

RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF FLOATING OFFSHORE OIL-AND-GAS PRODUCT UNITS

PART XIV WELDING

ND No. 2-020201-024-E



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RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF FLOATING OFFSHORE OIL-AND-GAS PRODUCT UNITS

Rules for the Classification and Construction of Floating Offshore Oil-and-Gas Product Units (FPU) of Russian Maritime Register of Shipping (RS, the Register) have been approved in accordance with the established approval procedure and come into force on 1 January 2023.

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 and Explosion 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 "General Requirements and Safety Principles".

The Rules supplement the Rules for the Classification and Construction of Sea-Going Ships and Rules for the Classification, Construction and Equipment of Mobile Offshore Drilling Units and Fixed Offshore Platforms.

REVISION HISTORY

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

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

1 GENERAL

1.1 Requirements of this Part of the Rules for the Classification and Construction of Floating Offshore Oil-and-Gas Product Units¹ apply to welding of the FPU hull structures, machinery and machinery installations, steam boilers, heat exchangers, pressure vessels, piping, equipment and arrangements.

1.2 Welded joints and structures subject to the Register technical supervision shall meet the requirements of Part XIV "Welding" of the Rules for the Classification and Construction of Sea-Going Ships² and Part XIII "Welding" of the Rules for the Classification, Construction and Equipment of Mobile Offshore Drilling Units and Fixed Offshore Platforms³.

1.3 As far as structures stated in [1.1](#) are concerned, the following is subject to the Register technical supervision:

- .1** welding consumables;
- .2** welding procedures (selection of welding consumables, preparation of components for welding, assembly, pre- and postheating, heat treatment);
- .3** methods and scope of inspection, criteria for evaluation of welded joints.

1.4 The scope of technical documentation on welding, which shall be agreed as part of the FPU design is set out in Part I "Classification" of the RS Rules. Technical documentation on items specified in [1.1](#) shall include information on welding required by those parts of the RS Rules, which cover the items concerned.

1.5 Welding of items stated in [1.1](#) shall be effected by certified welders (operators) and Register-approved welding works (shops, bays) using welding consumables and welding procedures approved by the Register.

1.6 To effect welding operations and non-destructive testing of welded joints in structures subject to the Register technical supervision the works shall have adequate equipment.

1.7 Where welding is performed at low temperatures working conditions shall be provided to enable the welder to produce sound welds. The welding site shall be protected from draught and precipitation. When welding is performed at low temperature, the weld, if necessary, shall be protected from excessively rapid cooling.

1.8 On condition proper quality of welded joints is ensured, welding operations on structures specified in [1.1](#) of hull structural steel of normal and higher strength 20 mm or below in thickness are permitted at ambient temperature $-25\text{ }^{\circ}\text{C}$, provided the welding consumables have been tested at this temperature according to the Register-approved procedure.

1.9 The welding of piping made of low alloy steel, piping of the steam main as well as piping, which shall operate at temperatures above $350\text{ }^{\circ}\text{C}$ shall not be conducted at temperatures below zero.

1.10 The edge preparation of the parts to be welded shall be effected by methods which ensure the required quality of welded joints.

1.11 From the edges of the parts to be welded, oil, moisture, scale, rust and other contaminating substances shall be removed.

1.12 When welding of structures is effected at temperatures below zero the edges being welded shall be free from snow, hoar-frost and ice and be dry.

1.13 When structures are welded, the sequence of welding operations shall be such as to ensure the absence of excessive residual stresses or distortions.

¹ Hereinafter referred to as "the FPU Rules".

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

³ Hereinafter referred to as "the MODU/FOP Rules".

1.14 Inspection of welding operations and welded joints during manufacture of structures and components shall be performed by the inspection authorities of the works. The results of the inspection shall be registered according to the procedure adopted at works, field not less than 5 years after the FPU commissioning and submitted to the surveyor to the Register at his request for examination.

1.15 The non-destructive testing of welded joints shall be effected according to the Register-approved standards or procedures and by laboratories recognized by the Register.

Russian Maritime Register of Shipping

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Part XIV
Welding**

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