AREA OF ACCREDITATION

TESTING LABORATORY (GOST ISO/IEC 17025-2019)

Testing Center of Izhora Scientific and Technical Company, Limited Liability Company

name of testing laboratory

RA.RU.21ИЖ01

Number in the register of accredited persons

1. 196650, RUSSIA, Saint Petersburg, Kolpino, Finlandskaya str., 13, lit. BM...

business addresses

For compliance

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

name and details of the interstate or national standard

196650, RUSSIA, Saint Petersburg, Kolpino, Finlandskaya str., 13, lit. BM...

business addresses

Item No.	Documents establishing rules and methods of research (tests) and measurements	Name of object	OKPD CODE 2	EAEU CN of FEA CODE	Defined characteristic (Indicator)	Determination range
1. Testing (research), measurement of products						
1.1.	GOST 21876.1; Chemical tests, physical-chemical tests; electrochemical method (all method groups)	Ferromanganese;	24.10.12.320	-	Mass fraction of manganese (Mn)	- 70 to 95 (%)

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1.2.	GOST 16591.3; Chemical tests, physical-chemical tests; electrochemical method (all method groups)	Ferrosilicomanganese;	24.10.12.310	-	Mass fraction of manganese (Mn)	- 50 to 80 (%)
1.3.	GOST 16698.1; Chemical tests, physical-chemical tests; electrochemical method (all method groups)	Manganese and manganese products, powders (metallic and nitrided manganese);	24.45.30.240	-	Mass fraction of manganese (Mn)	- 80.0 to 96.5 (%)
1.4.	GOST 13230.6, p.6; Chemical tests, physicochemical tests; electrochemical method (all method groups)	Ferrosilicon;	24.10.12.110	-	Mass fraction of chromium (Cr)	- 0.3 to 1.2 (%)
1.5	GOST 31382, p.5.6.2; Chemical tests, physical-chemical tests; gravimetric (weight) method	Copper;	24.44	-	Mass fraction of copper (Cu)	- 99.00 to 99.90 (%)

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1.6.	GOST 1953.3, p.3;Chemical tests, physico-chemical tests; gravimetric (weight) method	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of tin (Sn)	- 0.5 to 12 (%)
1.7.	GOST 1953.4, p.2;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of phosphorus (P)	- 0.01 to 0.5 (%)
1.8.	GOST 1953.9, p.3;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of silicon (Si)	- 0.01 to 0.3 (%)
1.9.	GOST 1953.12, p.6;Chemical tests, physico-chemical tests; infrared spectroscopy (spectrophotometric method)	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of sulfur (S)	- 0.001 to 0.1 (%)

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1.10.	GOST 1953.13, p.2a;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of manganese (Mn)	- 0.05 to 0.3 (%)
1.11.	GOST 1953.16;Chemical tests, physical-chemical tests; photometric method	Raw copper alloys (tin bronzes);	24.44.13.120	-	Mass fraction of titanium (Ti)	- 0.02 to 0.2 (%)
1.12.	GOST 15027.3, p.3;Chemical tests, physico-chemical tests; titrimetric (volumetric) method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of iron (Fe)	- 0.4 to 7 (%)
1.13.	GOST 15027.3, p.5;Chemical tests, physicochemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of iron (Fe)	- 0.01 to 1 (%)
1.14.	GOST 15027.4, p.2;Chemical tests, physico-chemical tests; titrimetric (volumetric) method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of manganese (Mn)	- 0.5 to 6.0 (%)

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1.15.	GOST 15027.4, p.3;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of manganese (Mn)	- 0.01 to 3.5 (%)
1.16.	GOST 15027.5, p.2;Chemical tests, physico-chemical tests; gravimetric (weight) method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of nickel (Ni)	- 0.5 to 35.0 (%)
1.17.	GOST 15027.5, p.3;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of nickel (Ni)	- 0.05 to 7 (%)
1.18.	GOST 15027.6, p.2;Chemical tests, physico-chemical tests; gravimetric (weight) method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of silicon (Si)	- 0.5 to 4 (%)
1.19.	GOST 15027.6, p.4;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of silicon (Si)	- 0.01 to 0.3 (%)

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1.19.						
1.20.	GOST 15027.11, p.2;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of phosphorus (P)	- 0.001 to 1.2 (%)
1.21.	GOST 15027.14, p.5;Chemical tests, physicochemical tests; photometric method	Raw copper alloys (tin-free bronzes);	24.44.13.120	-	Mass fraction of titanium (Ti)	- 0.05 to 0.3 (%)
1.22.	GOST 1652.3, p.3;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of iron (Fe)	- 0.01 to 2 (%)
1.23.	GOST 1652.4, p.2;Chemical tests, physico-chemical tests; titrimetric (volumetric) method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of manganese (Mn)	- 0.5 to 7 (%)

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1.24.	GOST 1652.9, p.5;Chemical tests, physico-chemical tests; infrared spectroscopy (spectrophotometric method)	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of sulfur (S)	- 0.001 to 0.05 (%)
1.25.	GOST 1652.11, p.2;Chemical tests, physico-chemical tests; gravimetric (weight) method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of nickel (Ni)	- 0.5 to 7 (%)
1.26.	GOST 1652.12, p.2;Chemical tests, physico-chemical tests; gravimetric (weight) method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of silicon (Si)	- 1 to 5 (%)
1.27.	GOST 1652.12, p.3;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of silicon (Si)	- 0.05 to 1 (%)

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1.28.	GOST 1652.13, p.2;Chemical tests, physico-chemical tests; photometric method	Raw copper alloys (copper-zinc alloys);	24.44.13.120	-	Mass fraction of phosphorus (P)	- 0.005 to 0.1 (%)
1.29.	ASTM E322-12; Chemical tests, physical-chemical tests; X-ray spectral method	Iron, pig iron, steel and ferroalloys (low-alloy steel, pig iron);	24.10	-	Mass fraction of vanadium (V)	- 0.03 to 0.25 (%)
					Mass fraction of manganese (Mn)	- 0.20 to 1.50 (%)
					Mass fraction of copper (Cu)	- 0.05 to 0.30 (%)
					Mass fraction of molybdenum (Mo)	- 0.04 to 0.40 (%)

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1.29.					Mass fraction of nickel (Ni)	- 0.10 to 1.0 (%)
					Mass fraction of chromium (Cr)	- 0.10 to 1.0 (%)
1.30.	ISO 898-5, p.9.2; Microscopy; optical method	Fasteners and fastening screws (carbon and alloy steels);	25.94.1	-	Depth of decarburized	- 0 to 5 (mm)
1.31.	ASTM E185-16 , p. 1-3, 5.3, 5.4;Physical and mechanical; Other methods of research (tests) to determine physical and mechanical indicators	Steel (steel products);	24.10.2	-	Upper shelf of the impact work	- - 80 to 150 (˚C)
1.32.	ISO 3690, p.4.3.2;Chemical tests, physico-chemical tests; other methods of physico-chemical and chemical investigations (tests), including	Steel (weld metal);	24.10.2	-	Mass fraction diffusible hydrogen (H)	- 0.1 to 1000 (million-[1] (ppm))

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1.32.						
1.33.	AWS A4.3-93 , p.3.2, 3.3, 5.3; Chemical tests, physico-chemical tests; other methods of physico-chemical and chemical research (testing), including "dry chemicals."	Steel (weld metal);	24.10.2	-	Mass fraction diffusible hydrogen (H)	- 0.1 to 1000 (million-[1] (ppm))
1.34.	ASTM E399-20, p.3-9;Physical and mechanical; Other methods of research (tests) to determine physical and mechanical indicators	Steel (steel products);	24.10.2	-	Critical factor stress intensities	Estimated figure: -
					Load	- 10 to 500 (kN)
					Moving	- 0.5 to 10 (mm)

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1.35.	GOST R 57997, p.7.10-7.12, 7.14-7.17; Physical and physical mechanical; strength determination	Reinforcing steel (welded reinforcing and embedded products of reinforced concrete structures, welded joints of reinforcing bars);	24.10.62.210	-	Breaking force	- 100 to 2000 (kN)
					Temporal resistance shear	- 100 to 350 (MPa)
					Temporal resistance tensile strength	- 320 to 1100 (MPa)
1.36.	GOST 5521, p.6.7; Physical and physical mechanical; other methods of research (tests) to determine physical and mechanical indicators	Steel (rolled);	24.10.2	-	Amount of viscous component in the fracture	- 0 to 100 (%)
1.37.	GOST 3728, p.2.8; Physical and physical mechanical; other methods of research (tests) to determine physical and mechanical indicators	Pipes (metal);	32.20.13.161	-	Disturbance of metal with a metallic sheen	presence/absence -

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1.38.	ASTM A770/770M-03, p.4, 5;Physical-mechanical;strength determination	Steel (steel plates);	24.10.2	-	Relative narrowing of the specimen after fracture	- 0.5 to 75 (%)
					Tensile strength	- 100 to 2000 (MPa)
					Yield strength	- 100 to 1800 (MPa)
1.39.	GOST 11150; Physico mechanical; strength determination	Steel (steel and alloy metal products); Aluminum ; Titanium-based alloys ; Semi-finished products of nickel or nickel-based alloys; Semi-finished products made of copper or copper alloys ;	24.10.2;24.42;24.45.30 .187;24.45.2;24.44.2	-	Relative uniform elongation	- 0.5 to 75 (%)
					Relative cross-sectional contraction after rupture	- 0.5 to 75 (%)

Item No.	Documents establishing rules and methods of research (tests) and measurements	Name of object	OKPD CODE 2	EAEU CN of FEA CODE	Defined characteristic (Indicator)	Determination range
1.39.					Relative elongation post-breakup	- 0.5 to 75 (%)
					Tensile strength	- 100 to 1900 (MPa)
					Conditional yield strength	- 100 to 1800 (MPa)
					Physical yield strength	- 100 to 1800 (MPa)
1.40.	BS EN 10164:2018, p.6-9;Physical-mechanical;strength determination	Steel (steel products);	24.10.2	-	Relative narrowing	- 5 to 50 (%)

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1.40.					Tensile strength	- 300 to 1300 (MPa)
1.41.	GOST 11706; Physical mechanical; other methods of research (tests) to determine physical and mechanical indicators	Pipes (metal);	32.20.13.161	-	Distribution size	- 8 to 30 (%)
					Cracks and tears with a metallic sheen on the outer and inner surfaces	presence/absence -
1.42.	GOST 12349, p.4; Chemical tests, physical-chemical tests; gravimetric (weight) method	Steel (alloy and high-alloy);	24.10.2	-	Mass fraction of tungsten (W)	- 3 to 20 (%)
1.43.	GOST ISO 898-1, p.9.1-9.2, 9.6-9.7; Physical-mechanical; strength determination	Fasteners and fastening screws (carbon and alloy steels);	25.94.1	-	Residual elongation	- 0 to 0.10 (mm)

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1.43.					The relative narrowing is post-breakup	- 0.5 to 75 (%)
					Relative elongation after rupture	- 0.5 to 75 (%)
					Thread damage	presence/absence -
					Tensile strength	- 300 to 1300 (MPa)
					Lower or conditional yield strength	- 100 to 1100 (MPa)

Item No.	Documents establishing rules and methods of research (tests) and measurements	Name of object	OKPD CODE 2	EAEU CN of FEA CODE	Defined characteristic (Indicator)	Determination range
1.43.					Test load	- 500 to 1000 (kN)
					Tensile strength at oblique washer	- 200 to 950 (MPa)
1.44.	GOST ISO 898-1, p.9.8; Physical and mechanical; other methods of research (tests) to determine physical and mechanical indicators	Fasteners and fastening screws (carbon and alloy steels);	25.94.1	-	Impact toughness KCU	- 3.75 to 450 (J/cm²)
					Impact toughness KCV	- 3.75 to 450 (J/cm²)
1.45.	GOST ISO 898-2, p.9.1; Physical-mechanical; strength determination	Fasteners and fastening screws (carbon and alloy steels);	25.94.1	-	Thread damage	presence/absence -

Item No.	Documents establishing rules and methods of research (tests) and measurements	Name of object	OKPD CODE 2	EAEU CN of FEA CODE	Defined characteristic (Indicator)	Determination range
1.45.					Test load	- 5.4 to 1000 (kN)
1.46.	ASME s. III , d.1 Nb-2330, Nb4335;Physical and mechanical; Other methods of research (tests) to determine physical and mechanical parameters	Steel (steels and welded joints);	24.10.2	-	Reference temperature RTNDT	- -100 to 100 (˚C)
1.47.	ASTM G48- 11, method A; Exposure testing external factors; other research methods (testing) for impacts external factors	Steel (stainless steels);	24.10.2	-	Pitting depth	- 0 to 3 (mm)
					Sample weight	- 10 to 100 (g)
					Pitting	presence/absence -

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1.47.					Sample size	- 1 to 70 (mm)
					Corrosion rate	Estimated figure: -
1.48.	GOST ISO 898-2, p.9.2; Physical-mechanical; hardness determination	Fasteners and fastening screws (carbon and alloy steels);	25.94.1	-	Brinell hardness	- 100 to 450 (HB)
					Vickers hardness	- 120 to 535 (HV)
					Rockwell hardness	- 20 to 70 (HRC)

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1.49.	ASME Section II, Part A, SA 542 p. S63; Physical and mechanical; other methods of investigation (tests) for determination of physical and mechanical parameters	Steel (thick plate alloyed, welded joints);	24.10.2	-	Transition temperature	- -150 to 150 (˚C)
					Thermal embrittlement (step cooling)	Estimated figure: -
					Transition temperature shift	- 0 to 100 (˚C)
1.50.	GOST 8693-80; Physical and mechanical; other methods of research (tests) to determine physical and mechanical indicators	Pipes (metal);	32.20.13.161	-	Percentage of flanging	- 5 to 50 (%)
1.51.	ISO 12135, p.5-8; Physical and physical mechanical; other methods of research (tests) to determine physical and mechanical indicators	Steel (metal products made of steels and alloys);	24.10.2	-	Critical stress intensity factor	Estimated figure: -

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1.51.					Load	- 10 to 500 (kN)
					Moving	- 0.5 to 10 (mm)
1.52.	ISO 9017;Physical and mechanical; Other research (test) methods for determination of physical and mechanical parameters	Steel (welded joints made of steels and alloys);	24.10.2	-	Surface defects fracture of the welded joint: dimensions	- 0 to 150 (mm)
					location (weld metal/fusion zone/ZTV)	Specifying a range is not required: -
					type (porosity, cracks, non-fusion, non-welds, solid inclusions)	presence/absence -

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2. Testing (research), measurements of industrial environment objects						
2.1.	MUK 4.3.2194-07; Measurement of parameters of physical factors; noise measurement;	Residential territory	-	-	Sound pressure level	- 22 to 139 (dB)
					Equivalent sound level	- 22 to 139 (dBA)
2.2.	MUK 4.3.2812-10; Measurement of parameters of physical factors; measurement of illuminance;	Production (working) environment	-	-	Artificial light	- 10 to 200000 (lx)
3. Testing (research), measurements of environmental objects						
3.1.	MU 4945-88, p.3.1; Chemical tests, physico-chemical tests; photometric method	Working area air	-	-	Nitrogen dioxide mass concentration	- 1 to 42 (mg/m^3)
3.2.	GOST 18164; Chemical tests, physical-chemical tests; gravimetric (weight) method	Drinking water;	-	-	Dry residue	- 150 to 500 (mg/m^3)

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3.2.						
3.3.	PND F 14.1:2:3.101-97 (2017 Edition);Chemical testing, physicochemical testing; titrimetric (volumetric) method	Natural waters; Wastewater;	-	-	The mass concentration of dissolved oxygen	- 1.0 to 15.0 (mg/dm³)
3.4.	PND F 14.1:2:4.5-95;Chemical testing, physicochemical testing; Infrared spectroscopy (spectrophotometric method)	Drinking water; Wastewater;	-	-	The mass concentration of oil products	- 0.05 to 50 (mg/dm³)
3.5.	RD 52.04.186-89, p.5.2.5.3, 5.2.5.10;Chemical tests, physical-chemical tests; photometric method	Atmospheric Air;	-	-	The mass concentration of chromium (Cr)	- 0.0004 to 0.0015 (mg/m³)

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3.5.					The mass concentration of manganese (Mn)	- 0.001 to 0.005 (mg/m^3)
3.6.	RD 52.04.822-2015;Chemical testing, physicochemical testing; photometric method	Atmospheric Air;	-	-	The mass concentration of sulphur dioxide	- 0.01 to 1.0 (mg/m^3)
3.7.	GOST R ISO 9096;Chemical tests, physico-chemical tests; gravimetric (weight) method	Industrial Emissions;	-	-	The mass concentration of particulate matter (dust)	- 20 to 1000 (mg/m^3)

Chief Executive Officer | Signed by electronic signature | T. I. Titova

position of the authorized person | signature of the authorized person | initials, surname of the authorized person