

# **SCOPE OF ACCREDITATION**

TESTING LABORATORY (GOST ISO/IEC 17025-2019)

Test Center of "Izhorskaya Nauchno-Tekhnicheskaya Kompaniya" Limited Liability Company

name of test laboratory

RA.RU.21ИЖ01

Number in the register of accredited persons

1. RUSSIA, St. Petersburg, Kolpino, Finlandskaya str. 13, lit. BM.

addresses of business places

2. RUSSIA, St. Petersburg, Kolpino, Izhorsky Factory, house w/o number, room 3H, lit EX.

addresses of business places

#### For compliance with

### GOST ISO/IEC 17025-2019 General requirements for the competence of testing and calibration laboratories

name and details of interstate or national standard

### RUSSIA, St. Petersburg, Kolpino, Finlandskaya str. 13, lit. BM.

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No.	Documents establishing rules and methods of research (tests) and measurements	Description of object	OKPD 2 CODE (RCPEA 2)	CN CODE OF EAEU	Target characteristic (parameter)	Detection range
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#### 1. Product tests (research) and measurements

	GOST 9454; Physical- mechanical and other methods of research (tests) to determine the physical and mechanical properties	Steel (metal products from steels and alloys); Titanium-base alloys Semi-finished products of copper and copper alloys	24.44.2	-	Impact strength (KCU, KCV))	- 451 to 500 (J/cm <sup>2</sup> )
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No.	Documents establishing rules and methods of research (tests) and measurements	Description of object	OKPD 2 CODE (RCPEA 2)	CN CODE OF EAEU	Target characteristic (parameter)	Detection range
1.2.	GOST 7268; Physical- mechanical and other methods of research (tests) to determine the physical and mechanical properties	Steel (rolled sheet, strip, shaped and bar sections)	24.10.2	_	Impact strength (KCU, KCV))	- 451 to 500 (J/cm <sup>2</sup> )
1.3.	GOST 6996; Physical- mechanical and other methods of research (tests) to determine the physical and mechanical properties	Steel (welded joints and deposited weld metal); Semi- finished products of copper and copper alloys (welded joints and deposited weld metal)	24.10.2; 24.44.2	-	Impact strength (KCU, KCV)	- 451 to 500 (J/cm <sup>2</sup> )
1.4.	GOST ISO 898-1, p. 9.8; Physical- mechanical and other methods of research (tests) to determine the physical and mechanical properties	Fastening products and fastening screws (from carbon and alloy steels)	25.94.1	-	Impact strength (KCU, KCV)	- 451 to 500 (J/cm <sup>2</sup> )
1.5.	GOST 22848; Physico- mechanical; other methods of research (testing) for determination of physical and mechanical indicators	Steel (metal products from steels and alloys); Titanium-base alloys; Semi-finished products of copper and copper alloys	24.44.2	-	Impact strength (KCU, KCV)	- 451 to 500 (J/cm <sup>2</sup> )

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.6.	GOST 11701, Appendix 2; Physico-mechanical; strength	Steel (thin sheets and bands) 24		_	Plastic anisotropy coefficient	Estimate indicator: –
					Work-hardening index	Estimate indicator: –
.7.	GOST 12004; Physical and mechanical; strength	Reinforcement steel	24.10.62.210	_	Elongation at maximum load	_ 10 to 50 (%)
1.8.	GOST R ISO 6507-1; Physical and mechanical; hardness	Steel (metal products from steels and alloys)	24.10.2	-	Vickers hardness	- 1.00 to 99 (HV) 801 to 2993 (HV)
1.9.	GOST R ISO 148-1; Physical- mechanical and other methods of research (tests) to determine the physical and mechanical properties	Steel (metal products from steels and alloys); Titanium-base alloys; Semi-finished products of copper and copper alloys	24.44.2	-	Transverse expansion	– 5.1 to 10 (mm)

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1.10.	DIN EN ISO 148-1:2017; Physical-mechanical and other methods of research (tests) to determine the physical and mechanical properties	Steel (metal products from steels and alloys); Titanium-base alloys; Semi-finished products of copper and copper alloys	24.10.2; 24.45.30.187; 24.44.2		Transverse expansion	5.1 to 10 (mm)
1.11.	GOST 25.506; Physical and mechanical; strength	Steel (metal products from steels and alloys); Titanium-base alloys	24.10.2; 24.45.30.187	_	J-R curve (J-∆l diagram), MJ/m <sup>2</sup>	10 to 50
1.12.	MU 222-536-2011; Microscopy; optical method	Steel (blanks from corrosion- resistant austenitic class steels)	24.10.2	_	Grain size (number)	
1.13.	GOST 21876.1; Chemical tests, physicochemical tests; electrochemical	Ferromanganese	24.10.12.320	-	Mass fraction of manganese (Mn)	_ 65 to 69 (%)

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1.14.	GOST 21876.5; Chemical tests, physicochemical tests; photometric	Ferromanganese	24.10.12.320	_	Mass fraction of phosphorus (P)	– 0.56 to 0.7 (%)
1.15.	GOST 22536.4; p. 4; Chemical tests, physical-chemical tests; photometric	Basic iron and steel products (carbon steel, non-alloy cast iron)	24.10.1	_	Mass fraction of silicon (Si)	- 0.11 to 1.0 (%)
1.16.	GOST 21600.3; Chemical tests, physicochemical tests; gravimetric (weight)	Ferrochromium	24.10.12.270	-	Mass fraction of silicon (Si)	- 0.1 to 0.3 (%)
.17.	GOST 21600.17, p. 3; Chemical tests, physical-chemical tests; titrimetric (volumetric)	Ferrochromium	24.10.12.270	_	Mass fraction of chromium (Cr)	- 50 to 54 (%)

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.18.	GOST 14638.6; Chemical tests, physical-chemical tests; titrimetric (volumetric)	Ferrotungsten	24.10.12.150	-	Mass fraction of aluminum (Al)	- 6.1 to 7.0 (%)
19.	ASTM E415; Chemical tests, physical-chemical tests; atomic emission spectrometry (AES)	Steel (carbon and low-alloy)	24.10.2		Mass fraction of nitrogen (N)	0.01 to 0.055 (%)
					Mass fraction of aluminum (Al)	- 0.006 to 0.93 (%)
					Mass fraction of boron (B)	_ 0.0004 to 0.007 (%)
					Mass fraction of vanadium (V)	- 0.003 to 0.3 (%)
					Mass fraction of calcium (Ca)	- 0.002 to 0.003 (%)
					Mass fraction of cobalt (Co)	- 0.006 to 0.20 (%)

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1.19.					Mass fraction of silicon (Si)	- 0.02 to 1.54 (%)
					Mass fraction of manganese (Mn)	- 0.03 to 2.0 (%)
					Mass fraction of copper (Cu)	- 0.006 to 0.5 (%)
					Mass fraction of molybdenum (Mo)	- 0.007 to 1.3 (%)
					Mass fraction of arsenic (As)	0.003 to 0.1 (%)
					Mass fraction of nickel (Ni)	0.006 to 5.0 (%)
					Mass fraction of niobium (Nb)	- 0.003 to 0.12 (%)
					Mass fraction of tin (Sn)	- 0.005 to 0.061 (%)
					Mass fraction of sulfur (S)	_ 0.001 to 0.055 (%)
					Mass fraction of titanium (Ti)	- 0.001 to 0.20 (%)
					Mass fraction of carbon (C)	- 0.02 to 1.1 (%)

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1.19.					Mass fraction of phosphorus (P)	0.006 to 0.085 (%)
					Mass fraction of chromium (Cr)	0.007 to 8.14 (%)
					Mass fraction of zirconium (Zr)	0.01 to 0.05 (%)

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1.1.	GOST 18442; Non-destructive test; Non-destructive test with penetrants. Capillary penetrant- dye method	Steel (semi-finished products, products)	24.10.2		Size of discontinuity flaw indication	_ 0.001 to 0.49 (mm)
1.2.	RD RosEK 004-97; Non- destructive test; Non-destructive test with penetrants. Capillary penetrant-dye method	Steel (welded joints, base metal); Semi -finished products made of copper or copper alloys (welded joints, base metal)	24.10.2; 24.44.2		Size of discontinuity flaw indication	– 0.001 to 0.49 (mm)
1.3.	OST 26-5; Non-destructive test; Non-destructive test with penetrants. Capillary penetrant- dye method	Steel (welded joints, deposited and base metal); Titanium and products of it, titanium-based alloys, powders (welded joints, deposited and base metal); Semi - finished products of copper or copper alloys joints,	24.10.2; 24.45.30.180; 24.44.2; 24.42.2	-	Size of discontinuity flaw indication	– 0.001 to 0.49 (mm)

No.	Documents establishing rules and methods of research (tests) and measurements	Description of object	OKPD 2 CODE (RCPEA 2)	CN CODE OF EAEU	Target characteristic (parameter)	Detection range
1.3.		deposited and base metal); Semi - finished products of aluminum or aluminum alloys (welded joints, deposited and base metal)				
1.4.	RD 5P.9537-80; Non-destructive test; Non-destructive test with penetrants. Capillary penetrant- dye method	Basic iron and steel products (welded joints and base metal of steel and cast iron)	24.10.1	-	Size of discontinuity flaw indication	– 0.001 to 0.49 (mm)
1.5.	RD-19.100.00-KTN-001-10; Non-destructive test; magnetic particle method	Steel (welded joints)	24.10.2	-	Size of discontinuity flaw indication	_ 0.01 to 0.49 (mm)
1.6.	RD-19.100.00-KTN-001-10; Non-destructive test; Non- destructive test with penetrants. Capillary penetrant-dye method	Steel (welded joints)	24.10.2	-	Size of discontinuity flaw indication	– 0.001 to 0.49 (mm)

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1.7.	GOST R 56512; Non-destructive test; magnetic particle method	Steel (semi-finished products, parts, structural elements made of carbon, low alloy and highly alloyed steel)	24.10.2	_	Size of discontinuity flaw indication	– 0.01 to 0.49 (mm)
1.8.	OST 26-01-84; Non-destructive test; magnetic particle method	Steel (seams of welded joints of steel vessels and devices operating under pressure)	24.10.2	_	Size of discontinuity flaw indication	– 0.01 to 0.49 (mm)
1.9.	RD 5P.9851-81; Non-destructive test; magnetic particle method	Steel (products from ferromagnetic steels)	24.10.2	_	Size of discontinuity flaw indication	0.01 to 0.49 (mm)
1.10.	RD ROSEK-003-97; Non- destructive test; magnetic particle method	Steel (welded joints, base metal)	24.10.2	-	Size of discontinuity flaw indication	0.01 to 0.49 (mm)

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1.11.	EN 10228-1:2016; Non- destructive test; magnetic particle method	Steel (steel forgings)	24.10.2	_	Size of discontinuity flaw indication	_ 0.01 to 0.49 (mm)
1.12.	PNAE G-7-015-89; Non- destructive test; magnetic particle method	Steel (semi-finished products, welded joints and depositions)	24.10.2	-	Size of discontinuity flaw indication	0.2 to 0.49 (mm)
1.13.	GOST R 50.05.06; Non-destructive test; magnetic particle method	Steel (semi-finished products, welded joints and depositions)	24.10.2		Size of discontinuity flaw indication	- 0.2 to 0.49 (mm)

General Director	Electronically signed	T.I. Titova
Title of authorized person	signature of authorized person	initials, surname of authorized person