FOP pile** **FOP mast** **Ice-resistant**	**Rules for the Classification, Construction and Equipment of MODU/FOP** **Load Line Rules for Sea-Going Ships** Section 7
FPSO **FPO** **FSO** **FSPM** **SSPM** **gas carrier** FPU intended for periodical operation at fixed location in regasification and gas offloading mode or gas intake, processing, liquefaction and storage mode	**Rules for the Classification, Construction and Equipment of FPU** (entire document) Part I "Classification", 2.2.3 (if a ship is intended for periodical operation at fixed location in regasification and gas offloading mode or gas intake, processing, liquefaction and storage mode, when one descriptive notation from those specified in 2.2.2 is assigned, the descriptive notation **gas carrier** shall be also added to the character of classification). If the descriptive notation **gas carrier** is added to the class notation of FPU, the latter shall meet the requirements of the Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk (to the extent that is practicable and reasonable)

Distinguishing mark or descriptive notation	References to RS requirements
Bulk carrier **Cargo push-ship** **Day-trip passenger ship** **Floating crane** **Floating establishment** **Flush-deck ship** **Lighter** **Oil/bulk carrier** **Oil recovery ship** **Oil tanker** **Passenger sailing ship** **Passenger ship** **Pushed barge** **Pusher** **Push-tug** **Replica** Replica of a historical ship (traditional craft) **Shipborne barge** **Towed barge** **Tug**	**Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)**
HSC (high-speed craft)	**Rules for the Classification and Construction of High-Speed Craft** Part I "Classification", Section 2 Part XVIII "Navigational Equipment", 1.2 (for **Passenger-A** in case of craft not engaged in the international voyages) Part XXI "Craft for Personnel Transportation"
Designation of HSC type in class notation:	
ACV (air-cushion vehicle) **SES** (surface-effect ship) **Hydrofoil craft** **SWATH** (small waterplane area twin hull craft) **MHC** (multy-hull craft)	
Descriptive notation:	
Crew boat **Light ship** A high-speed craft not covered by the International Code of Safety for High-Speed Craft **Passenger-A** **Passenger-B**	
Pleasure craft Mandatory for all pleasure craft **Pleasure yacht** Mandatory for all pleasure yachts	**Rules for the Classification and Construction of Pleasure Craft** Part I "Classification", Section 2
Additional notation according to propulsion type:	
(Sailing) **(Sailing-motor)** **(Motor-sailing)** **(Tow)** **(Berth-connected)**	
Additional notation according to structural particulars:	
(Catamaran) or **(Trimaran)** or **(Proa)** **(Hydroplane)**	
Additional notation according to ship purpose:	
(Touristy) **(Water-bower)** **(Water-house)**	
WIG craft	**Rules for the Classification and Construction of Type A WIG Craft** Part I "Classification", Section 2

Distinguishing mark or descriptive notation		References to RS requirements
MS self-sustained **MS tethered** **MS suspended** **MS towed** **MS passenger**		**Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems**
Gas carrier CNG ships intended for the carriage of compressed natural gas		**Rules for the Classification and Construction of Ships Carrying Compressed Natural Gas** (entire document)
SFV (small fishing vessel) For 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		**Rules for the Classification and Construction of Small Sea Fishing Vessels** (entire document)
Distinguishing mark or descriptive notation	Brief description	References to RS requirements
1.20 Distinguishing marks related to survey arrangement		
(ESP)	Mandatorily added to the character of classification of self-propelled ships with descriptive notations **Chemical tanker**, **Oil tanker**, **Bulk carrier**, **Self-unloading bulk carrier**, **Ore carrier** or the word combinations (**Oil/bulk carrier**, **Oil/ore carrier**, etc.) after descriptive notation. Also applied when adding descriptive notations **FSO** or **FPSO** to the character of classification (added after the descriptive notation for self-propelled ships). This means the necessity to survey these ships based on the Enhanced Survey Programme (not applied in case of **FPSO** and **FSO** for gas)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.48 **Rules for the Classification, Construction and Equipment of FPU** Part I "Classification", 2.2.3
2 Optional distinguishing marks in class notation (Distinguishing marks listed below are mandatory if the ship meets the relevant requirements of the RS rules)		
2.1 Ice class notations		
Ice1 **Ice2** **Ice3** **Arc4** **Arc5** **Arc6** **Arc7** **Arc8** **Arc9**	Sea-going ships complying with the Register ice class requirements	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.3 Part II "Hull", 1.2.3.3, 3.7.1.6.2, 3.7.2.6, 3.7.3.4, 3.10, 3.11 Part III "Equipment, Arrangements and Outfit", 2.1.5, 2.1.8, 2.2.2.2, 2.2.2.3, 2.2.3.1, 9.2.5, 9.2.9 Part V "Subdivision", 1.1.1, 3.4.10 Part VII "Machinery Installations", 1.3.2.3, 2.1.1, 2.1.2, 2.4.3, 5.1.3, 5.2.5, 5.4.3, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.3.4, 6.5.2, 7.2.4, 8.2.1, 8.3.1, 8.4.2, 8.8.2, 8.8.5 Part VIII "Systems and Piping", 4.3.1, 4.3.2.3, 8.3.2, 12.1.7, 15.6.1 Part IX "Machinery", 4.2.3.2, 8.1.8 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 3.1.3.3 Part V "Navigational Equipment", footnote 10 in Table 2.2.1 (for **Arc4** — **Arc9** ice class ships), 3.7.3.5, 3.7.4.12

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
Icebreaker6 **Icebreaker7** **Icebreaker8** **Icebreaker9**	Ice classes for icebreakers	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.3 Part II "Hull", 3.10 Part III "Equipment, Arrangements and Outfit", 2.1.4, 2.2.2.2 Part V "Subdivision", 1.1.1.12, 3.4.2 Part VII "Machinery Installations", 1.3.2.3, 2.1.1.1, 2.1.2, 2.4.3, 5.1.3, 5.2.5, 5.4.3, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.3.4, 6.5.2, 7.2.4, 8.2.1, 8.3.1, 8.4.2, 8.8.2, 8.8.5 Part VIII "Systems and Piping", 4.3.1, 4.3.2.3, 8.3.2, 12.1.7, 15.6.1 Part IX "Machinery", 4.2.3.2, 8.1.8 **Rules for the Equipment of Sea-Going Ships** Part III "Signal Means", 3.1.3.3 Part V "Navigational Equipment", footnote 10 in Table 2.2.1, 2.2.3, 3.2.14, 3.7.3.5, 3.7.4.12
PC1 **PC2** **PC3** **PC4** **PC5** **PC6** **PC7**	IACS polar class ships	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.3.1 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 1 **Rules for the Equipment of Sea-Going Ships** Part V "Navigational Equipment", 2.2.3, 3.2.14
IA Super **IA** **IB** **IC** **II** **III**	Baltic ice classes	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.3.1 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 10
Ice	Ice strengthening of inland navigation ships for navigation in broken ice	**Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)** Part I "Classification", 2.2.3.1 Part II "Hull", 3.6
Ice(5) **Ice(10)**	Ice strengthening of small pleasure craft (the thickness of ice cake, in cm, to be stated in parentheses)	**Rules for the Classification and Construction of Pleasure Craft** Part I "Classification", 2.2.3
Ice1	Ice class of small sea fishing vessels	**Rules for the Classification and Construction of Small Sea Fishing Vessels** Part I "Classification", 2.2.1 Part II "Hull", 4.4
2.2 Distinguishing mark for ship complying with the requirements to ice-strengthened hull design of ship intended to operate stern first		
DAS (‹ice class mark›)	Ice navigation ship fitted with active means of the ship's steering (refer to 1.2 Part VII "Machinery Installations") and designed for both bow-first operation and stern-first ice operation. If double acting ships comply at least with the requirements of Section 19, Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", the distinguishing	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.3.3.5 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 19

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
	mark **DAS (‹ice class mark›)** may be added to the character of classification, where the RS ice class is indicated in brackets according to 2.2.3.3.1 or 2.2.3.3.4 in case of stern-first operation. When the RS ice class in case of stern-first operation differs from that in case of bow-first operation, the appropriate limitation is introduced to the RS ice class assigned according to 2.2.3.3.1 or 2.2.3.3.4, for example: **Arc4 (hull at d ≤11 m; ahead) DAS (Arc6 hull at d ≤11 m) Arc6 (machinery)**	
2.3 Distinguishing automation marks		
AUT1	The automation extent is sufficient for the machinery installation operation with unattended machinery spaces and the main machinery control room	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Section 4 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.1, 4.1.10 Part XIV "Automation", Section 6 **Rules for the Classification, Construction and Equipment of FPU** Part XV "Automation", Section 6
AUT2	The automation extent is sufficient for the machinery installation operation by one operator at the main machinery control room with unattended machinery spaces	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Section 5 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.1, 4.1.10 Part XIV "Automation", Section 6 **Rules for the Classification, Construction and Equipment of FPU** Part XV "Automation", Section 6
AUT3	The automation extent is sufficient for the machinery installation operation of a ship with the main machinery power output not more than 2250 kW with unattended machinery spaces and the main machinery control room	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Section 6 **Rules for the Classification and Construction of Small Sea Fishing Vessels** Part I "Classification", 2.2.2 Part XV "Automation"
AUT1-C **AUT1-ICS**	The same as **AUT1**, but the automation is based on computers or programmable logic controllers (**AUT1-C**) or on a computerized integrated monitoring and control system (**AUT1-ICS**)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Sections 4 and 7 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.1, 4.1.10

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
		Part XIV "Automation", Section 6 **Rules for the Classification, Construction and Equipment of FPU** Part XV "Automation", Section 6
AUT2-C **AUT2-ICS**	The same as **AUT2**, but the automation is based on computers or programmable logic controllers (**AUT2-C**) or on a computerized integrated monitoring and control system (**AUT2-ICS**)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Sections 5 and 7 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.1, 4.1.10 Part XIV "Automation", Section 6 **Rules for the Classification, Construction and Equipment of FPU** Part XV "Automation", Section 6
AUT3-C **AUT3-ICS**	The same as **AUT3**, but the automation is based on computers or programmable logic controllers (**AUT3-C**) or on a computerized integrated monitoring and control system (**AUT3-ICS**)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.6 Part XV "Automation", Sections 6 and 7
AUT	Distinguishing automation mark for inland navigation ships (for European inland waterways)	**Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)** Part I "Classification", 2.2.6 Part X "Automation"
AUT	Distinguishing automation mark for pleasure craft	**Rules for the Classification and Construction of Pleasure Craft** Part I "Classification", 2.2.7 Part X "Automation"
2.4 Distinguishing mark of one man bridge operated ship		
OMBO	The navigational equipment of a self-propelled ship complies with the requirements for self-propelled one man bridge operated ships	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.7 **Rules for the Equipment of Sea-Going Ships** Part V "Navigational Equipment", 1.1.10, 1.3.7, 2.2.1, 2.3.9, 3.2.22, 3.2.23
2.5 Distinguishing marks for ships carrying equipment for fire fighting aboard other ships		
FF1 **FF2**	A ship carries supplementary systems, equipment and outfit for fire fighting aboard other ships, offshore drilling units, offshore installations and shore facilities	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.8 Part III "Equipment, Arrangements and Outfit", 7.2.1.10, 9.2.12 Part IV "Stability", 3.13 Part VI "Fire Protection", 6.6, 5.1.2 Part VIII "Systems and Piping", 7.1.10, 13.7.7
FF1WS **FF2WS** **FF3WS**		**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.8 Part III "Equipment, Arrangements and Outfit", 9.2.12 Part IV "Stability", 3.13 Part VI "Fire Protection", 6.6, 5.1.2 Part VIII "Systems and Piping", 7.1.10, 13.7.7
2.6 Distinguishing marks for ships fitted with a dynamic positioning system		
DYNPOS-1 **DYNPOS-2** **DYNPOS-3**	A ship or offshore installation is fitted with a dynamic positioning system with relevant redundancy	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.9, 3.2.8, 3.2.9.1.13, 3.3.8, 3.4.8, 3.5.3 Part VII "Machinery Installations", 7.1.7 Part XV "Automation", Section 8

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
		Rules for the Classification, Construction and Equipment of MODU/FOP Part I "Classification", 2.4.2, 4.1.10 Part XIV "Automation", Section 7 **Rules for the Classification, Construction and Equipment of FPU** Part XV "Automation", Section 7
2.7 Distinguishing marks of availability of position-keeping/position mooring systems		
POSIMOOR-FIX **POSIMOOR** **POSIMOOR-TA**	A ship or offshore installation is equipped with a position-keeping system/automated control system for power equipment of position mooring or thruster assisted position mooring systems	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.10 Part XV "Automation", Sections 8, 9 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 21 **Rules for the Classification, Construction and Equipment of MODU/FOP** Part I "Classification", 2.4.3, 2.4.4, 4.1.10, 4.1.12 Part III "Equipment, Arrangements and Outfit of MODU/FOP", Section 4 Part XIV "Automation", Sections 7, 8 **Rules for the Classification, Construction and Equipment of FPU** (Classification and Construction of Floating Offshore Oil-and-Gas Production Units (FPU)) Part III "Equipment, Arrangements and Outfit", Section 4 Part XV "Automation", Sections 8, 9
2.8 Distinguishing marks related to carriage of cargo		
2.8.1 Distinguishing marks for ships intended for carriage of refrigerated cargo		
REF **(REF)**	A ship is fitted with a classed **(REF)** or unclassed (**(REF)**) refrigerating plant for storage of perishables or catch	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.11, Section 4 Part VIII "Systems and Piping", 7.8 Part XI "Electrical Equipment", 7.3.1.11, 16.8.4.15, 16.8.4.16, Section 20 Part XII "Refrigerating Plants" Part XV "Automation", 4.8 **Rules for the Classification and Construction of Inland Navigation Ships (for European Inland Waterways)** Part I "Classification", 2.2.7
2.8.2 Distinguishing marks for ships intended for carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF cargo)		
INF-1 **INF-2** **INF-3**	A ship is intended for carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes (INF cargo)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.14 Part V "Subdivision", 3.4.8 Part VI "Fire Protection", 7.3, 8.12.2
2.8.3 Distinguishing marks for ships capable of carrying international standard containers		
CONT (deck) **CONT (cargo hold(s) No.)**	A ship is adopted for carriage of cargo in international standard containers on deck and/or in appropriate holds	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.32 Part IV "Stability", 3.10 (for ships with the distinguishing mark **CONT (deck)**) Part XI "Electrical Equipment", 19.5
2.8.4 Distinguishing marks for ships fit for carriage of dangerous goods		
DG (bulk) **DG (pack)**	A ship is recognized fit for carriage of dangerous goods in bulk or pack	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.33 Part VI "Fire Protection", 7.2

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
		Part XI "Electrical Equipment", 19.11 **Rules for the Classification Surveys of Ships in Service** Part III "Additional Surveys of Ships Depending on Their Purpose and Hull Material", Sections 11, 12
2.9 Distinguishing mark for ships fitted with equipment for icing protection		
ANTI-ICE	A ship is fitted with equipment providing effective icing protection	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.13 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 4
2.10 Distinguishing mark for ships fitted with a cargo vapour discharge system		
VCS	A ship is fitted with a cargo vapour discharge system	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.16 Part VIII "Systems and Piping", 9.9
2.11 Distinguishing marks for ships fitted with an inert gas system		
IGS-IG **IGS-NG** **IGS-Pad**	A ship is fitted with an inert gas system	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.17 Part VIII "Systems and Piping", 9.16, 12.13
2.12 Distinguishing mark for ships fitted with a crude oil washing system		
COW	A ship is fitted with a crude oil washing system	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.18 Part VIII "Systems and Piping", 9.12
2.13 Distinguishing mark for ships fitted with a centralized cargo control system		
CCO	A ship is fitted with a cargo control room	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.19 Part VII "Machinery Installations", 3.2.11
2.14 Distinguishing marks for ships of high ecological safety		
ECO **ECO-S**	A ship complies with the high ecological safety requirements	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.20 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 3
2.15 Distinguishing marks for ships complying with ballast water management requirements		
BWM (E-S) **BWM (E-F)** **BWM (E-D)** **BWM (E-SF)** **BWM (E-SD)** **BWM (E-FD)** **BWM (E-SFD)**	A ship performs ballast water management through ballast water exchange at sea and carries Ballast Water Management Plan approved by RS (letters in brackets indicate the ballast water management method)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.21 Part IV "Stability", 1.4.13
2.16 Distinguishing mark for ships fitted with a ballast water management system		
BWM (T)	A ship performs ballast water management through the ballast water management system at sea and carries an operations and technical manual, approved by the Register, for the BWMS specific to the ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.22 Part VIII "Systems and Piping", 8.7 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 3.5.3.4.4

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
2.17 Distinguishing marks for ships fitted with a diving system permanently installed on the ship		
SDS < 12 **SDS < 60** **SDS ≥ 60**	A ship is fitted with a diving system permanently installed on the ship complying with the RS requirements (the number after < or ≥ indicates the permissible depth for divers' operations)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.23 **Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems** Applicable requirements
2.18 Distinguishing mark for ships fitted with a manned submersible		
MS	A ship is fitted with a manned submersible complying with the RS requirements	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.24 **Rules for the Classification and Construction of Manned Submersibles and Ship's Diving Systems** Applicable requirements
2.19 Distinguishing marks for ships to carry out cargo operations at offshore terminals		
BLS-SPM **BLS** **SPM**	An oil tanker is fitted to carry out cargo operations at offshore terminals	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.25 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 5
2.20 Distinguishing marks for ships fitted with helicopter facilities		
HELIDECK **HELIDECK-F** **HELIDECK-H**	A ship is fitted with helicopter facilities	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.26 Part II "Hull", 2.12.5.8 Part VI "Fire Protection", 6.1, 5.1.2 Part VIII "Systems and Piping", 12.11, 13.13 Part XI "Electrical Equipment", 4.3.1.22, 6.9, 9.3.1.1 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 6 **Rules for the Equipment of Sea-Going Ships** Part V "Navigational Equipment", 2.2.2, 5.24.1.8
2.21 Distinguishing mark for a ship equipped to ensure long-term operation at low temperatures		
WINTERIZATION (DAT)	Design ambient temperature is indicated in brackets	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.27 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 7
2.22 Automatic stabilization distinguishing mark		
AUTstab	Automatic stabilization distinguishing mark for a high-speed craft or a WIG craft	**Rules for the Classification and Construction of High-Speed Craft** Part I "Classification", 2.5, 2.6
Ac	Automatic stabilization distinguishing mark for a Type A WIG craft	**Rules for the Classification and Construction of Type A WIG Craft** Part I "Classification", 2.4
2.23 Distinguishing marks for propulsion plant redundancy		
RP-1 **RP-1A** **RP-1AS** **RP-2** **RP-2S**	Provision is made on board the ship for redundancy of propulsion plant components	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.28 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 8

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
2.24 Distinguishing marks related to survey arrangement		
2.24.1 Distinguishing mark for ships fitted with a machinery technical condition monitoring system		
PMS (Planned Maintenance Scheme for Machinery)	A ship is fitted with a machinery technical condition monitoring system, where the Planned Maintenance Scheme for Machinery is applied	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.30 **Rules for the Classification Surveys of Ships in Service** Part II "Survey Schedule and Scope", 2.7
2.24.2 Distinguishing marks for condition monitoring system and condition based maintenance system applied on board the ship		
CM (Condition Monitoring)	If a ship is fitted with an approved condition monitoring system (CM system) complying with the requirements of the Rules	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.31 Part VII "Machinery Installations", Section 10 **Rules for the Classification Surveys of Ships in Service** Part II "Survey Schedule and Scope", 2.8.1.2, 2.8.2
CBM (Condition Based Maintenance)	If a ship is fitted with an approved condition based maintenance system (CBM system) complying with the requirements of the Rules for the Classification Surveys of Ships in Service	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.31
2.24.3 Distinguishing mark for implementation of modified survey of the shafting		
TMS (Tailshaft Modified Survey)	A modified survey of a propeller shaft is implemented onboard the ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.34 **Rules for the Classification Surveys of Ships in Service** Part II "Survey Schedule and Scope", 2.11.2.7
2.24.4 Distinguishing mark for a ship ready for in-water survey of the ship's bottom		
IWS	A ship is ready for in-water survey of the ship's bottom	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.35 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 12
2.24.5 Distinguishing mark for ship's fitness for long-term operation without dry-docking		
UWILD	A berth-connected ship designed in such a way as to provide the possibility to replace surveys of the outside of the ship's bottom (bottom surveys) in dry dock with underwater inspection (in-water surveys using underwater television). For assignment of distinguishing mark **UWILD**, the requirements specified in Section 20 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", except for provisions of 20.3.1.3.6, shall be complied with	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.47 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 20 (except for 20.3.1.3.6)

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
UWILD-S	Where, for a berth-connected ship with distinguishing mark **UWILD**, a possibility of performing any types of maintenance and surveys is provided without interrupting the ship's normal operation for the intended purpose (the possibility provided by the design for the ship to remain in operation during the maintenance of bottom and side valves, and for systems and mechanisms using temporarily isolated bottom and side valves, to remain operational using the redundancy of isolated components of sea water systems)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.47 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 20
2.24.6 Distinguishing mark for ships fitted with boiler plant monitoring system		
BMS (Boiler Monitoring System)	Ship is fitted with a boiler plant monitoring system that allows to carry out internal survey of steam boilers without participation of the RS surveyor	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.40 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 16 **Rules for the Classification Surveys of Ships in Service** Part II "Survey Schedule and Scope", 2.10
2.24.7 Distinguishing mark for ships equipped with hull strength and stability monitoring system		
HMS(STR) **HMS(STAB)** **HMS(STR-STAB)**	For ships equipped with a monitoring system complying with the RS requirements, the distinguishing mark shall be added to the class notation specifying the system completeness: **HMS(STR)** — system is intended for monitoring of strength parameters; **HMS(STAB)** — system is intended for monitoring of stability parameters; **HMS(STR-STAB)** — system is intended for monitoring of strength and stability parameters. Where the monitoring system is fitted with additional functions, the distinguishing mark shall be specified as **HMS(…)+…**, and the following additional function symbols shall be added after brackets: **BS** — availability of connection to the ballast, heel and trim systems of the ship;	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.41 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 17

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
	C — availability of connection to the onboard computer software for calculation of ship's strength and stability; **DD** — availability of directional data link ensuring monitoring data transfer to the shore; **DM** — availability of mutual data link ensuring monitoring data transfer to the shore and control of monitoring system from the shore; **N** — availability of connection to GPS/GLONASS receivers, log, echo sounder and indication of received data on the monitoring system display; **RPM** — availability of connection to the ship system for propeller shaft(s) speed measurement and recording; **SI** — availability of connection to the ship radar ice display with transfer of current ice condition data, their recording in the database and indication on the monitoring system display; **SW** — availability of connection to the ship weather station with transfer of current sea state parameters, their recording in the database and indication on the monitoring system display; **TS** — availability of connection to the ship system for the propeller shaft(s) torque measurement and recording; **ThS** — availability of connection to the ship system for measurement and recording of thrust along the propeller shaft(s) fore-aft axis; **TVS** — availability of connection to the ship system for measurement and recording of radial and longitudinal vibration displacements of the propeller shaft(s); **W** — availability of connection to the ship weather station with transfer of current apparent and true wind speed and direction, and sea state parameters including data indication on the monitoring system display	

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
2.24.8 Distinguishing mark specifying the necessity for monitoring of critical structural areas		
CON-M	A ship constructed in compliance with the IACS Common Structural Rules (CSR ship) and having the approved critical structural areas monitoring plan (hereinafter referred to as Construction Monitoring Plan). This distinguishing mark may be assigned to a ship or an offshore installation in service (including non-CSR ship) at the shipowner's discretion provided such information is available in the class notation of ACS, and/or upon agreement with RHO	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.49 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 22
2.25 Distinguishing mark for ships applying an alternative method for reducing SO_x emissions		
SO_x Cleaning	As an alternative method for reducing SO_x emissions, the exhaust gas cleaning system from the fuel oil combustion unit approved by RS is fitted onboard the ship	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.36 **IMO resolution MEPC.259(68)**, as amended
2.26 Distinguishing mark for a marine diesel engine complying with Tier lll Limit according to Regulation 13, Appendix VI to MARPOL		
DE-Tier III	NO_x emission level from ship engines complies with Tier III Limit according to Regulation 13, Appendix VI to MARPOL	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.37 **MARPOL 73/78, Annex VI**
2.27 Distinguishing mark for ship prepared for conversion for the use of gas fuel		
GRS (Gas Ready Ship)	Ship is prepared for conversion for the use of gas fuel. Depending on the ship's readiness for conversion to use gas fuel, the distinguishing mark **GRS** or one of the following distinguishing marks or their combination shall be added to the character of classification: **GRS-D**, **GRS-H**, **GRS-T**, **GRS-P**, **GRS-E**	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.38 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 14
2.28 Distinguishing marks of additional functions of LNG bunkering ship related to servicing of ships using LNG as a fuel (added after descriptive notation **LNG bunkering ship**)		
RE	Where the LNG bunkering ship is designed to receive LNG from a gas fuelled ship for which the LNG fuel tanks shall be emptied	**Rules for the Classification and Construction of Sea-Going Ships** Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 11.1.2, 11.13

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
IG-Supply	Where the LNG bunkering ship is designed to supply inert gas and dry air to ensure gas-freeing and aeration in compliance with 6.10.4 of the International Code of Safety for Ships Using Gases or Other Low Flashpoint Fuels (IGF Code)	**Rules for the Classification and Construction of Sea-Going Ships** Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 11.1.2, 11.13
BOG	Where system for management of boil-off gas generated during the bunkering operation is provided on board the LNG bunkering ship	**Rules for the Classification and Construction of Sea-Going Ships** Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 11.1.2, 11.13
2.29 Distinguishing marks for ship not always afloat but safely aground (NAABSA ship)		
NAABSA1 NAABSA2 NAABSA3	Ship, which may lie aground in safety with partial or full hull baring in places fit for grounding the ships	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.39 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", Section 15
2.30 Distinguishing mark for ship complying with indoor hygiene and sanitary conditions		
COMF(C)	Ship complies with indoor climate requirements	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.42.1 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 18.1
COMF(N – 1 or **2**, or **3)**	Ship complies with the requirements for noise level in ship's spaces. Grades **1**, **2**, **3** indicate the noise comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.42.2 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 18.2
COMF(V – 1 or **2**, or **3)**	Ship complies with the requirements for sanitary vibration level in ship's spaces. Grades **1**, **2**, **3** indicate permissible sanitary vibration comfort level in ship's spaces (with grade **1** corresponding to the most comfortable level)	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.42.3 Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships", 18.3
2.31 Distinguishing mark confirming fatigue life of a ship		
FTL (years) FTL (years) Spectral North Atlantic	Design remaining life of a ship (fatigue life) exceeds 25 years. Design remaining life of a ship within the range of 25 — 40 years (at 5-year intervals) is indicated in brackets.	**Rules for the Classification and Construction of Sea-Going Ships** Part I "Classification", 2.2.44

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
	When performing verification by direct calculation with application of spectral method, the distinguishing mark **Spectral North Atlantic** is added after the distinguishing mark **FTL (years)**	
2.32 Distinguishing marks confirming application of protective coatings or utilization of alternative means of corrosion protection in ship's spaces		
COAT	Added in the class notation of ships covered by the provisions of regulation II-2/3-2 of SOLAS 74 as amended by IMO resolution MSC.47(66), and on board which the protective coating is applied in accordance with IMO resolution A.798(19)	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 1.2.5.1
COAT(PSPC)	Added in the class notation of ships covered by the provisions of regulation II-2/3-2 of SOLAS 74 as amended by IMO resolution MSC.216(82), and on board which the protective coating is applied in accordance with IMO resolution MSC.215(82)	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 1.2.5.1
COAT(PSPC-COT)	Added in the class notation of crude oil tankers with 5000 t deadweight and over covered by the provisions of regulation II-1/3-11 of SOLAS 74 as amended by IMO resolution MSC.291(87), and on board which the protective coating is applied in accordance with IMO resolution MSC.288(87)	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 1.2.5.3
CORRES	Added in the class notation of crude oil tankers with 5000 t deadweight and over covered by the provisions of regulation II-1/3-11 of SOLAS 74 as amended by IMO resolution MSC.291(87), and on board which the alternative means of corrosion protection or corrosion resistant materials are utilized to maintain the required structural integrity for 25 years in accordance with IMO resolution MSC.289(87)	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 1.2.5.3

Distinguishing mark or descriptive notation	Brief description	References to RS requirements
2.33 Distinguishing mark confirming application of ice-resistant coating for protection of shell plating of the ship's hull		
ICE-COAT	Mandatorily added in the class notation of icebreakers and ice class ships when protection of shell plating with ice-resistant coating is provided in case of reduction of average annual diminution of shell plating as a result of corrosion wear and abrasion (25 % or 50 %). In other cases (when protection of shell plating with ice-resistant coating is provided without reduction of average annual diminution of shell plating as a result of corrosion wear and abrasion), may be added at the shipowner's discretion	**Rules for the Classification and Construction of Sea-Going Ships** Part II "Hull", 3.10.4 Part XIII "Materials", 6.5.3 **Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships** Part III "Technical Supervision during Manufacture of Materials", 3.5.1

2.6 ALTERATION OF MARKS IN CLASS NOTATION

2.6.1 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 GENERAL

3.1.1 General provisions pertinent to the review and approval (agreement) of technical documentation on ships, materials and products are given in Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

3.1.2 Prior to the commencement of a ship construction, technical documentation proving that all requirements of the Register applicable to the ship concerned are complied with shall be submitted to the Register for review. The documentation for review shall be submitted to the Register in electronic form in PDF format, providing its autonomous timeless storage and stamping with the results of documentation review.

Basically two practical alternatives of documentation submission and approval are allowed:

.1 submission of plan approval documentation in a scope specified in 3.2, taking into account the peculiarities and type of a ship without further approval of detailed design documentation;

.2 submission of technical design documentation in a scope specified in 3.3, taking into account the peculiarities and type of a ship with further approval of detailed design documentation.

In such case, the technical design documentation approved by the Register does not constitute grounds for assignment of class to the ship. This documentation is considered by the Register exclusively as the basis for further design.

3.1.3 Documentation, containing the results of calculations, performed using software, shall contain the reference on the name and version of such software.

3.1.4 When the earlier approved documentation is used for construction of a similar ship according to a new contract for construction, the scope of documentation to be submitted may be reduced based on the RS analysis of compliance with the requirements of the RS normative documents that came into force on or after the date of signing of the previous contract for construction for which the documentation was approved.

3.1.5 In the lists specified in 3.2 — 3.4, 4.3 documentation marked with (*) is the documentation, which review results are documented by stamping in accordance with Figs. 8.2-1, 8.2-5 or 8.2-7 (in case of dual classification) of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

Documentation marked with (**) is the documentation, which review results are documented by stamping in accordance with Figs. 8.2-3 or 8.2-9 (in case of dual classification), Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

3.1.6 Requirements for the scope of technical documentation of a ship under conversion, repair or renovation, transfer of class, as well as during the initial survey of ship not built under the technical supervision of the Register or another classification society, are given in Part I "General Provisions" of the Rules for the Classification Surveys of Ships in Service.

At the same time, technical documentation for conversion of single-hull tankers to double-hull tankers or bulk carriers shall meet the relevant requirements of these Rules taking in to account IACS UI SC226 (Rev.1 Dec 2012) set out in the Supplement to rules of Russian Maritime Register of Shipping "IACS Procedural Requirements, Unified Interpretations and Recommendations" (published in electronic form as a separate edition).

3.1.7 Requirements for the scope of technical documentation of materials and products for ships are given in the relevant parts of these Rules.

3.1.8 When alternative design and arrangements being applied on board, deviate from the classification requirements of the RS rules, an engineering analysis shall be submitted for approval by the Register with technical justification demonstrating that the alternative design and arrangements provide an equivalent level of safety to that stipulated by the RS requirements.

During the review of alternative design and arrangements under SOLAS Convention (IMO resolution MSC.216(82)), one should be guided by the provisions of regulations II-1/55, II-2/17 and III/38 of SOLAS 74 with regard to IMO circulars MSC.1/Circ.1002 and MSC.1/Circ.1212.

3.2 PLAN APPROVAL DOCUMENTATION

3.2.1 General:

.1 ship specification (to be submitted for information);

.2 general arrangement plan (to be submitted for information);

.3 plan showing the location of the IMO ship identification number (IMO number) marking in compliance with the requirements of regulation XI-1/3 of SOLAS-74 as amended (ships not covered by this regulation shall comply with the provisions of IMO resolution A.1117(30) as amended) (*);

.4 list of deviations from the RS rules with references to the relevant RS letters of their approval (refer to 1.3.4 of the General Regulations for the Classification and Other Activity), if any (**);

.5 an engineering analysis of the alternative design and arrangements — if any (**);

.6 engineering analysis of the capability of a ship to return to port in case of an accident in accordance with 2.2.6 and 2.2.7 of Part VI "Fire Protection", considering interpretations of IMO circular MSC.1/Circ.1369 (for passenger ships having length of 120 m and above or having three or more main vertical zones) (**);

.7 tonnage calculations in accordance with the International Convention on Tonnage Measurement of Ships, 1969 (for ships of 24 m in length and above) or the Rules for the Tonnage Measurement of Sea-Going Ships (for ships of less than 24 m in length) (**);

.8 tonnage calculations in accordance with the Regulations for the Measurement of Tonnage for the Suez Canal and/or the Rules for Measurement of Vessels for the Panama Canal (if necessary, issue of appropriate tonnage certificates);

.9 evacuation analysis for passenger ships carrying more than 36 passengers, special purpose ships carrying more than 240 persons and ro-ro passenger ships confirming compliance with regulation II-2/13.3.2.7 of SOLAS-74, as amended, based on the guidelines in IMO circular MSC.1/Circ.1533 (**).

3.2.2 Hull documentation:

.1 hull members scantlings determination, as well as analysis of the overall longitudinal strength and buckling stability of members for all specified loading conditions of a ship, including the loading and carriage of bulk cargoes other than grain[1](**);

.2 midship section plan and the typical transverse sections with indication of spacing between the main longitudinal and transverse members, main particulars of the ship and their ratios, class notation of a ship and values of design still water bending moments[1, 2] (*);

.3 constructional profile with indication of frame spacing, boundaries of the portions of a ship length, position of the watertight bulkheads, pillars, arrangement of superstructures and deckhouses[1, 2] (*);

.4 deck and platform plans with indication of design loads (including the loads induced by lift trucks, containers and mooring, towing and anchor equipment), positions and dimensions of openings, their strengthening, end structures of the side coamings[2] (*);

.5 double bottom (single bottom) plan. The plan shall contain:

sea chest sections with indication of pressure in the blow-down system;

table of pressure heads;

boundaries of watertight compartments;

dimensions and position of manholes and other openings.

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[1] Documentation shall be submitted together with the first portion of the documentation on hull.

[2] All constructional drawings mentioned here shall indicate the scantlings of the hull members, their material (with indication of grades according to Part XIII "Materials"), as well as typical sections and details, types and dimensions of fillet welds.

For bulk carriers and ore carriers an allowable load on the inner bottom plating shall be indicated[1](*);

.6 shell expansion with indication of the ship hull boundaries, positions and dimensions of openings in shell plating, and for ships strengthened for navigation in ice also the upper and lower edges of the ice belt and corresponding forward and aft draughts (with due regard to trim), arrangement of intermediate frames. Shell expansion for fiber-reinforced plastic ships shall be submitted if the outer shell plating has different thickness[1, 2] (*);

.7 drawings of longitudinal and transverse bulkheads, including tank wash bulkheads (for tanks the heights of overflow and air pipes shall be indicated)[1] (*);

.8 drawing of the after end framing and sternframe[1] (*);

.9 drawing of the fore end framing and stem[1] (*);

.10 drawings of propeller shaft brackets and bossings as well as fixed nozzles[1] (*);

.11 drawings of seatings for the main machinery (main engine, main diesel engine) and boilers, including bottom construction[1] (*); the drawings shall be provided with indication of type and model of the equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment;

.12 drawings of seatings for equipment (arrangements, machinery) with statical load on deck, exceeding 50 kN, or resulting statical bending moment on deck, exceeding 100 kN m, deck mechanisms with breaking load of a rope or chain exceeding 150 kN or safe working load (SWL), exceeding 30 kN (drawing of seatings for other equipment are not included in the set of project plans for ships under construction); the drawings shall be provided with indication of type and model of equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment; the design load and loading scheme; accepted corrosion.

N o t e . The drawings shall be reviewed by the RS Branch Office for supervision during construction[1] (*);

.13 drawings of engine and boiler casings, coamings, companions and other guards of openings in the ship's hull[1] (*);

.14 drawing of superstructures and deckhouses[1] (*);

.15 drawings of bulwark[1] (*);

.16 drawings of seatings for mooring, anchor and towing equipment; the drawings shall be provided with indication that seatings comply with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the seatings.

N o t e . The drawings shall be reviewed by the RS Branch Office for supervision during construction[1] (*);

.17 plan of weld control and table of hull welding (*), containing the following information:

.17.1 name and thickness of structural components to be joined;

.17.2 shape or symbol of edge preparation;

.17.3 brands and grades of base metal;

.17.4 brands and grades of welding consumables;

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[1] All constructional drawings mentioned here shall indicate the scantlings of the hull members, their material (with indication of grades according to Part XIII "Materials"), as well as typical sections and details, types and dimensions of fillet welds.

[2] Documentation shall be submitted together with the first portion of the documentation on hull.

.17.5 method of welding and position of joint in space[1];
.18 plan of testing the hull for watertightness[2](*);
.19 hull typical structural details (*).

N o t e . Listed typical details shall comply to those shown on structural drawings given in 3.2.2.2 — 3.2.2.10. The remaining information shall comply to the shipbuilding quality standards for the hull structure during new construction agreed at the kick-off meeting with the shipyard (refer to 2.7 of the Guidelines on Technical Supervision of Ships under Construction) and shall be reviewed by the RS Branch Office for supervision during construction;

.20 list of internal and external surfaces of the ship with indication of applied protective coatings (specification of protective coatings) considering 6.5 of Part XIII "Materials" (*);
.21 basic parameters of the hull protection by damping from damages when mooring (for ships to be moored at sea to other ships) (**);
.22 for fiber-reinforced plastic ships — a detailed description of the hull constructing process, containing the information on the materials, methods of forming the structural items, necessary conditions required during hull construction, as well as analysis of the structural strength both local and general (*);
.23 Loading Manual for ships of 65 m and over in length (refer to 1.4.9 of Part II "Hull") (*).

N o t e . For oil tankers having length 150 m and above and bulk carriers having length 90 m and above, the scope of documentation shall take consider the provisions of the IACS Common Structural Rules;

.24 for ships assigned the distinguishing marks **CSR** and/or **CON-M**, Construction Monitoring Plan (**);

N o t e. Plan shall be reviewed by the RS Branch Office, which carries out technical supervision during construction of ship.

3.2.3 Documentation on arrangements, equipment and outfit:
.1 arrangement plans, drawings of essential assemblies and parts of closing appliances of openings in hull, superstructures, deckhouses and subdivision bulkheads, including data on coamings height and type of closing appliances (*);
.2 strength calculations of bow, side and stern closing appliances in a ship's hull (**);
.3 arrangement plans of machinery and actuators of rudder and steering gear with indication of essential parts and assemblies (*);
.4 strength calculation of essential parts and assemblies of rudder and steering gear (**);
.5 calculation of efficiency of rudder and steering gear (**);
.6 arrangement plan with essential parts and assemblies of hatchways of dry cargo holds (*);
.7 strength calculations of hatchways of dry cargo holds (**);
.8 calculations of anchor, mooring and towing arrangements (**);
.9 arrangement plans with essential parts and assemblies of anchor, mooring and towing arrangements (*);
.10 calculations of signal masts and rigging (**);
.11 drawings of signal masts and rigging (*);
.12 arrangement plans with essential parts and assemblies of guard rails (*);
.13 calculations of essential parts and assemblies of guide members for containers in cargo holds (**);

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[1] If the information indicated in 3.2.2.17.1 — 3.2.2.17.5 is stated to the full in the drawings of a ship's hull, then submission of the table of welding is not required.
[2] It can be merged with plan of subdivision according to 3.2.5.3.

.14 arrangement plans of essential parts and assemblies of guide members for containers in cargo holds (*);

.15 plans of arrangement and fastening of ladders with essential parts and assemblies (including accommodation and pilot ladders, and gangways) (*);

.16 arrangement plan with essential parts and assemblies of catwalk on oil tankers and ships carrying liquefied gases in bulk (*);

.17 plan of escape routes[1] (*);

.18 arrangement plans with essential parts and assemblies of means of access for inspections of spaces in cargo area and other spaces on oil tankers, bulk carriers and ships carrying liquefied gases in bulk (*);

.19 means of access manual (for oil tankers and bulk carriers) (*);

.20 calculation of hoisting gear of shipborne barges (**);

.21 general view of hoisting gear of shipborne barges (*);

.22 list of emergency outfit (**).

3.2.4 Documentation on stability:

.1 lines drawing, coordinate table of lines (**);

.2 corner point coordinate table for compartments and tanks (**);

.3 preliminary calculation of stability containing (**):

.3.1 tables of hydrostatic particulars;

.3.2 tables of cross-curves of stability including drawing of the buoyant hull (**);

.3.3 mass tables for various loading conditions and cargo handling operations with indication of distribution of cargoes, fuel oil, fresh water and liquid ballast in tanks, as well as data on ship's displacement, centre of gravity and trim;

.3.4 diagrams of windage area of a ship and calculations of heeling moments;

.3.5 calculations of heel caused by crowding of passengers and by turning;

.3.6 calculations of icing, angles of flooding, corrections for free surface effect of liquid cargoes and stores, etc.;

.3.7 sketch showing the location of solid ballast with a specification containing information on the weight of each ballast group and the coordinates of the centre of gravity;

.3.8 righting lever curves and results of stability verification according to these Rules;

.4 freeboard plan[2] (**) containing:

maximum draught of the ship;

arrangement of openings and closing appliances, which contribute to the watertight integrity of the ship external boundaries, with an indication of the height of coamings and type of closing appliances (external doors, cargo hatches, service hatches; bow, stern and side doors and ramps; scuttles and windows, freeing ports and scuppers, bottom and side valves of sea water systems, sewage system, etc.; air pipes and ventilation heads, closures of ventilation ducts, engine room skylights, etc.);

arrangement plan of means for protection of the crew (bulwark, guard rails, gangways, passageways, etc.);

.5 freeboard calculation and drawings of the load line mark (**).

3.2.5 Documentation on subdivision:

.1 documents on probabilistic assessment of subdivision (if required) (**);

.2 damage trim and stability calculations, including righting lever curves (if required) (**);

.3 subdivision plan showing all watertight structures and openings with indication of types of closing appliances, as well as arrangements used for equalizing heel and trim of a damaged ship (**);

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[1] If all necessary information concerning escape routes is stated in the general arrangement plan, plan of escape routes is not required. In this case, the arrangement plan shall be approved (*).

[2] If all necessary information is stated in the plans and diagrams required by 3.2.3.1, 3.2.3.12, 3.2.9.1.4, 3.2.9.1.5 and 3.2.9.1.6 of the present Section, the freeboard plan may not be submitted.

.4 calculations of sectional areas of cross-flooding fittings and of uprighting time of a ship (**);

.5 documents on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier, containing:

flooding detection system specification (**);

documents with indication of the location of the flooding detection system equipment (*).

3.2.6 Documentation on fire protection:

.1 documents on structural fire protection:

.1.1 arrangement plan of fire-protective divisions, including doors and penetrations (cutouts) in these structures with indication of categories of these spaces in accordance with 2.2.1, 2.3.3 or 2.4.2 of Part VI "Fire Protection" (*);

.1.2 schemes or description of insulation, lining, finishing, deck covering and other finishing materials (*);

.1.3 calculations required by 2.1.1.4 and 2.1.1.10 of Part VI "Fire Protection" (**);

.2 diagrams of fire extinguishing systems and smoke detection system by air sampling with associated description, calculations and other data, which confirm the fulfilment of the requirements of Part VI "Fire Protection" (*);

.3 list of fire-fighting outfit (**);

.4 structural drawings of assemblies and parts of fire-fighting divisions (*);

.5 structural drawings of insulation, lining and deck covering (*);

.6 arrangement plan of fire-fighting outfit (*);

.7 list of spare parts and tools (**);

.8 preliminary fire plan (**);

.9 electrochemical protection scheme in oil tankers (*).

3.2.7 Documentation on machinery and boiler plant:

.1 general arrangement plans of machinery and equipment in the machinery spaces of category A, as well as in the emergency diesel generator spaces (refer to 1.2 of Part VII "Machinery Installations") with indication of escape routes (*);

.2 drawings of seatings and attachment fittings of the main machinery, boilers and shaft bearings (*);

.3 diagram (*) and description (**) of the remote control for the main machinery completed with information on equipment of remote control stations fitted with controls, indicating instruments and alarm devices, means of communication and other devices.

N o t e . When remote control for the main machinery is supplied as complete delivery with the main engines and/or with steerable propellers, the mentioned diagram and description may be submitted together with the documentation required by Section 12 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships;

.4 drawings of arrangement and outfitting in fuel oil and lubricating oil tanks (*);

.5 documentation on shafting[1]:

.5.1 general view of shafting (**);

.5.2 drawing of sterntube and parts of sterntube arrangement, drawing of casing protecting the area between the sterntube and propeller boss (*);

.5.3 sterntube bearing and sterntube seal lubrication and cooling diagrams (*);

.5.4 drawings of shafts (propeller, intermediate and thrust) (*);

.5.5 drawings of shaft connections and couplings (*);

.5.6 drawings of journal and thrust bearings of shafting and their fastening to the seatings (*);

.5.7 strength calculation of shafts and their fastening parts (**);

[1] The documentation shall contain information on treatment and geometry of working surfaces, heat treatment, tolerances on mating parts, hydraulic tests, non-destructive testing, etc.

.5.8 calculation of the number of shaft supports, their position and loads carried (**);
.5.9 calculation of parameters of shafting alignment (**);
.5.10 calculation of fitting of propeller and shafting couplings (**);
.5.11 torsional vibration calculations in compliance with the requirements of Section 8 of Part VII "Machinery Installations". In some cases, calculation of axial and bending vibration of shafting may be required (**).

N o t e . When controllable pitch propeller is supplied as complete delivery with the propulsion plant, the documentation listed in 3.2.7.5.2 — 3.2.7.5.11 may be submitted together with the documentation required by Section 6 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships;

.5.12 calculation of power of the main machinery for **Ice2** to **Arc9** ice class ships in compliance with the requirements of 2.1 of Part VII "Machinery Installations" to the minimum value of power delivered to the propeller shafts of the ships (**);
.6 documentation on propeller[1, 2]:
.6.1 general view of propeller (**);
.6.2 strength calculation of propeller blade, and for detachable-blade propellers and controllable-pitch propellers (CP-propellers), also calculation of fastening of blades to the boss (**);
.6.3 drawings of blade, boss and cone, as well as items for their securing (for detachable-blade propeller and CP-propeller) (*);
.6.4 drawing of propeller attachment to propeller shaft (*);
.6.5 description of pitch actuating mechanism (PAM) and its control system (**);
.6.6 diagrams of pitch actuating mechanism (PAM) (*);
.6.7 pitch control unit as assembled (**);
.6.8 drawings of the main parts of the pitch control unit, including shaft of the pitch control unit, hydraulic cylinders, push-pull rods, pistons, slides, oil distribution boxes, lubricating oil supply tube to hydraulic cylinder in hub (*).

N o t e . The documentation listed in 3.2.7.6 may be submitted together with the documentation required by Section 7 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships;

.7 documentation on active means of the ship's steering (AMSS)[1, 2]:
.7.1 drawings of AMSS installation and securing (*);
.7.2 data to confirm compliance of the AMSS construction with operational conditions (**);
.7.3 general view with necessary sections and sealing details (**);
.7.4 calculations of propeller (or impeller of water-jet), shafts, couplings, pinions, gear wheels of steerable propellers, water-jets and thrusters (when CP-propeller is used, refer to 3.2.7.6) (*);
.7.5 drawings of propeller (or impeller of water-jet), shafts, couplings, pinions, gear wheels of steerable propellers, water-jets and thrusters (when CP-propeller is used, refer to 3.2.7.6) (*);
.7.6 strength calculations of the input drive shaft of rotor, blade, gearing of vertical-axis propellers (**);
.7.7 drawings of shafts, gearing, rotors, blades and pitch control gear of vertical-axis propellers (*);
.7.8 drawings of bearings and seals (*);

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1 The documentation shall contain information on treatment and geometry of working surfaces, heat treatment, tolerances on mating parts, hydraulic tests, non-destructive testing, etc.
2 For propellers not covered by the requirements of these Rules, the drawing list shall be agreed with the Register in each particular case.

.7.9 calculation of connections, drawings of propeller nozzles and tunnels, including information on acceptable clearance between ready-fitted propeller and tunnel (nozzle) (**);

.7.10 hull member drawings and drawings of reversible-steering gear of water-jets (*);

.7.11 diagrams of cooling, lubricating and hydraulic turning systems for steerable propellers (blades of CP-propellers), as well as particulars of piping of the above mentioned systems (*);

.7.12 calculations of electric drives for electrically driven AMSS (**);

.7.13 diagrams of electric drives for electrically driven AMSS (*);

.7.14 documentation on monitoring, control, and protection systems (*);

.7.15 torsional vibration calculations (for main AMSS and dynamic positioning systems) and service life calculation of rolling bearings (**).

Moreover, the Register may require presentation of rotational and calculations of pendular vibration for steerable propellers if used as main AMSS (**);

.7.16 AMSS specification, containing its principal characteristics, as well as material specifications for principal parts and assemblies (**);

.7.17 prototype and pilot specimen test programme (*);

.7.18 description, service and maintenance manual (**);

N o t e . The documentation listed in 3.2.7.7.3 — 3.2.7.7.18 may be submitted together with the documentation required by Section 7 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

3.2.8 Documentation on automation equipment.

3.2.8.1 General documentation:

.1 list and technical description of automation systems and devices with indication of their purpose, principle of operation, their functions, configuration, self-diagnosis principles, with mandatorily designated system integrator (shipyard or, by cooperation, contracted alternative organization/supplier) for each system as well as consoles and control switchboards in the main machinery control room and on the navigation bridge (**);

.2 list of controlled parameters with indication of unique identifier, parameter description, type of signal (i.e. analogue/digital, input/output, etc.), distribution by automation systems and devices depending on the signal intended functional purpose (control, alarms, protection, indication), distribution by automation equipment groups (*);

.3 general arrangement plans of automation equipment in the main machinery control room and on the navigation bridge (*);

.4 technical background containing substantiation of distinguishing automation mark for ships having distinguishing automation mark in the class notation (**);

.5 technical background containing the design intent of a dynamic positioning system with indication of the equipment redundancy level for ships with distinguishing marks **DYNPOS-2** or **DYNPOS-3** in the class notation, with substantiation of the worst-case failure design intent when, after occurrence of the worst-case failure, the ship will be able to keep position and/or heading in the specified environmental conditions (**);

.6 general arrangement plan of the dynamic positioning system equipment including thrusters, switchboards and panels of dynamic positioning system with indication of main and back-up (if any) control stations, position reference systems and external force sensors (*);

.7 drawings of cable runs (power and control cables) with indication of their penetrations through watertight and fire-resisting bulkheads of ships with distinguishing mark **DYNPOS-3** in the class notation (*);

.8 diagrams of power supply for automation systems listed in 3.2.8.2.1 — 3.2.8.2.7 (*).

3.2.8.2 Documentation on individual automation systems and control and monitoring consoles:

.1 technical documentation on alarm and monitoring systems (AMS), centralized monitoring systems and integrated control systems and AMS, including functional diagrams, control console panels with indication of all devices (*);

.2 technical documentation on remote automated control for main machinery and propellers: including functional diagrams, remote automated control console panels with indication of all devices (*);

.3 technical documentation on automation of auxiliary engines and electric power plant, including functional diagrams, control console panels for electric power plant with indication of all devices (*);

.4 technical documentation on automation of boiler plant, including functional diagrams, control console panels with indication of all devices (*);

.5 functional diagrams of automation of compressor plants (*);

.6 functional diagrams of automation, including remote control, of bilge and ballast systems (*);

.7 functional diagrams of remote level indicating systems (*);

.8 diagrams of electric connections for automation systems and equipment listed in 3.2.8.2.1 — 3.2.8.2.7, with indication of cable types and places of installation of all system elements and devices (*);

.9 drawings of front panels of desks and boards of control and alarm systems in the main machinery control room and on the navigation bridge with indication of all devices (*);

.10 structural and mounting drawings of consoles and control and monitoring switchboards as well as mounting drawings of elements of automation systems and devices, sensors, signalling and instruments (*);

.11 technical background with description of operating conditions, operating principle, operating modes, with substantiation of dynamic positioning system redundancy level according to a distinguishing mark to be added to the class notation (**);

.12 failure modes and effects analysis (FMEA, refer to 8.2.1 of Part XV "Automation") of dynamic positioning system taking into account the design intent as specified in 3.2.8.1.5 (**);

.13 list of critical components of dynamic positioning system (**);

.14 blackout recovery procedure for dynamic positioning system (**);

.15 capability plots demonstrating ship's position keeping capacity at least for fully effective dynamic positioning system and post worst-case failure condition for particular environmental conditions (**);

.16 functional diagrams of computer-based dynamic positioning control system with indication of inputs and outputs with feedbacks and power supplies (*);

.17 drawings of panels of main and back-up (for **DYNPOS-3**) control stations of dynamic positioning system with indication of location of controls, thruster emergency stops, alarm devices, indicators and internal communications (*).

Note: Technical documentation listed in 3.2.8.2 shall be submitted by the designer or system integrator specified in 3.2.8.1.1. In the latter case, the documentation shall be developed taking into account the solutions adopted in technical documentation listed in 3.2.8.1, and submitted for approval at the stage of delivery and installation to the RS Branch Office responsible for carrying out technical supervision during construction, together with the documentation according to 1.4.1 of Part XV "Automation" of these Rules, approved under technical supervision of automation equipment as required by Section 12 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

3.2.9 Documentation on systems and piping:

.1 documentation on ship's systems:

.1.1 bilge system diagram (*);

.1.2 ballast system diagram (*);

.1.3 heel and trim system diagrams, as well as diagrams of devices (automatic and manually controlled) for ship equalization by cross-flooding (*);

.1.4 air, overflow and sounding pipes diagrams (*);

.1.5 diagrams of ventilation and air conditioning systems of accommodation, service, cargo, machinery and production spaces with indication of watertight and fire-resisting bulkheads, arrangement of fire dampers, as well as indication of closures of ventilation ducts and openings (*);

.1.6 diagrams of sanitary and drain water systems, as well as scuppers with indication of watertight bulkheads, freeboard deck and distances from waterline or freeboard deck to the relevant discharges, as stated in 4.3.2.4 and 4.3.2.6 of Part VIII "Systems and Piping" (*);

.1.7 diagrams of sea chest heating and blow-down systems, heating system of side valves, heating system for liquids in tanks, steaming system for tanks (*);

.1.8 diagram of the compressed air system for typhoons, for purging the sea chests (*);

.1.9 diagrams of systems for hydraulic drives of mechanisms and arrangements (*);

.1.10 diagrams of special systems for oil tankers and combination carriers (*);

.1.11 calculations of the systems: bilge, ballast, vapour emission control; ventilation of battery rooms, cargo pump rooms, enclosed spaces and holds intended for the carriage of motor and road vehicles; calculation of steam pipes for thermal expansion (**);

.1.12 diagram of thermal liquid system (*);

.1.13 diagram of fuel oil loading, transfer, storage and helicopter refuelling system, diagram of off-grade aviation fuel collection, storage and defueling system (*);

.2 documentation on machinery installation systems:

.2.1 diagrams of live and waste steam systems (*);

.2.2 diagrams of purging systems for boilers, machinery and steam piping (*);

.2.3 diagram of condensate and feed water system (*);

.2.4 diagram of fuel oil system (*);

.2.5 diagram of lubricating oil system (*);

.2.6 diagrams of fresh water and sea water cooling systems (*);

.2.7 diagram of starting air system (*);

.2.8 diagram of exhaust gas pipes and uptakes (*);

.2.9 drawing of sea chests and ice boxes equipment (*);

.2.10 calculation of starting air system (**);

.2.11 calculation of fuel oil service tank capacity of emergency diesel-generator (**);

.2.12 drawings of silencers and spark arresters of exhaust gas pipes and uptakes (*) (may be submitted together with the documentation required by Section 8 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships);

.2.13 drawings of position and details of attachment of bottom and side valves and valves at the collision bulkhead (*);

.2.14 drawings of air pipes and ventilator pipes on open deck spaces (*);

.2.15 drawings of pipelines and ventilation ducts passing through the watertight bulkheads, fire-fighting divisions, decks and platforms (*);

.3 data on pipe dimensions (diameter and wall thickness), on piping construction (materials, insulation, manufacturing methods, installation, arrangement, hydraulic tests, etc.) as well as data on material of pipes used, material of gaskets and types of pipe connections shall be contained in documentation listed in 3.2.9.1 and 3.2.9.2.

3.2.10 Documentation on electrical equipment.

3.2.10.1 General documentation:

.1 diagrams of power generation and distribution from the main and emergency sources of electrical power: power networks, lighting networks (up to section distribution switchboards) and navigation lights (*);

.2 single-line diagrams and general view of the main and emergency switchboards, control desks and other switchboards of non-standard design (*);

.3 calculation results of necessary output of the ship's electric power plant providing for the operating conditions specified in 3.1.5 of Part XI "Electrical Equipment", substantiation of the choice of the number and power output of generators, as well as calculation of capacity of emergency sources of electrical power (**);

.4 detailed diagrams of the main current, excitation, control, pilot, signalling, protection and interlocking of the electric propulsion plant (*);

.5 calculation results of necessary power output of the propulsion generators to ensure normal operation under all operating conditions (**);

.6 results of short-circuit current calculations and analysis of selective properties of protective devices for rated current of the generators or the generators operating in parallel in excess of 1000 A (**);

.7 calculation results of illumination intensity for areas and spaces (**);

.8 diagrams of internal communication and signalling according to Section 7 of Part XI "Electrical Equipment" (*);

.9 documentation on fixed electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases (*);

.10 diagrams of the protective, lightning protection and antistatic earthing (*);

.11 arrangement diagram of cable runs with indication of spaces which they pierce, including information on power supply cables for services required for operation under fire conditions in case of their transit routing through high fire risk spaces (refer to 16.8.1.9 and 16.8.1.11 of Part XI "Electrical Equipment") (*);

.12 capacity calculation results for accumulator batteries of emergency lighting, navigation lights, general alarm system, fire alarm system and fire smothering appliances, starting arrangements of the emergency diesel generators (**);

.13 results of calculation of the expected total harmonic distortions for different parts of the ships mains when using power semiconductor units, as well as harmonic distortion calculation results following the harmonic filters failure during their installation in the ship's electrical distribution system (**);

.14 calculation of expected efficiency of overload protection of generator sets by means of disconnection of the part of consumers with explanations of the number of disconnection steps and the list of disconnected consumers in every step (**);

.15 diagram and drawing of disconnection and blocking system of electrical equipment, which is not used in the oil recovery ship operations on elimination of oil spills (*);

.16 instructions on preparation and application of electrical equipment of oil recovery ship for elimination of oil spills. It is to determine the procedure of compulsory disconnection of power consumers having no Certificates on Safe Type Electrical Equipment (**);

.17 list of electrical equipment installed in dangerous zones, containing information on spaces and areas where it is installed with indication of zones and spaces according to 19.2.3.1 of Part XI "Electrical Equipment", and information on this equipment with indication of type of explosion protection (**);

.18 calculation of voltage drop when a consumer with the maximum starting power is switched on (**);

.19 drawings of cable runs and their penetrations through watertight, gastight and fire-fighting divisions with indication of measures taken to suppress radio interferences (*);

.20 diagrams of the main and emergency lighting in the spaces and places of arrangement of essential appliances, escape routes, survival craft embarkation stations on the deck and outboard (supplying from distribution switchboards) (*);

.21 drawings of layout and installation of essential electrical equipment (*);

.22 diagrams and installation and layout drawings of electrical apparatus and facilities for measuring non-electric values (level, pressure, temperature gauges, etc.) (*);

.23 technical background containing substantiation for the use of electric propulsion plant (if applicable) in compliance with the requirements of Section 17 of Part XI "Electrical Equipment" (**);

.24 drawing of dangerous spaces and zones (only for oil tankers, oil recovery ships, ships carrying liquefied gases in bulk and ships carrying compressed natural gas, chemical tankers, ships other than liquefied gas carriers utilizing gas or other low flash point fuels and ships carrying dangerous goods) (*);

.25 when the ship is equipped with a refrigerating plant to be surveyed in accordance with 4.1.1, documentation stated in 3.2.10.1 and 3.2.10.2 shall contain the data on electrical equipment of the refrigerating plant.

3.2.10.2 Documentation on individual types of electric equipment:

.1 diagrams of electric connections (for systems and equipment specified in 3.2.10.1.1, 3.2.10.1.2, 3.2.10.1.4, 3.2.10.1.8, 4.3.1.1.10) with indication of cable types and places of installation of all elements of the diagrams (*);

.2 diagrams of essential electric drives (according to 1.3.2.1 and 1.3.2.2 of Part XI "Electrical Equipment") with indication of cable types and places of installation of all elements of the diagrams (*);

.3 diagrams of lubrication systems for electrical machines and air cooling systems for the main electrical machines (*);

.4 documents on portable electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases (*);

.5 failure mode and effects analysis (FMEA) for all electric and hydraulic components of the podded azimuth thrusters used as the rudder and steering gear (**);

.6 assembly drawings of the main and emergency switchboards, electric propulsion plant switchboards, control stations and panels, special switchboards, power and lighting switchboards (*);

.7 calculation results of cross-sections of cables with indication of their types, currents and protection (**).

N o t e . Technical documentation listed in 3.2.10.2 shall be submitted by the designer or alternative organization (contracted manufacturer, supplier, shipyard or system integrator). In the latter case, the documentation shall be developed taking into account the solutions adopted in technical documentation listed in 3.2.10.1, and shall be submitted for approval at the stage of delivery and installation to the RS Branch Office for supervision during construction, together with the documentation according to 1.4.2 of Part XI "Electrical Equipment" of these Rules, approved under technical supervision of electrical equipment as required by Section 10 of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

3.2.11 Documentation on arrangements and equipment for the prevention of pollution from ships.

3.2.11.1 For ships of all types:

.1 arrangement plan of oil fuel tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 12A of Annex I to MARPOL 73/78), if applicable (**);

.2 calculation of required capacity of holding tanks, oily water and sewage tanks, garbage containers and their arrangement plans (**);

.3 diagram of oily bilge water piping (*);

.4 diagram of oil residue piping (*);

.5 diagram of sewage piping (*);

.6 calculation of the discharge rate of untreated sewage (*);

.7 Energy Efficiency Design Index Technical File (EEDI Technical File) in accordance with the Guidelines on Survey and Certification of Energy Efficiency Design Index (EEDI) (IMO resolution MEPC.254(67) as amended), if applicable (**).

3.2.11.2 For oil tankers, in addition to the documentation listed in 3.2.11.1:

.1 calculation of slop tanks capacity (**);

.2 calculation of accidental oil outflow (Regulation 23 of Annex I to MARPOL 73/78) (**);

.3 arrangement plan of cargo and slop tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 19 of Annex I to MARPOL 73/78) (**);

.4 arrangement plan of pump room (*) and calculation confirming their protective location relative to shell plating (Regulation 22 of Annex I to MARPOL 73/78), if applicable (**);

.5 diagram of emergency oil transfer system (if applicable) (*);

.6 diagram of crude oil washing system and shade diagram (if applicable) (*);

.7 arrangement plan of discharge outlets (*);

.8 diagram of transfer of oil residues and tank washings from cargo tank areas into slop tanks (*);

.9 diagram of ballast and washing water discharge monitoring and control system (if applicable) (*).

3.2.11.3 For tankers carrying noxious liquid substances, in addition to the documentation listed in 3.2.11.1:

.1 calculation of size of underwater discharge outlet (**);

.2 diagram of cargo tank ventilation systems (if applicable for tank cleaning) (*);

.3 arrangement plan of discharge outlets (*).

3.2.12 Documentation on cargo handling gear:

.1 general view of cargo handling gear with indication of its principal characteristics, arrangement on board the ship and securing of the cargo handling gear in "stowed for sea" position (to be submitted for information).

3.2.13 Documentation on refrigerating plants:

.1 cooling capacity calculation with indication of cooling load from each refrigerated cargo space and cold consumer (**);

.2 general arrangement plans of a refrigerating plant with indication of refrigerating equipment and piping arrangement on board the ship, places for installation of temperature and atmosphere control devices (*);

.3 circuit diagrams of main and emergency ventilation systems in the refrigerating machinery spaces and other spaces containing equipment under a refrigerant pressure with indication of the watertight and fire-resisting bulkheads, as well as the number of air changes per hour (*);

.4 air cooling diagram with indication of watertight and fire-resisting bulkheads (*);

.5 arrangement plans of equipment in refrigerating machinery spaces with indication of escape routes (*);

.6 circuit diagram of water screen system of refrigerating machinery space (for Group II refrigerant) (*);

.7 tables of the values of the bounding surface areas of the refrigerated cargo spaces with data on calculated heat-transfer coefficient for each surface and averaged heat-transfer coefficient for the insulating structure of refrigerated spaces (**);

.8 drawings of cargo cooling air ducts in thermoinsulated containers with an indication of the layout on board (*);

.9 drawings of air duct insulation with technical data of insulating materials (*);

.10 arrangement plan of emergency discharge system of refrigerant (*).

N o t e . In case of unclassed refrigerating plant, only drawings in accordance with 3.2.13.2 — 3.2.13.3 (for refrigerant only), 3.2.13.5 and 3.2.13.10 shall be submitted.

3.2.14 Documentation on cyber security:

.1 concept of computer based system (for information). The document shall contain the following information:

purpose of computer based system with brief description of functions;

flowchart (plan) clearly identifying shipboard systems controlled/monitored by the computer based system. The flowchart (plan) shall also contain the following information: communications with external network for monitoring, control and performance of administrative functions; communications with other computer based systems;

.2 description of data transmission networks (for information). The document shall contain the following information:

physical location of the system and subsystem components (e.g., name of a space, deck of location, etc.);

category I system communications with category II or III systems;

network topology of systems and subsystems (star, ring, etc.);

applicable network technologies (e.g., Gigabit Ethernet , Fast Ethernet Ethernet);

applicable network cables (twisted pair, fibre optic, etc.);

communications from controllers and field devices (MODBUS, Fieldbus, etc.);

network diagrams indicating the devices, nodes, network cable details and general locations of the equipment;

list of IT and OT systems indicating their categories;

data flows and network devices or resources potentially limiting them;

details of external connections for remote access;

access points and interfaces, including machine-to-machine (M2M) interfaces;

logical diagrams of shipboard networks.

3.2.15 Documentation on accommodation spaces:

.1 plans of accommodation spaces (*) containing the following information on:

location and size of each space;

ventilation, heating, and hot and cold running fresh water in accommodation spaces;

location of furniture and equipment, including electrical equipment, in cabins (sleeping rooms);

location of equipment in sanitary spaces, dining rooms (mess rooms), recreation rooms and medical rooms (hospital accommodation).

3.2.16 Documentation of supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks SDS or MS in the class notation).

For supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks **SDS** or **MS** in the class notation) (hereinafter, vessels-carriers), the documentation shall include at least the following:

.1 general arrangement plans of manned submersibles or ship's diving systems on the vessel-carrier (*);

.2 arrangement plan of fire-fighting divisions in the vessel-carrier's spaces intended for control, communications and arrangement of manned submersibles and ship's diving system, as well as in the spaces for positioning of ancillary equipment of manned submersibles with indication of doors, closures of openings, passages (cutouts) in such divisions (*);

.3 diagrams, drawings and calculations of fire extinguishing systems for the spaces specified in 3.2.16.2 (*);

.4 diagram of fire protection and alarm system and alarm system for the spaces specified in 3.2.16.2 and layouts of the devices to monitor explosion/fire-hazardous concentrations of combustible gases in the storerooms for cylinders with flammable gases, compressors, accumulator batteries, etc. (*);

.5 detailed description of fire protection of the spaces with indication of insulating and finishing materials, their location and combustibility for the spaces specified in 3.2.16.2 (*);

.6 documentation on handling system of manned submersibles (except for documentation on handling system components located on the manned submersible to be submitted together with the documentation on the manned submersibles) (*).

3.3 TECHNICAL DESIGN DOCUMENTATION

3.3.1 General:

.1 ship specification (to be submitted for information);

.2 general arrangement plan (to be submitted for information);

.3 list of deviations from the RS rules with references to the appropriate RS letters of their approval (refer to 1.3.4 of the General Regulations for the Classification and Other Activity), if any (**);

.4 engineering analysis of alternative design and arrangements (refer to 3.1.8), if any (**);

.5 engineering analysis of the capability of a ship to return to port in case of an accident in accordance with 2.2.6 and 2.2.7 of Part VI "Fire Protection", considering interpretations of IMO circular MSC.1/Circ.1369 (for passenger ships having length of 120 m and above or having three or more main vertical zones) (**);

.6 evacuation analysis for passenger ships carrying more than 36 passengers, special purpose ships carrying more than 240 persons and ro-ro passenger ships confirming compliance with regulation II-2/13.3.2.7 of SOLAS-74, as amended, based on the guidelines in IMO circular MSC.1/Circ.1533 (**).

3.3.2 Hull documentation:

.1 hull members scantlings determination, as well as analysis of the overall longitudinal strength and buckling stability of members for all specified loading conditions of a ship, including the loading and carriage of bulk cargoes other than grain (**);

.2 midship section plan and the typical transverse sections with indication of spacing between the main longitudinal and transverse members, main particulars of the ship and their ratios, class notation of a ship and values of design still water bending moments[1] (*);

.3 constructional profile with indication of frame spacing, boundaries of the portions of a ship length, position of the watertight bulkheads, pillars, arrangement of superstructures and deckhouses[1] (*);

.4 deck and platform plans with indication of design loads (including the loads induced by lift trucks and containers), positions and dimensions of openings, their strengthening, end structures of the side coamings[1] (*);

.5 double bottom (single bottom) plan.

The plan shall contain: sea chest sections with indication of pressure in the blow-down system; boundaries of watertight compartments; table of pressure heads.

For bulk carriers and ore carriers an allowable load on the inner bottom plating shall be indicated[1] (*);

.6 shell expansion with indication of the ship hull boundaries, positions and dimensions of openings in shell plating, and for ships strengthened for navigation in ice also the upper and lower edges of the ice belt and corresponding forward and aft draughts (with due regard to trim), arrangement of intermediate frames. Shell expansion for fiber-reinforced plastic ships shall be submitted if the outer shell plating has different thickness[1] (*);

.7 drawings of longitudinal and transverse bulkheads, including tank wash bulkheads (for tanks the heights of overflow and air pipes shall be indicated)[1] (*);

.8 drawing of the after end framing and sternframe[1] (*);

.9 drawing of the fore end framing and stem[1] (*);

.10 drawings of propeller shaft brackets and bossings as well as fixed nozzles[1] (*);

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[1] All constructional drawings mentioned here shall indicate the scantlings of the hull members, their material (with indication of grades according to Part XIII "Materials"), as well as typical sections and details, types and dimensions of welds.

.11 drawings of engine and boiler casings, coamings, companions and other guards of openings in the ship's hull[1] (*);

.12 drawing of superstructures and deckhouses[1] (*);

.13 drawings of bulwark[1] (*);

.14 basic parameters of the hull protection by damping from damages when mooring (for ships to be moored at sea to other ships) (**);

.15 for fiber-reinforced plastic ships — a detailed description of the hull constructing process, containing the information on the materials, methods of forming the structural items, necessary conditions required during hull construction, as well as analysis of the structural strength both local and general (*).

3.3.3 Documentation on arrangements, equipment and outfit:

.1 arrangement plan of openings in hull, superstructures, deckhouses and subdivision bulkheads, including data on coamings height and type of closing appliances (*);

.2 strength calculations of bow, side and stern closing appliances in a ship's hull (**);

.3 arrangement plans of machinery and actuators of rudder and steering gear (*);

.4 strength calculation of essential parts and assemblies of rudder and steering gear (**);

.5 calculation of efficiency of rudder and steering gear (**);

.6 arrangement plan of hatch covers of cargo holds (*);

.7 strength calculations of hatch covers of cargo holds (**);

.8 calculations of anchor, mooring and towing arrangements (**);

.9 arrangement plans of anchor, mooring and towing arrangements (*);

.10 calculations of signal masts and rigging (**);

.11 drawings of signal masts and rigging (*);

.12 arrangement plans of guard rails (*);

.13 calculations of essential parts and assemblies of guide members for containers in cargo holds (**);

.14 arrangement plans of guide members for containers in cargo holds (*);

.15 arrangement plan of catwalk on oil tankers (*);

.16 plan of escape routes[2] (*);

.17 arrangement plans of means of access for inspections of cargo and other spaces on oil tankers and bulk carriers (*);

.18 calculation of hoisting gear of shipborne barges (**)

.19 general view of hoisting gear of shipborne barges (*).

3.3.4 Documentation on stability:

.1 lines drawing, coordinate table of lines (**);

.2 corner point coordinate table for compartments and tanks (**);

.3 preliminary calculation of stability containing (**):

.3.1 tables of hydrostatic particulars;

.3.2 tables of cross-curves of stability including drawing of the buoyant hull (**);

.3.3 mass tables for various loading conditions and cargo handling operations with indication of distribution of cargoes, fuel oil, fresh water and liquid ballast in tanks, as well as data on ship's displacement, centre of gravity and trim;

.3.4 diagrams of windage area of a ship and calculations of heeling moments;

.3.5 calculations of heel caused by crowding of passengers and by turning;

.3.6 calculations of icing, angles of flooding, corrections for free surface effect of liquid cargoes and stores, etc.;

.3.7 righting lever curves and results of stability verification according to these Rules;

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[1] All constructional drawings mentioned here shall indicate the scantlings of the hull members, their material (with indication of grades according to Part XIII "Materials"), as well as typical sections and details, types and dimensions of welds.

[2] If all necessary information concerning escape routes is stated in the general arrangement plan, plan of escape routes is not required. In such a case, the general arrangement plan (*) is approved.

.4 freeboard plan[1] (**) containing:

maximum draught of the ship;

arrangement of openings and closing appliances, which contribute to the watertight integrity of the ship external boundaries, with an indication of the height of coamings and type of closing appliances (external doors, cargo hatches, service hatches; bow, stern and side doors and ramps; scuttles and windows, freeing ports and scuppers, bottom and side valves of sea water systems, sewage system, etc.; air pipes and ventilation heads, closures of ventilation ducts, engine room skylights, etc.);

arrangement plan of means for protection of the crew (bulwark, guard rails, gangways, passageways, etc.);

.5 freeboard calculation and drawings of the load line mark (**).

3.3.5 Documentation on subdivision:

.1 documents on probabilistic assessment of subdivision (if required) (**);

.2 damage trim and stability calculations, including righting lever curves (if required) (**);

.3 subdivision plan showing all watertight structures and openings with indication of types of closing appliances, as well as arrangements used for equalizing heel and trim of a damaged ship (**);

.4 calculations of sectional areas of cross-flooding fittings and of uprighting time of a ship (**);

.5 documents on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier, containing:

flooding detection system specification (**);

documents with indication of the location of the flooding detection system equipment (*).

3.3.6 Documentation on fire protection:

.1 documents on structural fire protection:

.1.1 arrangement plan of fire-fighting divisions, including doors and penetrations (cutouts) in these structures with indication of categories of these spaces in accordance with 2.2.1, 2.3.3 or 2.4.2 of Part VI "Fire Protection" (*);

.1.2 schemes or description of insulation, lining, finishing, deck covering and other finishing materials (*);

.1.3 calculations required by 2.1.1.4 and 2.1.1.10 of Part VI "Fire Protection" (**);

.2 diagrams of fire extinguishing systems and smoke detection system by air sampling (*) with associated calculations and other data, which confirm the fulfilment of the requirements of Part VI "Fire Protection" (**);

.3 list of fire-fighting outfit (**).

3.3.7 Documentation on machinery and boiler plant:

.1 arrangement plans of machinery and equipment in the machinery spaces of category A, as well as in the emergency diesel generator spaces (refer to 1.2 of Part VII "Machinery Installations") with indication of escape routes (*);

.2 diagram (*) and description (**) of the remote control of main machinery completed with information on equipment of remote control stations fitted with controls, indicating instruments and alarm devices, means of communication and other devices;

.3 documentation on shafting:

.3.1 general view of shafting (*);

.3.2 drawing of sterntube and parts of sterntube arrangement (*);

.3.3 drawings of shafts (propeller, intermediate and thrust) (*);

.3.4 drawings of shaft connections and couplings (*);

.3.5 drawings of journal and thrust bearings of shafting and their fastening to the seatings (*);

.3.6 strength calculation of shafts and their fastening parts (**);

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[1] If all necessary information is stated in the plans and diagrams required by 3.2.3.1, 3.2.3.12, 3.2.9.1.4, 3.2.9.1.5 and 3.2.9.1.6 of the present Section, the freeboard plan may not be submitted.

.3.7 calculation of the number of shaft supports, their position and the loads carried (**);

.3.8 calculation of fitting of propeller and shafting couplings (**);

.3.9 torsional vibration calculations in compliance with the requirements of Section 8 of Part VII "Machinery Installations". In some cases, calculation of axial vibration may be required (**);

.3.10 sterntube bearing and sterntube seal lubrication and cooling diagrams (*);

.3.11 calculation of bending vibration of shafting in compliance with the requirements of Section 5 of Part VII "Machinery Installations" (**);

.4 documentation on propeller:

.4.1 general view of propeller (*);

.4.2 drawings of blade, boss as well as items for their securing (for detachable-blade propeller and CP-propeller) (*);

.4.5 strength calculation of propeller blade, and for detachable blade propellers and controllable pitch propellers (CP-propellers), also calculation of fastening of blades to the boss (**);

.5 documentation on active means of the ship's steering (AMSS):

.5.1 drawings of AMSS installation and securing;

.5.2 data to confirm compliance of the AMSS construction with operational conditions;

.5.3 calculation of loads acting on AMSS and its basic elements (**);

.6 calculation of power of main machinery for ships of ice classes **Ice2** to **Arc9** in compliance with the requirements of 2.1 of Part VII "Machinery Installations" for the minimum value of power delivered to the propeller shaft of ships (**).

3.3.8 Documentation on automation equipment:

.1 technical description of automation systems and devices with indication of their purpose and principle of operation (**);

.2 functional diagrams of alarm and monitoring systems (AMS), centralized monitoring systems, computer-based and integrated control systems and AMS, including diagrams of power supply (*);

.3 list of controlled parameters with indication of types of devices (*);

.4 technical documentation on remote automated control for main engines and CP-propellers: functional diagrams, control console panels with indication of all devices, diagram of power supply of remote automated control (*);

.5 technical documentation on automation of auxiliary engines and electric power plants: functional diagrams, control console panels for electric power plant with indication of all devices (*);

.6 technical documentation on automation of boiler plant: functional diagrams, control console panels with indication of all devices (*);

.7 functional diagrams of automation of compressor plants (*);

.8 functional diagrams of automation and remote control of bilge and ballast systems (*);

.9 functional diagrams of remote level indicating systems (*);

.10 general arrangement plans of automation equipment at the engine control room and on the navigation bridge (*);

.11 technical background containing the design intent of a dynamic positioning system with indication of the equipment redundancy level for ships with distinguishing marks **DYNPOS-2** or **DYNPOS-3** in the class notation, with substantiation of the worst-case failure design intent when, after occurrence of the worst-case failure, the ship will be able to keep position and/or heading in the specified environmental conditions (**);

.12 technical background containing substantiation of distinguishing automation mark in class notation of the ship (**);

.13 general arrangement plan of the dynamic positioning system equipment including thrusters, switchboards and panels of dynamic positioning system with indication of main and back-up (if any) control stations, position reference systems and external force sensors (*);

.14 drawings of cable runs (power and control cables) with indication of their penetrations through watertight and fire-resisting bulkheads of ships with distinguishing mark **DYNPOS-3** in the class notation (*);

.15 drawings of panels of main and back-up (for **DYNPOS-3**) control stations of dynamic positioning system with indication of location of controls, thruster emergency stops, alarm devices, indicators and internal communications (*).

3.3.9 Documentation on systems and piping:

.1 documentation on ship's systems:

.1.1 bilge system diagram (*);

.1.2 ballast system diagram (*);

.1.3 heel and trim system diagrams, as well as diagrams of devices (automatic and manually controlled) for ship equalization by cross-flooding (*);

.1.4 air, overflow and sounding pipes diagrams (*);

.1.5 diagrams of ventilation and air conditioning systems of accommodation, service, cargo, machinery and production spaces with indication of watertight and fire-resisting bulkheads, arrangement of fire dampers, as well as indication of closures of ventilation ducts and openings (*);

.1.6 diagrams of sanitary and drain water system, as well as scuppers with indication of watertight bulkheads, freeboard deck and distances from waterline or freeboard deck to the relevant discharges, as stated in 4.3.2.4 and 4.3.2.6 of Par VIII "Systems and Piping" (*);

.1.7 diagrams of sea chest heating and blow-down systems, heating system of side valves, heating system for liquids in tanks, steaming system for tanks (*);

.1.8 diagram of the compressed air system for typhoons, for purging the sea chests (*);

.1.9 diagrams of systems for hydraulic drives of mechanisms and arrangements (*);

.1.10 diagrams of special systems for oil tankers and combination carriers (*);

.1.11 calculations of the systems: bilge, ballast, vapour emission control; ventilation of battery rooms, cargo pump rooms, enclosed spaces and holds intended for the carriage of motor and road vehicles; calculation of steam pipes for thermal expansion (**);

.1.12 diagram of thermal liquid system (*);

.2 documentation on machinery installation systems:

.2.1 diagrams of live and waste steam systems (*);

.2.2 diagrams of purging systems for boilers, machinery and steam piping (*);

.2.3 diagram of condensate and feed water system (*);

.2.4 diagram of fuel oil system (*);

.2.5 diagram of lubricating oil system (*);

.2.6 diagrams of fresh water and sea water cooling systems (*);

.2.7 diagram of starting air system (*);

.2.8 diagram of exhaust gas pipes and uptakes (*);

.2.9 drawing of sea chests and ice boxes equipment (*);

.2.10 calculation of starting air system (**);

.2.11 calculation of fuel oil service tank capacity of emergency diesel-generator (**);

.3 drawings of air pipes and ventilator pipes on open deck spaces (*);

.4 data on pipe dimensions (diameter and wall thickness) as well as data on material of pipes used, material of gaskets and types of pipe connections shall be contained in documentation listed in 3.3.9.1 and 3.3.9.2.

3.3.10 Documentation on electrical equipment:

.1 diagrams of power generation and distribution from the main and emergency sources of electrical power: power networks, lighting networks (up to section distribution switchboards) and navigation lights (*);

.2 single-line diagrams and general view of the main and emergency switchboards, control desks and other switchboards of non-standard design (*);

.3 calculation results of necessary output of the ship's electric power plant providing for the operating conditions specified in 3.1.5 of Part XI "Electrical Equipment", substantiation of the choice of the number and power output of generators, as well as calculation of capacity of emergency sources of electrical power (**);

.4 calculation results of cross-sections of cables with indication of their types, currents and protection (**);

.5 circuit diagrams of the main current, excitation, control, signalling, protection and interlocking of the electric propulsion plant (*);

.6 calculation results of necessary power output of the propulsion generators to ensure normal operation under all operating conditions (**);

.7 results of short-circuit current calculation and analysis of selective properties of protective devices for rated current of the generators or the generators operating in parallel in excess of 1000 A (**);

.8 calculation results of illumination intensity for areas and spaces (**);

.9 diagrams of internal communication and signalling according to Section 7 of Part XI "Electrical Equipment" (*);

.10 circuit diagrams of essential electric drives (according to 1.3.2.1 and 1.3.2.2 of Part XI "Electrical Equipment") (*);

.11 diagrams of lubrication systems for electrical machines and air cooling systems for the main electrical machines (*);

.12 diagrams of the protective, lightning protection and antistatic earthing (*);

.13 arrangement diagrams of cable runs with indication of spaces which they pierce, including information on power supply cables for services required for operation under fire conditions in case of their transit routing through high fire risk spaces (refer to 16.8.1.9 and 16.8.1.11 of Part XI "Electrical Equipment") (*);

.14 capacity calculation results for accumulator batteries of emergency lighting, navigation lights, general alarm system, fire alarm system and fire smothering appliances, stating arrangements for emergency diesel generators (**);

.15 results of calculation of the prospective voltage curve harmonic distortion factors for different parts of the ship’s mains when using power semiconductor units, as well as results of calculation of harmonic distortions following the harmonic filters failure if installed in the ship's electrical distribution system (**);

.16 calculation of expected efficiency of overload protection of generator sets by means of disconnection of the part of consumers with explanations of the number of disconnection steps and the list of consumers to be disconnected in every step (**);

.17 diagram and drawing of disconnection and blocking system of electrical equipment, which is not used in the oil recovery ship operations on elimination of oil spillage (*);

.18 list of electrical equipment installed in dangerous zones, containing information on spaces and areas where it is installed with indication of zones according to 19.2.3.1 of Part XI "Electrical Equipment", and information on this equipment with indication of type of protection (**);

.19 calculation of voltage drops when a consumer with the maximum starting power is switched on (**);

.20 list of measures to ensure the electromagnetic compatibility of a ship equipment (**);

.21 failure mode and effects analysis (FMEA) for all electric and hydraulic components of the podded drive used as the rudder and steering gear (**);

.22 technical background containing substantiation for the use of electric propulsion plant (if applicable) in compliance with the requirements of Section 17 of Part XI "Electrical Equipment" (**);

.23 drawing of dangerous spaces and zones (only for oil tankers, oil recovery ships, ships carrying liquefied gases in bulk and ships carrying compressed natural gas, chemical tankers, ships other than liquefied gas carriers utilizing gas or other low flash point fuels and ships carrying dangerous goods) (*).

3.3.11 Documentation on arrangements and equipment for the prevention of pollution from ships.

3.3.11.1 For ships of all types:

.1 arrangement plan of oil fuel tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 12A of Annex I to MARPOL 73/78), if applicable (**);

.2 calculation of required capacity of holding tanks, oily water and sewage tanks, garbage containers and their arrangement plans (**);

.3 diagram of oily bilge water piping (*);

.4 diagram of oil residue piping (*);

.5 diagram of sewage piping (*);

.6 calculation of the discharge rate of untreated sewage (*);

.7 Energy Efficiency Design Index Technical File (EEDI Technical File) in accordance with the Guidelines on Survey and Certification of Energy Efficiency Design Index (EEDI) (IMO resolution MEPC.254(67) as amended), if applicable (**).

3.3.11.2 For oil tankers, in addition to the documentation specified in 3.3.11.1:

.1 calculation of slop tanks capacity (**);

.2 calculation of accidental oil outflow (Regulation 23 of Annex I to MARPOL 73/78) (**);

.3 arrangement plan of cargo and slop tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 19 of Annex I to MARPOL 73/78) (**);

.4 arrangement plan of pump room (*) and calculation confirming their protective location relative to shell plating (Regulation 22 of Annex I to MARPOL 73/78), if applicable (**);

.5 diagram of emergency oil transfer system (if applicable) (*);

.6 diagram of crude oil washing system and shade diagram (if applicable) (*);

.7 arrangement plan of discharge outlets (*);

.8 diagram of transfer of oil residues and tank washings from cargo tank areas into slop tanks (*);

.9 diagram of ballast and washing water discharge monitoring and control system (if applicable) (*).

3.3.11.3 For tankers carrying noxious liquid substances, in addition to the documentation listed in 3.3.11.1:

.1 calculation of size of underwater discharge outlet (**);

.2 diagram of cargo tank ventilation systems (if applicable for tank cleaning) (*);

.3 arrangement plan of discharge outlets (*).

3.3.12 Documentation on cargo handling gear:

.1 general view of cargo handling gear with indication of their principal characteristics, arrangement on board the ship and securing of the cargo handling gear in "stowed for sea" position (to be submitted for information).

3.3.13 Documentation on refrigerating plants:

.1 cooling capacity calculation with indication of cooling load from each refrigerated cargo space and cold consumer (**);

.2 general arrangement plans of a refrigerating plant with indication of refrigerating equipment and piping arrangement on board the ship, places for installation of temperature and atmosphere control devices (*);

.3 circuit diagrams of main and emergency ventilation systems in the refrigerating machinery spaces and other spaces containing equipment under a refrigerant pressure with indication of the watertight and fire-resisting bulkheads, as well as the number of air changes per hour (*);

.4 air cooling diagram with indication of watertight and fire-resisting bulkheads (*);

.5 arrangement plans of equipment in refrigerating machinery spaces with indication of escape routes (*);

.6 circuit diagram of water screen system of refrigerating machinery space (for Group II refrigerant) (*);

.7 drawings of cargo cooling air ducts in thermoinsulated containers with an indication of the layout on board (*);

.8 arrangement plan of emergency discharge system of refrigerant (*).

Note. In case of unclassed refrigerating plant, only drawings in accordance with 3.3.13.2 — 3.3.13.3 (for refrigerant only), 3.3.13.5, 3.3.13.6 and 3.3.13.8 shall be submitted.

3.3.14 Documentation on cyber security:

.1 concept of computer based system (for information). The document shall contain the following information:

purpose of computer based system with brief description of functions;

flowchart (plan) clearly identifying shipboard systems controlled/monitored by the computer based system. The flowchart (plan) shall also contain the following information: communications with external network for monitoring, control and performance of administrative functions; communications with other computer based systems;

.2 description of data transmission networks (for information). The document shall contain the following information:

physical location of the system and subsystem components (e.g., name of a space, deck of location, etc.);

category I system communications with category II or III systems;

network topology of systems and subsystems (star, ring, etc.);

applicable network technologies (e.g., Gigabit Ethernet, Fast Ethernet Ethernet);

applicable network cables (twisted pair, fibre optic, etc.);

communications from controllers and field devices (MODBUS, Fieldbus, etc.);

network diagrams indicating the devices, nodes, network cable details and general locations of the equipment;

list of IT and OT systems indicating their categories;

data flows and network devices or resources potentially limiting them;

details of external connections for remote access;

access points and interfaces, including machine-to-machine (M2M) interfaces;

logical diagrams of shipboard networks.

3.3.15 Documentation on accommodation spaces:

.1 plans of accommodation spaces (*) containing the following information on:

location and size of each space;

ventilation, heating, and hot and cold running fresh water in accommodation spaces;

location of furniture and equipment, including electrical equipment, in cabins (sleeping rooms);

location of equipment in sanitary spaces, dining rooms (mess rooms), recreation rooms and medical rooms (hospital accommodation).

3.3.16 Documentation of supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks SDS or MS in the class notation).

For supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks **SDS** or **MS** in the class notation) (hereinafter, vessels-carriers), the documentation shall include at least the following:

.1 general arrangement plans of manned submersibles and ship's diving systems on the vessel-carrier (*);

.2 arrangement plan of fire-fighting divisions in the vessel-carrier's spaces intended for control, communications and arrangement of manned submersibles and ship's diving system, as well as in the spaces for positioning of ancillary equipment of manned submersibles with indication of doors, closures of openings, passages (cutouts) in such divisions (*);

.3 diagrams, drawings and calculations of fire extinguishing systems for the spaces specified in 3.3.16.2 (*);

.4 diagram of fire protection and alarm system and alarm system for the spaces specified in 3.3.16.2 and layouts of the devices to monitor explosion/fire-hazardous concentrations of combustible gases in the storerooms for cylinders with flammable gases, compressors, accumulator batteries, etc. (*);

.5 detailed description of fire protection of the spaces with indication of insulating and finishing materials, their location and combustibility for the spaces specified in 3.3.16.2 (*);

.6 documentation on handling system of manned submersibles (except for documentation on handling system components located on the manned submersible to be submitted together with the documentation on the manned submersibles) (*).

3.4 DETAILED DESIGN DOCUMENTATION FOR A SHIP UNDER CONSTRUCTION

3.4.1 Hull documentation:

.1 drawings of stem and sternframe (*);

.2 drawings of sections and assemblies of the main hull including decks, transverse and longitudinal bulkheads, sides, bottom, double bottom (with table of positions of manholes and other openings), integral tanks outside double bottom, etc. (*);

.3 drawings of sections and assemblies of superstructures and deckhouses (*);

.4 drawings of engine and boiler casings, coamings, companions and other guards of openings in the ship's hull (*);

.5 drawings of propeller shaft tunnel, recesses, emergency escape trunks (*);

.6 drawings of propeller shaft brackets and bossings (*);

.7 drawings of seatings for the main machinery, boilers and shaft bearings, seatings for mooring and towing equipment, seatings for the auxiliary machinery and equipment according to 2.11 of Part II "Hull" (*);

.8 bulwark drawings (*);

.9 plan of testing the hull for watertightness (*);

.10 plan of weld control and table of hull and superstructure welding containing the information given in 3.2.2.17 (*);

.11 hull blocks plan (**);

.12 description of process of hull parts mating afloat developed based on the Register recognized methods of similar work (**);

.13 hull painting list (**);

.14 Loading Manual for ships of 65 m and over in length (refer to 1.4.9 of Part II "Hull") (**);

.15 booklet on stability and strength for loading, unloading and stowage of bulk cargoes other than grain (refer to 1.4.9.7 of Part II "Hull") (**);

.16 for ships assigned the distinguishing marks **CSR** and/or **CON-M**, Construction Monitoring Plan (**);

N o t e. Plan shall be reviewed by the RS Branch Office, which carries out technical supervision during construction of ship.

3.4.2 Documentation on arrangements, equipment and outfit:

.1 general view of assemblies and parts of closing appliances of openings in hull, superstructures, deckhouses and subdivision bulkheads (*);

.2 general view of assemblies and parts of rudder and steering gear, active means of the ship's steering, anchor, mooring and towing arrangements, spar and rigging, guard rails (*);

.3 general view of assemblies and parts of appliances for bulk cargo separation (*);

.4 plans of arrangement and fastening of ladders with essential parts and assemblies (including accommodation and pilot ladders, and companion ladders) (*);

.5 plan showing the position of the IMO number on board a ship in compliance with the requirements of regulation XI-1/3 of SOLAS-74/04 (for all passenger ships of 100 gross tonnage and above and for all cargo ships of 300 gross tonnage and above) (*).

3.4.3 Documentation on stability:

.1 preliminary Stability Booklet and supporting calculation data (**);

.2 sketch showing the location of solid ballast with a specification containing information on the weight of each ballast group and the coordinates of the centre of gravity (**).

3.4.4 Documentation on subdivision:

.1 preliminary Damage Stability Booklet and supporting calculation data (**);

.2 documents on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier, containing flooding detection system specification (**).

3.4.5 Documentation on fire protection:

.1 structural drawings of assemblies and parts of fire-fighting divisions (*);

.2 structural drawings of insulation, lining and deck covering (*);

.3 structural drawings of assemblies and equipment of fire extinguishing systems (*) with necessary calculations (**);

.4 arrangement plan of fire-fighting outfit (*);

.5 list of spare parts and tools (**);

.6 fire plan in accordance with 1.4 of Part VI "Fire Protection" (*) (the stamp of approval is put upon completion of ship construction).

3.4.6 Documentation on systems and piping:

.1 drawings of ship's systems:

.1.1 bilge system (*);

.1.2 ballast system (*);

.1.3 heel and trim system, including design of devices (automatically and manually controlled) for ship equalization by cross-flooding (*);

.1.4 air, overflow, sounding pipes, liquid level indicators, remote level gauging system in fuel oil tanks, cargo and slop tanks of oil tankers (*);

.1.5 ventilation systems of accommodation, service, cargo, machinery and production spaces, with indication of design of fire dampers and of means of closing the ventilation ducts and openings required to ensure fire safety of the ship (*);

.1.6 vent pipes and venting equipment (design of flame arresters, flame screens, pressure/vacuum valves and high velocity vents) (*);

.1.7 sanitary and drain water system and scuppers (*);

.1.8 cargo and stripping systems (*);

.1.9 cargo heating system (*);

.1.10 fueling and fuel transfer system (*);

.1.11 thermal liquid system (*);

.2 drawings of power plants piping:

.2.1 live and waste steam and purging systems (*);

.2.2 feed water, condensate and evaporating plant systems (*);

.2.3 fuel oil system (*);

.2.4 lubricating oil system (*);

.2.5 cooling system (*);

.2.6 exhaust gas and uptake systems (*);

.2.7 compressed air system (*);

.2.8 fuel oil, water and lubricating oil heating systems; structural drawings of assemblies and connections of heating elements (*);

.2.9 drawings of position and details of attachment of bottom and side valves (*);

.3 structural drawings of pipelines and ventilation ducts passing through the watertight bulkheads, fire-fighting divisions, decks, and platforms (*);

.4 drawings of position and details of attachment of bottom and side valves and valves at the collision bulkhead.

3.4.7 Documentation on machinery and boiler plant:

.1 drawings of installation and fastening of main machinery and steam boilers (*);

.2 drawings of equipment of fuel oil and lubricating oil tanks (*);

.3 drawings of silencers and spark arresters of exhaust pipes and uptakes (*);

.4 drawings of shafting and sterntube arrangement:

.4.1 thrust, intermediate and propeller shafts (*);

.4.2 journal and thrust bearings and their fasteners (*);

.4.3 couplings (*);

.4.4 sterntube and parts of sterntube arrangement (bushes, bearings, sealings) (*);

.4.5 calculation of parameters of shafting alignment (**);

.5 drawings of fixed pitch propeller (with blade fastening parts for detachable-blade propeller) (*);
.6 drawings of controllable pitch propeller (CPP):
.6.1 propeller boss as assembled (*);
.6.2 blade (*);
.6.3 propeller shaft and its fastening to the boss (*);
.6.4 oil distribution boxes as assembled (*);
.6.5 pitch control units as assembled (*);
.6.6 shaft of the pitch control unit (*);
.7 drawings of AMSS installation and securing:
.7.1 general view with necessary sections and sealing details (*);
.7.2 drawings (*) and calculations (*) of propeller, shafts, couplings, pinions, gear wheels of steerable propellers, water-jets and thrusters;
.7.3 drawings of shafts, gearing, rotors, blades and pitch control gear of vertical-axis propellers (*) as well as strength calculations of the input drive shaft of rotor, blade, gear (**);
.7.4 drawings of bearings and seals (*);
.7.5 hull member drawings (*) and calculation of connections (**), drawings of propeller nozzles and tunnels (*);
.7.6 diagrams of cooling, lubricating and hydraulic turning systems for steerable propellers (blades of CP-propellers), as well as particulars of piping of the above mentioned systems (*);
.7.7 calculations (**) and diagrams of electric drives for electrically driven AMSS (*);
.7.8 documentation on monitoring, control, and protection systems (**);
.7.9 torsional vibration calculations (for main AMSS and dynamic positioning systems) and service life calculation of rolling bearings (**).

3.4.8 Documentation on automation equipment:

.1 structural and mounting drawings of consoles and control and monitoring switchboards as well as mounting drawings of elements of automation systems and devices, sensors, signalling and instruments (*);
.2 failure modes and effects analysis (FMEA, refer to 8.2.1 of Part XV "Automation") of dynamic positioning system taking into account the design intent as specified in 3.3.8.11 (**);
.3 list of critical components of dynamic positioning system (**);
.4 capability plots demonstrating ship's position keeping capacity at least for fully effective dynamic positioning system and post worst-case failure condition for particular environmental conditions (**);
.5 functional diagrams of computer-based dynamic positioning control system with indication of inputs and outputs with feedbacks and power supplies (*);
.6 blackout recovery procedure for dynamic positioning system (**).

N o t e . The documentation specified in 3.4.8 shall be submitted by the designer or system integrator (shipyard or, by cooperation, contracted alternative organization/supplier). The documentation shall be developed taking into account the solutions adopted in the technical design documentation.

3.4.9 Documentation on electrical equipment:

.1 diagrams of the main and emergency lighting in the spaces and places of arrangement of essential appliances, escape routes, survival craft embarkation stations on the deck and outboard (supplying from distribution switchboards) (*);
.2 drawings of cable runs and their penetrations through watertight, gastight and fire-resisting bulkheads, decks and platforms (*);
.3 assembly drawings (only for non-standard products) including:
.3.1 main switchboards (*);
.3.2 electric propulsion plant switchboards (*);
.3.3 emergency switchboards (*);
.3.4 control stations and panels (*);

.3.5 special switchboards (*);
.3.6 power and lighting switchboards (*);
.4 diagrams and installation and layout drawings of electrical apparatus and facilities for measuring non-electric values (level, pressure, temperature gauges, etc.) (*);
.5 diagrams and drawings of radio interference suppression devices (*);
.6 drawings of layout and installation of essential electrical equipment (*);
.7 instructions on preparation and application of electrical equipment of oil recovery ship for elimination of oil spills. It is to determine the procedure of compulsory disconnection of power consumers having no Certificates on Safe Type Electrical Equipment (**).

N o t e . The documentation specified in 3.4.9 shall be submitted by the designer or alternative organization (contracted manufacturer, supplier, shipyard or system integrator). In the latter case, the documentation shall be developed taking into account the solutions adopted in the technical design documentation.

3.4.10 Documentation on arrangements and equipment for the prevention of pollution from ships.
3.4.10.1 For ships of all types:
.1 arrangement plan of oil fuel tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 12A of Annex I to MARPOL 73/78), if applicable (**);
.2 diagram of oily bilge water piping (*);
.3 diagram of oil residue piping (*);
.4 diagram of sewage piping (*).
3.4.10.2 For oil tankers, in addition to the documentation specified in 3.4.10.1:
.1 arrangement plan of cargo and slop tanks (*) and calculation confirming their protective location relative to shell plating (Regulation 19 of Annex I to MARPOL 73/78) (**);
.2 arrangement plan of pump room (*) and calculation confirming their protective location relative to shell plating (Regulation 22 of Annex I to MARPOL 73/78), if applicable (**);
.3 diagram of emergency oil transfer system (if applicable) (*);
.4 diagram of crude oil washing system and shade diagram (if applicable) (*);
.5 arrangement plan of discharge outlets (*);
.6 diagram of transfer of oil residues and tank washings from cargo tank areas into slop tanks (*);
.7 diagram of ballast and washing water discharge monitoring and control system (if applicable) (*).
3.4.10.3 For tankers carrying noxious liquid substances, in addition to the documentation listed in 3.4.10.1:
.1 calculation of size of underwater discharge outlet (**);
.2 diagram of cargo tank ventilation systems (if applicable for tank cleaning) (*);
.3 arrangement plan of discharge outlets (*).
3.4.11 Tonnage calculations in accordance with the International Convention on Tonnage Measurement of Ships, 1969 (for ships of 24 m in length and above) or the Rules for the Tonnage Measurement of Sea-Going Ships (for ships of less than 24 m in length) (**).
3.4.12 Tonnage calculations in accordance with the Regulations for the Measurement of Tonnage for the Suez Canal and/or the Rules for Measurement of Vessels for the Panama Canal (if necessary, issue of appropriate tonnage certificates) (**).
3.4.13 Documentation on refrigerating plants:
.1 tables of the values of the bounding surface areas of the refrigerated cargo spaces with data on calculated heat-transfer coefficient for each surface and averaged heat-transfer coefficient for the insulating structure of refrigerated spaces (**);
.2 drawings of air duct insulation with technical data of insulating materials (*).

N o t e . In case of unclassed refrigerating plant, the drawings in accordance with 3.4.13 shall not be submitted.

3.5 PROGRAMMES OF MOORING AND SEA TRIALS

3.5.1 Programmes of mooring and sea trials shall be approved by the Register prior to commencement of the relevant trials.

3.5.2 The scope of mooring and sea trials shall comply with the relevant requirements of the Guidelines on Technical Supervision of Ships under Construction.

3.5.3 Programmes of mooring and sea trials of ships with distinguishing marks **DYNPOS-2** or **DYNPOS-3** in the class notation shall contain complete tests of the dynamic positioning system including the tests to verify FMEA provisions.

4 CLASSIFICATION OF REFRIGERATING PLANTS

4.1 GENERAL

4.1.1 For ensuring safety of a ship and preventing ozone-destructive effect of refrigerants on environment the refrigerating plants installed in ships classed with the Register are subject to surveys in the following cases:

.1 refrigerating plants working with Group II refrigerants in accordance with Table 2.2.1 of Part XII "Refrigerating Plants";

.2 refrigerating plants working with Group I refrigerants and comprising the compressors with theoretical suction capacity 125 m^3/h and above;

.3 refrigerating plant ensures the functioning of systems affecting the ship safety. It is allowed to install refrigerating plants that ensure the functioning of systems affecting the ship safety and are not subject to survey, provided they are duplicated.

4.1.2 From the number of the refrigerating plants stated in 4.1.1 the Register assigns a class to:

.1 refrigerating plants intended for developing and maintaining the required temperatures in

refrigerated cargo spaces of transport ships, as well as in thermal containers to provide proper carriage of goods;

.2 refrigerating plants intended for developing and maintaining the required temperatures in refrigerated cargo spaces, for cold-treatment of sea products (cooling, freezing) and supplying the cold necessary for operation of process plants in fishing ships and other ships used for processing of the biological resources of sea.

Other refrigerating plants from the number of those stated in 4.1.1 subject to the Register supervision are considered unclassed.

4.2 CLASS OF A REFRIGERATING PLANT

4.2.1 General.

4.2.1.1 The Register may assign a class to a refrigerating plant after the ship's construction, as well as assign, or renew a class of a refrigerating plant installed in a ship in service.

4.2.1.2 Assignment or renewal of a class means that the refrigerating plant fully or to a degree considered acceptable by the Register complies with the relevant requirements of these Rules, and that the technical condition of the plant is in accordance with the provisions of design specifications included in the Classification Certificate for Refrigerating Plant.

4.2.1.3 Assignment or renewal of a class shall be confirmed by the issue of a Classification Certificate for Refrigerating Plant after the appropriate survey carried out.

4.2.2 Class notation of a refrigerating plant.

4.2.2.1 The character of classification of a refrigerating plant consists of the following marks:

REF⊛ — for a refrigerating plant built according to these Rules and surveyed by the Register;

REF★ — for a refrigerating plant built according to the rules of a classification society recognized by the Register, surveyed by that classification society and then classed by the Register;

(REF)★ — for a refrigerating plant built without being surveyed by a classification society recognized by the Register or without being surveyed by a classification society at all, but subsequently classed with the Register;

REF★ — for a refrigerating plant built according to the rules of an IACS member society, surveyed by that society during construction and subsequently classed by the Register, if the refrigerating plant does not fully comply with the requirements of Part XII "Refrigerating Plants".

4.2.2.2 Mark of a capability to cargo refrigeration.

If the refrigerating plant has a capacity sufficient to refrigeration of a non-precooled cargo on shipboard during a period of time that provides preservation of that cargo, a distinguishing mark **PRECOOLING** shall be added to the character of classification.

In such a case, a note specifying the conditions of cargo cooling on shipboard shall be entered into the Classification Certificate for Refrigerating Plant and in the Register of Ships.

4.2.2.3 Mark of capability for cooling or freezing sea products.

The distinguishing mark **QUICK FREEZING** is added to the character of classification if the plant is intended for cooling or freezing sea products and is in accordance with the relevant requirements specified in Part XII "Refrigerating Plants".

4.2.2.4 Distinguishing marks of refrigerating plants.

4.2.2.4.1 If a refrigerating plant is intended for cooling of cargo transported in thermal containers and complies with applicable requirements of Part XII "Refrigerating Plants", the distinguishing mark **CONTAINERS** is added to the character of classification of the plant.

4.2.2.4.2 If, in addition to a refrigerating plant, a ship is equipped with atmosphere control system in refrigerated spaces and/or thermal containers which complies with applicable requirements of Part XII "Refrigerating Plants" the distinguishing mark **CA** is added to the character of classification of the plant.

4.2.3 Additional characteristics.

4.2.3.1 Additional details of conditions for cooling cargoes on board, specified temperature conditions for transportation of cargoes and other details are indicated in the Classification Certificate for Refrigerating Plant and in the Register of Ships if it is found necessary by the Register to specify the purpose or structural features of the refrigerating plant.

4.2.3.2 Number of thermal containers served by the refrigerating plant is indicated in the Classification Certificate for Refrigerating Plant and in the Register of Ships.

4.2.4 Alteration of marks in class notation.

The Register may delete or alter a mark shown in the class notation in case of any modification or non-compliance with the requirements which served as the basis for the insertion of that mark into the class notation.

4.3 TECHNICAL DOCUMENTATION OF A REFRIGERATING PLANT

4.3.1 Documentation of a classed refrigerating plant.

4.3.1.1 Prior to delivery of a refrigerating plant onboard the ship, documentation with a sufficient scope of information to prove that the requirements of the RS rules for a refrigerating plant are complied with shall be submitted to the Register for review:

.1 technical description of a refrigerating plant (**);

.2 circuit diagrams of refrigerant, cooling medium, cooling water systems with indication of places for installation of instruments and automatic devices (*);

.3 arrangement plans of equipment in refrigerated spaces with indication of places for installation of temperature control devices (*);

.4 construction plans of insulation of refrigerated spaces with specification of insulating materials (*);

.5 circuit diagrams of automatic control, protection and alarm systems (*);

.6 list of machinery, vessels and apparatus of refrigerating plant with indication of technical characteristics (**);

.7 list of control devices and measuring instruments, protection and alarm systems with indication of technical characteristics (**);

.8 drawings of sealing and flexible joints with indication of details on materials (*);

.9 list of equipment of the atmosphere control system, including control and automatic devices (**);

.10 drawings of installation and fastening of machinery, vessels and apparatus (*).

4.3.2 Test program (*).

4.3.2.1 Test program with indication of the method of design cooling load generation (including a calculation of the power of additional heaters to be used) and the method of determining the actual averaged heat-transfer coefficient for the insulating structure of refrigerated cargo spaces shall be approved by the Register prior to commencement of the relevant tests.

4.3.2.3 The scope of tests shall comply with the relevant requirements of the Guidelines on Technical Supervision of Ships under Construction.

4.3.3 Documentation of an unclassed refrigerating plant.

4.3.3.1 Prior to delivery of a refrigerating plant on board the ship, documentation listed in 4.3.1.1.2 and 4.3.1.1.3 (for refrigerant only), 4.3.1.1.5 (for protection and alarm system only), 4.3.1.1.6, 4.3.1.1.7 (for gauges in refrigerant system and protection and alarm devices only), 4.3.1.1.10 shall be submitted to the Register.

Russian Maritime Register of Shipping

Rules for the Classification and Construction of Sea-Going Ships
Part I
Classification

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