



ACCREDITATION SCOPE

TESTING LABORATORY (GOST ISO/IEC 17025-2019)

Main laboratory of Chepetsk Mechanical Plant, Joint Stock Company

name of the testing laboratory

POCC RU.0001.519189

Number in the register of accredited persons

1. 427622, RUSSIA, Udmurt Republic, Glazov city, 7a, Belova street, building 8.

addresses of places of business

2. 427622, RUSSIA, Udmurt Republic, Glazov city, 7a, Belova street, building 701.

addresses of places of business

3. 427622, RUSSIA, Udmurt Republic, Glazov city, 7a, Belova street, building 715.

addresses of places of business

4. 427622, RUSSIA, Udmurt Republic, Glazov city, 7a, Belova street, building 745a.

addresses of places of business

For compliance with the requirements of the following standards:

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

427622, RUSSIA, Udmurt Republic, Glazov city, 7a, Belova street, building 8.

addresses of places of business

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1. Testing (research), product measurements						
1.1.	STK-30-2011; Chemical tests, physical and chemical tests; photometric	Natural uranium and its compounds (Uranium metal); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its compounds (Uranium metal);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of molybdenum	- from 0.005 to 12 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.1.		Uranium alloys depleted in U-235 (Uranium alloys);				
1.2.	OST 95 175; Chemical tests, physical and chemical tests; gravimetric (weight)	Natural uranium and its compounds (Uranium metal, uranium oxides, uranium salts); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its compounds (Uranium metal, uranium oxides, uranium salts); Alloys of depleted uranium U-235 (Uranium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of uranium	- from 40 to 100 (%)
1.3.	OST 95 830; Chemical tests, physical and chemical tests; photometric	Natural uranium and its compounds (Uranium metallic, uranium oxides); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its and its compounds (Uranium metallic, uranium oxides); Alloys of depleted uranium U-235 (Uranium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of nitrogen	- from 0.002 to 0.1 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.3.						
1.4.	OST 95 832; Chemical tests, physical and chemical tests; infrared spectroscopy (spectrophotometric)	Natural uranium and its compounds (Uranium metal, uranium oxides, uranium compounds); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its compounds (Uranium metal, uranium oxides, uranium compounds); Alloys of uranium depleted U-235 (Uranium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of carbon	- from 0.001 to 2.0 (%)
1.5.	OST 95 959, photoelectronic method; chemical tests, physical and chemical tests; atomic- emission	Natural uranium and its compounds (Uranium metallic, uranium oxides); Alloys containing natural uranium and its compounds (Uranium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of aluminum	- from 0.0003 to 0.1 (%)
					Mass fraction of boron	- from 0.00001 to 0.001 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.5.	(AES)	Depleted uranium and its compounds (Uranium metal, uranium oxides); Uranium alloys depleted in U-235 (Uranium alloys);			Mass fraction of iron	- from 0.0003 to 0.3 (%)
					Mass fraction of silicon	- from 0.0003 to 0.1 (%)
					Mass fraction of copper	- from 0.0001 to 0.01 (%)
					Mass fraction of nickel	- from 0.001 до 0.1 (%)
					Mass fraction of tin	- from 0.0003 to 0.1 (%)
					Mass fraction of lead	- from 0.0003 to 0.1 (%)
1.6.	OI 001.398-96; Chemical tests, physical and chemical tests; photometric	Zirconium based alloys; Zirconium products;	24.45.30.234;24.45.30.233	-	Mass fraction of niobium	- from 0.8 to 1.2 (%) from 2.3 to 2.8 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.7.	OI 001.433-98; Chemical tests, physical and chemical tests; electrochemical	Zirconium, unwrought (Zirconium); Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of carbon	- from 0.002 to 0.09 (%) from 20 to 900 (million ⁻¹ (ppm))
1.8.	OI 001.434-2003; Chemical tests, physical and chemical tests; turbidimetric	Zirconium, unwrought (Zirconium); Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of chlorine	- from 0.002 to 0.2 (%)
1.9.	OI 001.438-98; Chemical tests, physical and chemical tests; photometric	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Fluoride ion content on the surface of tubes	- from 0.1 to 0.4 (µg/cm ²)
1.10.	OI 001.439-98; Chemical tests, physical and chemical tests; turbidimetric	Zirconium, unwrought (Zirconium); Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of chlorine	- from 0.0007 to 0.003 (%) from 7 to 30 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.11.	OI 001.446-98; Chemical tests, physical and chemical tests; titrimetric (volumetric)	Uranium ores and concentrates (Uranium ores, concentrates, process products and solutions);	07.21.10.110	-	Mass fraction of uranium	- from 0.02 to 90.0 (%)
					Mass concentration of uranium	- from 0.01 to 100.0 (g/dm ³)
1.12.	OI 001.458-99; Chemical tests, physical and chemical tests; photometric	Zirconium, unwrought (Zirconium); Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of fluorine	- from 0.00002 to 0.06 (%) from 0.2 to 600 (million ⁻¹ (ppm))
1.13.	OI 001.459-99; Chemical tests, physical and chemical tests; atomic emission spectrometric (NPP, AES)	Zirconium, unwrought; Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of hafnium	- from 0.002 to 0.1 (%) from 20 to 1000 (million ⁻¹ (ppm))
1.14.	OI 001.460-99; Chemical tests, physical and chemical tests; atomic spectrometric (NPP,	Zirconium based alloys;	24.45.30.234	-	Mass fraction of tin	- from 0.03 to 2.0 (%) from 300 to 20,000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.14.	AES)				Mass fraction of iron Mass fraction of niobium	- from 0.01 to 0.5 (%) from 100 to 5000 (million ⁻¹ (ppm)) - from 0.5 to 3.0 (%) from 5000 to 30000 (million ⁻¹ (ppm))
1.15.	OI 001.472-2006; Chemical tests, physical and chemical tests; infrared spectroscopy (spectrophotometric)	Zirconium, unwrought; Zirconium-based alloys; Zirconium products; Titanium, unwrought (Titanium); Titanium-based alloys (Titanium alloys, products); Niobium, unwrought (Niobium); Niobium-based alloys; Niobium products; Hafnium, unwrought (Hafnium, hafnium alloys); Hafnium products; Tantalum, unwrought,	24.45.30.231;24.45.30.234;24.45.30.233;24.45.30.181;24.45.30.187;24.45.30.321;24.45.30.324;24.45.30.323;24.45.30.351;24.45.30.353;24.45.30.131;24.45.30.136	-	Mass fraction of carbon	- from 0.002 to 0.2 (%) from 20 to 2000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	КОД CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.15.		including rods made by simple sintering (Tantalum, tantalum products); Tantalum-based alloys				
1.16.	OI 001.489-2006; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (tests), including "dry chemistry"	Natural uranium and its compounds (Uranium); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its compounds (Uranium); Alloys of uranium depleted U-235 (Uranium alloys); Zirconium, unwrought (Zirconium); Zirconium-based alloys; Zirconium products; Titanium, unwrought (Titanium); Titanium-based alloys (Titanium alloys, products); Niobium, unwrought (Niobium); Niobium-based alloys; Niobium products; Hafnium, unwrought (Hafnium, hafnium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111;24.45.30.231;24.45.30.234;24.45.30.233;24.45.30.181;24.45.30.187;24.45.30.321;24.45.30.324;24.45.30.323;24.45.30.351;24.45.30.131	-	Mass fraction of hydrogen	- from 0.00007 to 0.01 (%) from 0.7 to 100 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.16.		Tantalum, unwrought, including rods produced by simple sintering (Tantalum, tantalum products);				
1.17.	OI 001.490-00; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (testing), including "dry chemistry"	Zirconium, unwrought (Zirconium); Zirconium-based alloys; Zirconium articles; Titanium, unwrought (Titanium); Titanium-based alloys (Titanium alloys, articles); Niobium, unwrought (Niobium); Niobium-based alloys; Niobium articles; Hafnium, unwrought (Hafnium, hafnium alloys); Hafnium articles; Tantalum, unwrought, including rods manufactured by simple sintering (Tantalum, tantalum articles); Tantalum-based alloys;	24.45.30.231;24.45.30.234;24.45.30.233;24.45.30.181;24.45.30.187;24.45.30.321;24.45.30.324;24.45.30.323;24.45.30.351;24.45.30.353;24.45.30.131;24.45.30.136	-	Mass fraction of oxygen	- from 0.007 to 0.5 (%) from 70 to 5000 (million ⁻¹ (ppm))
					Mass fraction of nitrogen	- from 0.003 to 0.1 (%) from 30 to 1000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.18.	OI 001.544-2003; Chemical tests, physical and chemical tests; mass spectral	Natural uranium and its compounds (Uranium, uranium compounds); Alloys containing natural uranium and its compounds (Uranium alloys); Depleted uranium and its compounds (Uranium, uranium compounds); Uranium alloys depleted in U-235 (Uranium alloys);	24.46.10.110;24.46.10.121;20.13.12.110;20.13.12.111	-	Mass fraction of uranium isotope- 235 (U-235)	- from 0.1 to 1.0 (%)
1.19.	OI 001.609-2005; Chemical tests, physical and chemical tests; mass spectral	Zirconium, unwrought (Zirconium); Zirconium-based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of uranium	- from 0.0001 to 0.001 (%) from 1 to 10 (million ⁻¹ (ppm))
1.20.	OI 001.611-2006; Chemical tests, physical and chemical tests; photometric	Natural uranium and its compounds (Technological solutions); Depleted uranium and its compounds (Technological solutions);	24.46.10.110;20.13.12.110	-	Mass concentration of uranium	- from 0.10 to 40 (mg/dm ³)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.21.	OI 001.621-2006; Chemical tests, physical and chemical tests; atomic emission spectrometry (NPP, AES)	Niobium-based alloys (Alloy NT-47);	24.45.30.324	-	Mass fraction of aluminum	- from 0.006 to 0.03 (%) from 60 to 300 (million ⁻¹ (ppm))
					Mass fraction of iron	- from 0.006 to 0.06 (%) from 60 to 600 (million ⁻¹ (ppm))
					Mass fraction of silicon	- from 0.01 to 0.03 (%) from 100 to 300 (million ⁻¹ (ppm))
					Mass fraction of copper	- from 0.006 to 0.035 (%) from 60 to 350 (million ⁻¹ (ppm))
					Mass fraction of nickel	- from 0.006 to 0.03 (%) from 60 to 300 (million ⁻¹ (ppm))
					Mass fraction of tantalum	- from 0.06 to 0.3 (%) from 600 to 3000 (million ⁻¹ (ppm))
					Mass fraction of chromium	- from 0.06 to 0.3 (%) from 600 to 3000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.22.	OI 001.622-2006; Chemical tests, physical and chemical tests; atomic emission spectrometry (NPP, AES)	Niobium-based alloys (Alloy NT-47);	24.45.30.324	-	Mass fraction of titanium	- from 46.0 to 48.5 (%) from 460000 to 485000 (million ⁻¹ (ppm))
					Mass fraction of tantalum	- from 0.05 to 0.3 (%) from 50000 to 30000 (million ⁻¹ (ppm))
1.23.	OI 001.649-2008; Chemical tests, physical and chemical tests; atomic emission spectrometry (NPP, AES)	Hafnium, unwrought (Hafnium, hafnium alloys); Oxides of other metals (Hafnium dioxide); Inorganic compounds, not included in other groups (Hafnium compounds);	24.45.30.351;20.12.19.110;20.13.52.110	-	Mass fraction of aluminum	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))
					Mass fraction of beryllium	- from 0.0001 to 0.01 (%) from 1 to 100 (million ⁻¹ (ppm))
					Mass fraction of boron	- from 0.00003 to 0.001 (%) from 0.3 to 10 (million ⁻¹ (ppm))
					Mass fraction of tungsten	- from 0.003 to 0.3 (%) from 30 to 3000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range														
1.23.					<table border="1"> <tr> <td data-bbox="1451 384 1794 523">Mass fraction of iron</td> <td data-bbox="1794 384 2094 523">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 523 1794 662">Mass fraction of calcium</td> <td data-bbox="1794 523 2094 662">- from 0.003 to 0.3 (%) from 30 to 3000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 662 1794 801">Mass fraction of silicon</td> <td data-bbox="1794 662 2094 801">- from 0.002 to 0.1 (%) from 20 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 801 1794 940">Mass fraction of magnesium</td> <td data-bbox="1794 801 2094 940">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 940 1794 1078">Mass fraction of manganese</td> <td data-bbox="1794 940 2094 1078">- from 0.0003 to 0.03 (%) from 3 to 300 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 1078 1794 1217">Mass fraction of copper</td> <td data-bbox="1794 1078 2094 1217">- from 0.0003 to 0.03 (%) from 3 to 300 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 1217 1794 1318">Mass fraction of molybdenum</td> <td data-bbox="1794 1217 2094 1318">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> </table>	Mass fraction of iron	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of calcium	- from 0.003 to 0.3 (%) from 30 to 3000 (million ⁻¹ (ppm))	Mass fraction of silicon	- from 0.002 to 0.1 (%) from 20 to 1000 (million ⁻¹ (ppm))	Mass fraction of magnesium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of manganese	- from 0.0003 to 0.03 (%) from 3 to 300 (million ⁻¹ (ppm))	Mass fraction of copper	- from 0.0003 to 0.03 (%) from 3 to 300 (million ⁻¹ (ppm))	Mass fraction of molybdenum	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	
Mass fraction of iron	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))																			
Mass fraction of calcium	- from 0.003 to 0.3 (%) from 30 to 3000 (million ⁻¹ (ppm))																			
Mass fraction of silicon	- from 0.002 to 0.1 (%) from 20 to 1000 (million ⁻¹ (ppm))																			
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Mass fraction of manganese	- from 0.0003 to 0.03 (%) from 3 to 300 (million ⁻¹ (ppm))																			
Mass fraction of copper	- from 0.0003 to 0.03 (%) from 3 to 300 (million ⁻¹ (ppm))																			
Mass fraction of molybdenum	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))																			

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range										
1.23.					<table border="1"> <tr> <td data-bbox="1451 384 1794 523">Mass fraction of nickel</td> <td data-bbox="1794 384 2089 523">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 523 1794 662">Mass fraction of niobium</td> <td data-bbox="1794 523 2089 662">- from 0.003 to 0.3 (%) from 30 to 3000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 662 1794 801">Mass fraction of tin</td> <td data-bbox="1794 662 2089 801">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 801 1794 940">Mass fraction of titanium</td> <td data-bbox="1794 801 2089 940">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 940 1794 1070">Mass fraction of chromium</td> <td data-bbox="1794 940 2089 1070">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> </table>	Mass fraction of nickel	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of niobium	- from 0.003 to 0.3 (%) from 30 to 3000 (million ⁻¹ (ppm))	Mass fraction of tin	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of titanium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of chromium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	
Mass fraction of nickel	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of niobium	- from 0.003 to 0.3 (%) from 30 to 3000 (million ⁻¹ (ppm))															
Mass fraction of tin	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of titanium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of chromium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
1.24.	OI 001.650-2008; Chemical tests, physical and chemical tests; atomic emission spectrometric (NPP,	Hafnium, unwrought (Hafnium);	24.45.30.351 -		Mass fraction of zirconium	- from 0.05 to 1.0 (%) from 500 to 10000 (million ⁻¹ (ppm))										

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1.24.	AES)					
1.25.	OI 001.651-2008; Chemical tests, physical and chemical tests; atomic absorption spectrometry (AAS)	Zirconium, unwrought (Zirconium); Zirconium based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of potassium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))
					Mass fraction of lithium	- from 0.0001 to 0.01 (%) from 1 to 100 (million ⁻¹ (ppm))
1.26.	OI 001.653-2008; Chemical tests, physical and chemical tests; atomic absorption spectrometry (AAS)	Hafnium, unwrought (Hafnium);	24.45.30.351	-	Mass fraction of potassium	- from 0.001 to 0.08 (%) from 10 to 800 (million ⁻¹ (ppm))
					Mass fraction of sodium	- from 0.001 to 0.08 (%) from 10 to 800 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.27.	OI 001.654-2008; Chemical tests, physical and chemical tests; atomic emission spectrometry (NPP, AES)	Niobium, unwrought (Niobium); Niobium based alloys (Alloy HT-47); Titanium, unwrought (Titanium);	24.45.30.321;24.45.30.324;24.45.30.181	-	Mass fraction of phosphorus	- from 0.004 to 0.01 (%) from 40 to 100 (million ⁻¹ (ppm))
1.28.	OI 001.656-2008; Chemical tests, physical and chemical tests; atomic-emission spectrometric (AES)	Zirconium, unwrought (Zirconium); Zirconium-based alloys; Inorganic compounds, not included in other groups (Zirconium compounds);	24.45.30.231;24.45.30.234;20.13.52.110	-	Mass fraction of aluminum	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))
					Mass fraction of beryllium	- from 0.0001 to 0.01 (%) from 100 (million ⁻¹ (ppm))
					Mass fraction of boron	- from 0.00003 to 0.001 (%) from 0.3 to 100 (million ⁻¹ (ppm))
					Mass fraction of iron	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))
					Mass fraction of cadmium	- от 0,00002 до 0,001 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.28.						<p>from 0.2 to 10 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of calcium - from 0.002 to 0.1 (%) from 20 to 1000 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of silicon - from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of manganese - from 0.0001 to 0.01 (%) from 1 to 100 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of copper - from 0.0001 to 0.01 (%) from 1 to 100 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of molybdenum - from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</p> <hr/> <p>Mass fraction of nickel - from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</p>

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range										
1.28.					<table border="1"> <tr> <td data-bbox="1444 406 1796 545">Mass fraction of niobium</td> <td data-bbox="1796 406 2089 545">- from 0.006 to 0.3 (%) from 60 to 3000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1444 545 1796 684">Mass fraction of tin</td> <td data-bbox="1796 545 2089 684">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1444 684 1796 823">Mass fraction of lead</td> <td data-bbox="1796 684 2089 823">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1444 823 1796 962">Mass fraction of titanium</td> <td data-bbox="1796 823 2089 962">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1444 962 1796 1093">Mass fraction of chromium</td> <td data-bbox="1796 962 2089 1093">- from 0.001 to 0.1 (%) from 10 to 1000 (million⁻¹ (ppm))</td> </tr> </table>	Mass fraction of niobium	- from 0.006 to 0.3 (%) from 60 to 3000 (million ⁻¹ (ppm))	Mass fraction of tin	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of lead	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of titanium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	Mass fraction of chromium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))	
Mass fraction of niobium	- from 0.006 to 0.3 (%) from 60 to 3000 (million ⁻¹ (ppm))															
Mass fraction of tin	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of lead	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of titanium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
Mass fraction of chromium	- from 0.001 to 0.1 (%) from 10 to 1000 (million ⁻¹ (ppm))															
1.29.	OI 001.664-2008; Chemical tests, physical and chemical tests; atomic emission spectrometric (NPP,	Zirconium based alloys;	24.45.30.234	-	Mass fraction of boron	- from 0.05 to 0.5 (%) from 500 to 5000 (million ⁻¹ (ppm))										

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.29.	AES)					
1.30.	OI 001.665-2008; Chemical tests, physical and chemical tests; photometric	Hafnium, unwrought (Hafnium);	24.45.30.351	-	Mass fraction of chlorine	- from 0.005 to 0.025 (%) from 50 to 250 (million ⁻¹ (ppm))
					Mass fraction of fluorine	- from 0.003 to 0.025 (%) from 30 to 250 (million ⁻¹ (ppm))
1.31.	OI 001.690-2010; Chemical tests, physical and chemical tests; X-ray spectral	Zirconium based alloys;	24.45.30.234	-	Mass fraction of niobium	- from 0.6 to 2.8 (%) from 6000 to 28000 (million ⁻¹ (ppm))
					Mass fraction of tin	- from 0.7 to 2.0 (%) from 7000 to 20000 (million ⁻¹ (ppm))
					Mass fraction of iron	- from 0.1 to 0.5 (%) from 1000 to 5000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.31.						
1.32.	OI 001.696-2010; Chemical tests, physical and chemical tests; photometric	Uranium alloys depleted in U-235; Alloys containing natural uranium and its compounds (Uranium alloys);	20.13.12.111;24.46.10.121	-	Mass fraction of niobium	- from 0.5 to 3.0 (%)
1.33.	OI 001.697-2010; Chemical tests, physical and chemical tests; photometric	Uranium alloys depleted in U-235; Alloys containing natural uranium and its compounds (Uranium alloys);	20.13.12.111;24.46.10.121	-	Mass fraction of zirconium	- from 0.008 to 3.0 (%)
1.34.	OI 001.722-2011; Chemical tests, physical and chemical tests; photometric	Zirconium, unwrought (Zirconium); Zirconium based alloys; Hafnium, unwrought (Hafnium, hafnium alloys);	24.45.30.231;24.45.30.234;24.45.30.351	-	Mass fraction of nitrogen	- from 0.002 to 0.02 (%) from 20 to 200 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.35.	OI 001.814-2015; Chemical tests, physical and chemical tests; liquid ion chromatography	Zirconium, unwrought; Zirconium-based alloys; Zirconium products (Zirconium tubes); Non-drinking water (Water);	24.45.30.231;24.45.30.234;24.45.30.233;36.01.12	-	Mass fraction of fluorine	- from 0.00005 to 0.06 (%) from 0.5 to 600 (million ⁻¹ (ppm))
					Mass fraction of chlorine	- from 0.00005 to 0.06 (%) from 0.5 to 600 (million ⁻¹ (ppm))
					Content of fluorine ion on the surface of pipes	- from 0.1 to 1.0 (µg/cm ²)
					Mass concentration of fluorine	- from 5 to 1000 (mcg/dm ³)
					Mass concentration of chlorine	- from 5 to 1000 (mcg/dm ³)
1.36.	MVI 08-192-2009; Chemical tests, physical and chemical tests; X-ray spectral	Other metal oxides (Zirconium dioxide);	20.12.19.110	-	Mass fraction of hafnium	- from 0.0035 to 10.0 (%) от 35 до 100000 (млн ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.37.	MVI 08-206-2011; Chemical tests, physical and chemical tests; mass spectral	Zirconium, unwrought (Zirconium); Zirconium based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of vanadium	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of cobalt	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of molybdenum	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of antimony	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of tantalum	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of tungsten	- from 0.0001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))
					Mass fraction of niobium	- from 0.001 to 0.1 (%) from 1 to 1000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.38.	MVI 08-208-2011; Chemical tests, physical and chemical tests; titrimetric (volumetric)	Other metal oxides (Zirconium dioxide);	20.12.19.110	-	Mass fraction of zirconium dioxide (ZrO ₂)	- from 80.0 to 99.0 (%)
					Mass fraction of yttrium oxide (Y ₂ O ₃)	- from 4.0 to 17.0 (%)
1.39.	MVI 08-209-2011; Chemical tests, physical and chemical tests; X-ray spectral	Titanium based alloys;	24.45.30.187	-	Mass fraction of aluminum	- from 0.05 to 8.0 (%)
					Mass fraction of zirconium	- from 0.005 to 3.5 (%)
					Mass fraction of molybdenum	- from 0.005 to 6.0 (%)
					Mass fraction of vanadium	- from 0.02 to 6.0 (%)
					Mass fraction of silicon	- from 0.04 to 0.40 (%)
					Mass fraction of iron	- from 0.02 to 1.50 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range												
1.39.					<table border="1"> <tr> <td data-bbox="1451 406 1792 513">Mass fraction of chromium</td> <td data-bbox="1792 406 2089 513">- from 0.01 to 0.20 (%)</td> </tr> <tr> <td data-bbox="1451 513 1792 620">Mass fraction of manganese</td> <td data-bbox="1792 513 2089 620">- from 0.005 to 0.10 (%)</td> </tr> <tr> <td data-bbox="1451 620 1792 727">Mass fraction of nickel</td> <td data-bbox="1792 620 2089 727">- from 0.01 to 0.10 (%)</td> </tr> <tr> <td data-bbox="1451 727 1792 834">Mass fraction of niobium</td> <td data-bbox="1792 727 2089 834">- from 0.02 to 0.10 (%)</td> </tr> <tr> <td data-bbox="1451 834 1792 941">Mass fraction of tin</td> <td data-bbox="1792 834 2089 941">- from 0.005 to 0.10 (%)</td> </tr> <tr> <td data-bbox="1451 941 1792 1050">Mass fraction of copper</td> <td data-bbox="1792 941 2089 1050">- from 0.005 to 0.10 (%)</td> </tr> </table>	Mass fraction of chromium	- from 0.01 to 0.20 (%)	Mass fraction of manganese	- from 0.005 to 0.10 (%)	Mass fraction of nickel	- from 0.01 to 0.10 (%)	Mass fraction of niobium	- from 0.02 to 0.10 (%)	Mass fraction of tin	- from 0.005 to 0.10 (%)	Mass fraction of copper	- from 0.005 to 0.10 (%)	
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Mass fraction of manganese	- from 0.005 to 0.10 (%)																	
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Mass fraction of niobium	- from 0.02 to 0.10 (%)																	
Mass fraction of tin	- from 0.005 to 0.10 (%)																	
Mass fraction of copper	- from 0.005 to 0.10 (%)																	
1.40.	MVI 08-212-2011; Chemical tests, physical and chemical tests; X-ray spectral	Other metal oxides (Zirconium dioxide);	20.12.19.110	-	<table border="1"> <tr> <td data-bbox="1451 1093 1792 1200">Mass fraction of yttrium</td> <td data-bbox="1792 1093 2089 1200">- from 1.0 to 20.0 (%)</td> </tr> <tr> <td data-bbox="1451 1200 1792 1329">Mass fraction of yttrium oxide</td> <td data-bbox="1792 1200 2089 1329">- from 2.0 to 25.0 (%)</td> </tr> </table>	Mass fraction of yttrium	- from 1.0 to 20.0 (%)	Mass fraction of yttrium oxide	- from 2.0 to 25.0 (%)									
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Mass fraction of yttrium oxide	- from 2.0 to 25.0 (%)																	

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.40.					Mass fraction of zirconium	- from 55.0 to 74.0 (%)
					Mass fraction of zirconium dioxide	- from 74.0 to 99.9 (%)
1.41.	MVI 08-214-2012; Chemical tests, physical and chemical tests; X-ray spectral	Zirconium, unwrought (Zirconium); Zirconium based alloys;	24.45.30.231;24.45.30.234	-	Mass fraction of hafnium	- from 0.005 to 0.10 (%) from 50 to 1000 (million ⁻¹ (ppm))
1.42.	MVI 08-228-2013; Chemical tests, physical and chemical tests; atomic-emission spectrometric (NPP, AES)	Titanium, unwrought (Titanium); Titanium-based alloys; Titanium oxides;	24.45.30.181;24.45.30.187;20.12.11.130	-	Mass fraction of aluminum	- from 0.005 to 20.0 (%) from 50 to 200000 (million ⁻¹ (ppm))
					Mass fraction of boron	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range														
1.42.					<table border="1"> <tr> <td data-bbox="1451 406 1787 545">Mass fraction of vanadium</td> <td data-bbox="1787 406 2089 545">- from 0.005 to 15.0 (%) from 50 to 150000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 545 1787 684">Mass fraction of bismuth</td> <td data-bbox="1787 545 2089 684">- from 0.005 to 0.1 (%) from 50 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 684 1787 823">Mass fraction of tungsten</td> <td data-bbox="1787 684 2089 823">- from 0.005 to 2.0 (%) from 50 to 20000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 823 1787 962">Mass fraction of hafnium</td> <td data-bbox="1787 823 2089 962">- from 0.005 to 0.1 (%) from 50 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 962 1787 1101">Mass fraction of iron</td> <td data-bbox="1787 962 2089 1101">- from 0.005 to 5.0 (%) from 50 to 50000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 1101 1787 1240">Mass fraction of yttrium</td> <td data-bbox="1787 1101 2089 1240">- from 0.005 to 0.1 (%) from 50 to 1000 (million⁻¹ (ppm))</td> </tr> <tr> <td data-bbox="1451 1240 1787 1343">Mass fraction of cobalt</td> <td data-bbox="1787 1240 2089 1343">- от 0,005 до 0,1 (%) from 50 to 1000 (million⁻¹)</td> </tr> </table>	Mass fraction of vanadium	- from 0.005 to 15.0 (%) from 50 to 150000 (million ⁻¹ (ppm))	Mass fraction of bismuth	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))	Mass fraction of tungsten	- from 0.005 to 2.0 (%) from 50 to 20000 (million ⁻¹ (ppm))	Mass fraction of hafnium	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))	Mass fraction of iron	- from 0.005 to 5.0 (%) from 50 to 50000 (million ⁻¹ (ppm))	Mass fraction of yttrium	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))	Mass fraction of cobalt	- от 0,005 до 0,1 (%) from 50 to 1000 (million ⁻¹)	
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Mass fraction of cobalt	- от 0,005 до 0,1 (%) from 50 to 1000 (million ⁻¹)																			

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.42.						(ppm)
					Mass fraction of silicon	- from 0.01 to 0.5 (%) from 100 to 5000 (million ⁻¹ (ppm))
					Mass fraction of magnesium	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))
					Mass fraction of manganese	- from 0.005 to 2.0 (%) from 50 to 20000 (million ⁻¹ (ppm))
					Mass fraction of copper	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))
					Mass fraction of molybdenum	- from 0.005 to 10.0 (%) from 50 to 100000 (million ⁻¹ (ppm))
					Mass fraction of nickel	- от 0,005 до 0,1 (%) от 50 до 1000 (млн ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.42.					Mass fraction of niobium	- from 0.005 to 50.0 (%) from 50 to 500000 (million ⁻¹ (ppm))
					Mass fraction of tin	- from 0.005 to 5.0 (%) from 50 to 50000 (million ⁻¹ (ppm))
					Mass fraction of palladium	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))
					Mass fraction of ruthenium	- from 0.005 to 0.1 (%) from 50 to 1000 (million ⁻¹ (ppm))
					Mass fraction of tantalum	- from 0.005 to 2.0 (%) from 50 to 20000 (million ⁻¹ (ppm))
					Mass fraction of chromium	- from 0.005 to 5.0 (%) from 50 to 50000 (million ⁻¹ (ppm))
					Mass fraction of zirconium	- from 0.005 to 5.0 (%) from 50 to 50000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.42.						(ppm)
1.43.	GOST 12344, section 5; Chemical tests, physical and chemical tests; infrared spectroscopy (spectrophotometric)	Steel;	24.10.2	-	Mass fraction of carbon	- from 0.02 to 1.2 (%)
1.44.	GOST 12345, section 7; Chemical tests, physical and chemical tests; infrared spectroscopy (spectrophotometric)	Steel (alloyed and high-alloy steels);	24.10.2	-	Mass fraction of sulfur	- from 0.001 to 0.50 (%)
1.45.	GOST 12347, section 2; Chemical tests, physical and chemical tests; photometric	Steel (alloyed and high-alloy steels);	24.10.2	-	Mass fraction of phosphorus	- from 0.002 to 0.25 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.45.						
1.46.	GOST 12356, section 3; Chemical tests, physical and chemical tests; photometric	Steel;	24.10.2	-	Mass fraction of titanium	- from 0.10 to 2.6 (%)
1.47.	GOST 12360, section 4; Chemical tests, physical and chemical tests; electrochemical	Steel (alloyed and high-alloy steels);	24.10.2	-	Mass fraction of boron	- from 0.05 to 2.0 (%)
1.48.	GOST 17745; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (testing), including "dry chemistry"	Steel (Steel, iron-based alloys, iron-nickel); Nickel, unwrought (Nickel-based alloys); Cobalt-based alloys;	24.10.2;24.45.11;24.45.30.155	-	Mass fraction of nitrogen	- from 0.0005 to 0.8 (%)
					Mass fraction of hydrogen	- from 0.00005 to 0.010 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.48.					Mass fraction of oxygen	- from 0.0005 to 0.2 (%)
1.49.	GOST 27417; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (testing), including "dry chemistry"	Zirconium powders; Titanium powders; Tantalum powders; Hafnium powders; Niobium powders; Iron powders ;	24.45.30.232;24.45.30.182;24.45.30.132;24.45.30.352;24.45.30.322;24.10.14.120	-	Mass fraction of oxygen	- from 0.005 to 2.0 (%)
1.50.	GOST R 55079; Chemical tests, physicochemical tests; other methods of physicochemical and chemical research (tests), including "dry chemistry"	Steel;	24.10.2	-	Mass fraction of aluminum	- from 0.01 to 5.0 (%)
					Mass fraction of vanadium	- from 0.005 to 5.0 (%)
					Mass fraction of tungsten	- from 0.01 to 5.0 (%)
					Mass fraction of cobalt	- from 0.01 to 5.0 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.50.					Silicon mass fraction	- from 0.01 to 5.0 (%)
					Manganese mass fraction	- from 0.01 to 5.0 (%)
					Copper mass fraction	- from 0.01 to 5.0 (%)
					Molybdenum mass fraction	- from 0.005 to 5.0 (%)
					Nickel mass fraction	- from 0.01 to 30 (%)
					Titanium mass fraction	- from 0.005 to 5.0 (%)
					Chromium mass fraction	- from 0.01 to 30 (%)
					Zirconium mass fraction	- from 0.01 to 0.50 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.51.	Operating manual for X-ray fluorescence analyzer X-MET 8000; Chemical tests, physical and chemical tests; X-ray spectral	Steel (Metals and alloys, welded joints);	24.10.2	-	<p>Mass fraction of iron</p> <p>Mass fraction of silicon</p> <p>Mass fraction of manganese</p> <p>Mass fraction of copper</p> <p>Mass fraction of nickel</p> <p>Mass fraction of tin</p> <p>Mass fraction of lead</p> <p>Mass fraction of antimony</p>	<p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p> <p>- from 0.10 to 99 (%)</p>

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range								
1.51.					<table border="1"> <tr> <td data-bbox="1451 375 1794 518">Mass fraction of titanium</td> <td data-bbox="1794 375 2089 518">- from 0.10 to 99 (%)</td> </tr> <tr> <td data-bbox="1451 518 1794 622">Mass fraction of chromium</td> <td data-bbox="1794 518 2089 622">- from 0.10 to 99 (%)</td> </tr> <tr> <td data-bbox="1451 622 1794 726">Mass fraction of zinc</td> <td data-bbox="1794 622 2089 726">- from 0.10 to 99 (%)</td> </tr> <tr> <td data-bbox="1451 726 1794 871">Mass fraction of zirconium</td> <td data-bbox="1794 726 2089 871">- from 0.10 to 99 (%)</td> </tr> </table>	Mass fraction of titanium	- from 0.10 to 99 (%)	Mass fraction of chromium	- from 0.10 to 99 (%)	Mass fraction of zinc	- from 0.10 to 99 (%)	Mass fraction of zirconium	- from 0.10 to 99 (%)	
Mass fraction of titanium	- from 0.10 to 99 (%)													
Mass fraction of chromium	- from 0.10 to 99 (%)													
Mass fraction of zinc	- from 0.10 to 99 (%)													
Mass fraction of zirconium	- from 0.10 to 99 (%)													

addresses of places of business

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1. Testing (research), product measurements						
1.1.	OI 001.373-94; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (testing), including "dry chemistry"	Zirconium, unwrought (Zirconium); Zirconium based alloys; Zirconium products;	24.45.30.231;24.45.30.234;24.45.30.233	-	Mass fraction of oxygen	- from 0.03 to 0.17 (%) from 300 to 1700 (million ⁻¹ (ppm))
1.2.	OI 001.373-94; Chemical tests, physical and chemical tests; other methods of physical and chemical research (tests), including "dry chemistry"	Hafnium, unwrought (Hafnium); Hafnium products;	24.45.30.351;24.45.30.353	-	Mass fraction of oxygen	- from 0.02 to 0.09 (%) from 200 to 900 (million ⁻¹ (ppm))
1.3.	OI 001.373-94; Chemical tests, physical and chemical tests; other methods of physical and chemical	Niobium, unwrought (Niobium); Niobium products;	24.45.30.321;24.45.30.323	-	Mass fraction of oxygen	- from 0.003 to 0.6 (%) from 30 to 6000 (million ⁻¹ (ppm))

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.3.	research (testing), including "dry chemistry"					
1.4.	GOST 28052, section 4; Chemical tests, physical and chemical tests; other methods of physical and chemical and chemical research (tests), including "dry chemistry"	Titanium, unwrought (Titanium); Titanium based alloys;	24.45.30.181;24.45.30.187	-	Mass fraction of oxygen	- from 0.02 to 0.2 (%)

addresses of places of business

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1. Testing (research), product measurements						
1.1.	GOST 1778, p. 6.1; Microscopy; optical method	Steel (Steel, alloys);	24.10.2	-	Linear oxides (OS)	- from 1 to 5 (points)
					Point oxides (PO)	- from 1 to 5 (points)
					Brittle silicates (SC)	- from 1 to 5 (points)
					Plastic silicates (SP)	- from 1 to 5 (points)
					Non-deformable silicates (SN)	- from 1 to 5 (points)
					Sulfides	- from 1 to 5 (points)
					Linear nitrides and carbonitrides (NS)	- from 1 to 5 (points)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.1.					Nitrides and carbonitrides point (NT)	- from 1 to 5 (points)
					Aluminum nitrides (AN)	- from 1 to 5 (points)
					Non-metallic inclusions	- from 1 to 5 (points)
1.2.	GOST 2246, Appendix 1; Other studies (tests); methods of other studies (tests) without specification	Welding wire made of non-alloy steel; Steel welding wire made of other alloy steel;	24.34.11.130;24.34.13.120	-	Ferrite phase content (FPC)	- from 0.5 to 20 (%)
1.3.	GOST 5639, p. 3.3; Microscopy; optical method	Steel (Steel, alloys);	24.10.2	-	Grain number G	- from -3 to 14
					Grain size	- from -3 to 14

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.4.	GOST 6032, p. 4.4-4.6, 5; Tests for the effects of external factors; other methods of research (tests) for the effects of external factors	Basic iron and steel products (Corrosion-resistant steels, iron-nickel alloys, their welded joints, deposited metal);	24.10.1	-	Maximum grain boundary destruction depth	- from 4 to 50 (µm)
					Resistance to intergranular corrosion	persistent/unpersistent -
1.5.	GOST 6032, p. 4.4-4.6, 7; Tests for the impact of external factors; other methods of research (tests) for the impact of external factors	Basic iron and steel products (Corrosion-resistant steels, iron-nickel alloys, their welded joints, deposited metal);	24.10.1	-	Maximum grain boundary destruction depth	- from 4 to 50 (µm)
					Resistance to intergranular corrosion	persistent/unpersistent -
1.6.	GOST 10243; Other studies (tests); methods of other studies (tests) without specification	Steel;	24.10.2	-	Defects	presence/absence -
					Edge defects	presence/absence -
					Remains of cast structure	presence/absence -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.6.					Reduced etchability	presence/absence -
					Increased etchability	presence/absence -
					Marginal peeling	presence/absence -
					Light ring or square	presence/absence -
					Grinding-etching cracks	presence/absence -
					Etching cracks	presence/absence -
					Grinding cracks	presence/absence -
					Forging cracks	presence/absence -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.6.					Internal ruptures	presence/absence -
					Birdhouses	presence/absence -
					Rough spots	presence/absence -
					Foreign slag inclusions	presence/absence -
					Foreign metal inclusions	presence/absence -
					White spots	presence/absence -
					Flakes	presence/absence -
					Fistulas	presence/absence -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.6.					Crusts	presence/absence -
					Non-homogeneity of macrostructure	presence/absence -
					Light strip (contour) (SP)	- from 1 to 5 (points)
					Layered crystallization (LC)	- from 1 to 5 (points)
					Intercrystalline cracks (IC)	- from 1 to 5 (points)
					Subcrystal blisters (SB)	- from 1 to 5 (points)
					Shrinkage liquation	- from 1 to 5 (points)
					Liquation square (LS)	- from 1 to 5 (points)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.6.					Marginal spotted liquation (MSL)	- from 1 to 5 (points)
					General spotted liquation (GSL)	- from 1 to 5 (points)
					Point non-homogeneity (PN)	- from 1 to 5 (points)
					Central porosity (CP)	detected/not detected from 1 to 5 (points)
1.7.	OI 001.297-2007; Tests for the effects of external factors; other methods of research (tests) for the effects of external factors	Zirconium products; Hafnium products;	24.45.30.233;24.45.30.353	-	Specific weight gain of samples after corrosion tests	- from 1 to 50 (mg/dm ²)
					Surface condition of samples after corrosion tests	satisfactory/unsatisfactory -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.8.	OI 001.298-89; Microscopy; optical method	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Grain size	- from 0.002 to 1.0 (mm)
1.9.	OI 001.299-2017; Microscopy; optical method	Zirconium products (Channel tubes made of E125 alloy);	24.45.30.233	-	Structural non-homogeneity	- from 1 to 15 (number of the standard scale)
1.10.	OI 001.329-2005; Microscopy; optical method	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Structural state (microstructure)	partially recrystallized/fully recrystallized -
1.11.	OI 001.372-94; Tests for the effects of external factors; other methods of research (tests) for the effects of external factors	Zirconium products (Zirconium alloy products);	24.45.30.233	-	Hydrogenation time	- from 1 to 100 (h)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.12.	OI 001.425-2004; Microscopy; optical method	Zirconium products (tubes, rods made of zirconium alloys);	24.45.30.233	-	Hydride orientation coefficient Fn	- from 0.1 to 0.8
1.13.	OI 001.518-2009; Microscopy; optical method	Zirconium products (Zirconium alloy rods);	24.45.30.233	-	Defects	presence/absence -
					Cracks-ruptures of metal	detected/not detected -
					Pressures	detected/not detected -
					Foreign inclusions	detected/not detected -
					Phase non-homogeneity	detected/not detected -
					Unremoved mating units	detected/not detected -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.13.					Pore clusters	- from 1 to 12 (points)
					Risks	detected/not detected -
					Clusters of beta-Zr and beta-Nb phase particles	detected/not detected -
					Defects are unacceptable	presence/absence from 1 to 12 (points)
					Defects are acceptable	presence/absence from 1 to 12 (points)
1.14.	OI 001.603-2005; Microscopy; optical method	Zirconium products (Rods made of zirconium alloys);	24.45.30.233	-	Pressure weighings	detected/not detected -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.15.	MVI 407-878 dated 09.04.2002; Microscopy; optical method	Channels of active zones of nuclear reactors, including process channels (welded joint made of zirconium alloys); Fuel assemblies and their elements (welded joint made of zirconium alloys);	25.30.22.123;25.30.22.124	-	Inclusion	detected/not detected -
					Inclusions	detected/not detected -
					Defects	detected/not detected -
					Poor penetration	detected/not detected -
					Poor penetrations	detected/not detected -
					Lack of fusion	detected/not detected -
					Lack of fusion	detected/not detected -
					Reduced area of inclusions	- from 0.0025 to 1 (mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.15.					Inclusion size	- from 0.05 to 1 (mm)
					Blister	detected/not detected -
					Blisters	detected/not detected -
					Looseness	detected/not detected -
					Looseness	detected/not detected -
					Cluster	detected/not detected -
					Clusters	detected/not detected -
					Total reduced area of inclusions	- from 0.0025 to 30 (mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.15.					Total reduced area of clusters	- from 0.0025 to 30 (mm ²)
					Crack	detected/not detected -
					Cracks	detected/not detected -
					Chain of pores	detected/not detected -
					Chains of pores	detected/not detected -
1.16.	MVI 407-879 dated 09.04.2002; Microscopy; optical method	Channels of active zones of nuclear reactors, including process channels (Welded joint made of stainless steels); Fuel assemblies and their elements (Welded joint made of stainless steels);	25.30.22.123;25.30.22.124	-	Defects	detected/not detected -
					Crack	detected/not detected -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.16.					Cracks	detected/not detected -
					Lack of fusion	detected/not detected -
					Lack of fusion	detected/not detected -
					Inclusion	detected/not detected -
					Size of inclusion	- from 0.05 to 1 (mm)
					Distance between inclusions	- from 0.05 to 30 (mm)
					Cluster	detected/not detected -
					Size of cluster	- from 0.05 to 1 (mm)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.16.					Distance between clusters	- from 0.05 to 30 (mm)
					Sum of the largest dimensions of all identified inclusions and (or) clusters	- from 0.05 to 30 (mm)
1.17.	407-1408 dated 12.05.2010; Microscopy; optical method	Channels of active zones of nuclear reactors, including process channels (Products made of 06X18N10T steel, included in the composition of steel-zirconium transition joints of process channels);	25.30.22.123	-	Maximum depth of corrosion damage	- from 4 to 50 (μm)
1.18.	407-1728 dated 18.09.2001; Microscopy; optical method	Channels of active zones of nuclear reactors, including technological channels (Welded joints of bimetallic adapters); Fuel assemblies and their elements (Welded joints of bimetallic adapters); Channels of active zones of nuclear reactors, including technological channels (Welded joints of bimetallic adapters);	25.30.22.123;25.30.22.124	-	Thickness of diffusion layer	- from 2.0 to 600 (μm)
					Sizes of internal defects (length)	- from 2.0 to 600 (μm)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.18.					Dimensions of internal defects - (width)	from 2.0 to 600 (μm)
1.19.	407-2088 dated 03.12.2010; Microscopy; optical method	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Marking depth	- from 1 to 8 (μm)
					Heat affected zone (HAZ) depth	- from 6.0 to 60 (μm)
1.20.	MVI 07-2415 dated 03.12.2001; Microscopy; optical method	Zirconium products (Wire made of zirconium alloys);	24.45.30.233	-	Defects	detected/not detected -
					Single pore	- from 0.015 to 0.100 (mm)
					Single pores	- from 0.015 to 0.100 (mm)
					Massive accumulation of pores larger than 0.015 mm	detected/not detected -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.20.					Pores no larger than 0.015 mm	detected/not detected -
					Distance between pores	- from 1.7 to 100 (μm)
1.21.	I-407/14830; Microscopy; optical method	Wire, rods, titanium profiles (Wire made of titanium and titanium alloys);	24.45.30.183	-	Depth of surface defects	- from 0.010 to 1.000 (mm)

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No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1. Testing (research), product measurements						
1.1.	OI 001.307-2000; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)
1.2.	OI 001.325-2006; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.3.	OI 001.388-2000; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)
1.4.	OI 001.396-2000; Physical and mechanical; strength	Zirconium products (Sheet material (sheets, strips, plates, tapes) made of zirconium alloys); Hafnium products (Sheet material (sheets, strips, plates, tapes) made of hafnium alloys);	24.45.30.233;24.45.30.353	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.5.	OI 001.397-2000; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)
1.6.	OI 001.468-2000; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Tensile strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Conventional yield strength	- from 49 to 833 (N/mm ²) from 5 to 85 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 85 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.7.	OI 001.527-2001; Tests for exposure to external factors; single-action mechanical impact test (single impact test)	Alloys containing natural uranium and its compounds; Uranium alloys depleted in U-235;	24.46.10.121;20.13.12.111	-	Impact toughness (KCU)	- from 10 to 54 (J/cm ²) from 1.0 to 5.5 (kgf*m/cm ²)
1.8.	OI 001.528-2001; Physical and mechanical; strength	Alloys containing natural uranium and its compounds; Uranium alloys depleted in U-235;	24.46.10.121;20.13.12.111	-	Tensile strength	- from 245 to 1961 (N/mm ²) from 25 to 200 (kgf/mm ²)
					Conventional yield strength	- from 1471 to 1961 (N/mm ²) from 150 to 200 (kgf/mm ²)
					Relative elongation after rupture	- from 3 to 20 (%)
					Relative contraction after rupture	- from 3 to 20 (%)
					Conventional proportionality limit	- from 1471 to 1961 (N/mm ²) from 150 to 200 (kgf/mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.9.	OI 001.540-2002; Physical and mechanical; strength	Zirconium products (Zirconium alloy tubes);	24.45.30.233	-	Temporary tensile strength	- from 343 to 637 (N/mm ²) from 35 to 65 (kgf/mm ²)
1.10.	OI 001.543-2003; Physical and mechanical; strength	Zirconium products (Sheet material (sheets, strips, tapes) made of zirconium alloys);	24.45.30.233	-	Cracks	detected/not detected -
					Bending test	withstand/not withstand -
1.11.	OИ 001.618-2006; Physical and mechanical; strength	Alloys of uranium depleted in U-235;	20.13.12.111	-	Yield strength under compression	- from 1373 to 2452 (N/mm ²) from 140 to 250 (kgf/mm ²)
1.12.	<i>MVI MBHc 08-175-2007</i> ; Physical and mechanical; strength	Channels of active zones of nuclear reactors, including technological channels (welded joints); Fuel assemblies and their elements (welded	25.30.22.123;25.30.22.124	-	Temporary resistance	- from 294 to 686 (MPa) from 30 to 70 (kgf/mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.12.		joints);			Place of destruction	by weld metal/by weld zone metal/by base metal-
					Presence of defects at the place of destruction of the sample (lack of fusion)	presence/absence -
					Presence of defects at the place of destruction of the sample (cracks)	presence/absence -
1.13.	GOST 1497, п.1.7-1.13, 2, 3, 4; Physical and mechanical; strength	Tantalum wire; Tantalum rods, profiles, plates, strips and tapes; Titanium wire, rods, profiles; Titanium plates, sheets, strips and tapes; Titanium forgings, stampings, rings; Channels of active zones of nuclear reactors, including technological channels;	24.45.30.133;24.45.30.134;24.45.30.183;24.45.30.184;24.45.30.188;25.30.22.123	-	Tensile strength	- from 196 to 1470 (MPa) from 196 to 1470 (N/mm ²) from 20 to 150 (kgf/mm ²)
					Conventional yield strength	- from 196 to 1470 (MPa) from 196 to 1470 (N/mm ²) from 20 to 150 (kgf/mm ²)
					Relative elongation after rupture	- from 1 to 60 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.13.					Relative narrowing of the cross-section after rupture	- from 1 to 80 (%)
1.14.	GOST 2999; Physical and mechanical; strength	Wire, rods, titanium profiles; Titanium plates, sheets, strips and tapes; Titanium pipes and tubes; Titanium-based alloys; Titanium forgings, stampings, rings; Tantalum rods, profiles, plates, strips and tapes; Tantalum-based alloys; Niobium products; Niobium based alloys;	24.45.30.183;24.45.30.184;24.45.30.186;24.45.30.187;24.45.30.188;24.45.30.134;24.45.30.136;24.45.30.323;24.45.30.324	-	Vickers hardness	- from 8 to 2000 (HV)
1.15.	GOST 6996, p.8, p.9; Physical and mechanical; strength	Hot-rolled sheet steel products, without additional processing (welded joints, deposited metal); Cold-rolled sheet steel products, without additional processing, with a width of not less than	24.10.3;24.10.4;24.10.5;24.10.6;24.10.8;24.20.2;24.31;24.32;24.33;24.34;25.30.22.123	-	Bending test	withstand/not withstand -
					Temporary tensile strength	- from 98 to 1226 (MPa) from 10 to 125 (kgf/mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range										
1.15.		600 mm (Welded joints, deposited metal); Rolled sheet steel products, clad, with galvanic or other coating, and rolled sheet products of high-speed and electrical steel (Welded joints, deposited metal); Rolled sections and hot-rolled rods of steel (Welded joints, deposited metal); Other rolled ferrous metals, not included in other groupings (Welded joints, deposited metal); Welded pipes of circular cross-section, with an outside diameter exceeding 406.4 mm, steel (Welded joints, deposited metal); Cold-drawn rods (Welded joints, deposited metal); Narrow cold-rolled strip (Welded joints, deposited metal);			<table border="1"> <tr> <td data-bbox="1451 387 1794 496">Bending angle</td> <td data-bbox="1794 387 2096 496">- от 5 до 170 (градус)</td> </tr> <tr> <td data-bbox="1451 496 1794 604">Crack length</td> <td data-bbox="1794 496 2096 604">- от 2 до 10 (мм)</td> </tr> <tr> <td data-bbox="1451 604 1794 713">Cracks</td> <td data-bbox="1794 604 2096 713">detected/not detected -</td> </tr> <tr> <td data-bbox="1451 713 1794 821">Static bending test until reaching the specified bending angle</td> <td data-bbox="1794 713 2096 821">withstand/not withstand -</td> </tr> <tr> <td data-bbox="1451 821 1794 1324">Static bending test until reaching the bending angle at which the first crack, which is a rejection feature, is formed</td> <td data-bbox="1794 821 2096 1324">withstand/not withstand -</td> </tr> </table>	Bending angle	- от 5 до 170 (градус)	Crack length	- от 2 до 10 (мм)	Cracks	detected/not detected -	Static bending test until reaching the specified bending angle	withstand/not withstand -	Static bending test until reaching the bending angle at which the first crack, which is a rejection feature, is formed	withstand/not withstand -	
Bending angle	- от 5 до 170 (градус)															
Crack length	- от 2 до 10 (мм)															
Cracks	detected/not detected -															
Static bending test until reaching the specified bending angle	withstand/not withstand -															
Static bending test until reaching the bending angle at which the first crack, which is a rejection feature, is formed	withstand/not withstand -															

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.15.		Cold stamping or bending products (welded joints, deposited metal); Cold drawn wire (welded joints, deposited metal); Channels of active zones of nuclear reactors, including process channels (welded joints, deposited metal);				
1.16.	GOST 8694; Tests for the effects of external factors; other methods of research (tests) for the effects of external factors	Zirconium products (Seamless metal pipes); Titanium pipes and tubes; Seamless hollow pipes, profiles and their steel fittings;	24.45.30.233;24.45.30.186;24.20.1	-	Distribution test	satisfactory/unsatisfactory -
1.17.	GOST 8695-2022 (ISO 8492:2013); Tests for the impact of external factors; other methods of research (tests) for the impact of external	Zirconium products (Seamless metal pipes); Titanium pipes and tubes; Seamless hollow pipes, profiles and their steel fittings;	24.45.30.233;24.45.30.186;24.20.1	-	Flattening test	satisfactory/unsatisfactory -

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.17.	factors					
1.18.	GOST 9454; Physical and mechanical; strength	Titanium pipes and tubes;	24.45.30.186	-	Impact strength KCU	- from 30 to 200 from 3 to 20 (kgf*m/cm ²)
1.19.	GOST 9651; Physical and mechanical; strength	Tantalum wire; Tantalum rods, profiles, plates, strips and tapes; Titanium wire, rods, profiles; Titanium plates, sheets, strips and tapes; Titanium forgings, stampings, rings; Hot-rolled steel sheet products, without additional processing; Cold-rolled steel sheet products, without additional processing, with a width of at least 600 mm; Clad steel sheet products, with	24.45.30.133;24.45.30.134;24.45.30.183;24.45.30.184;24.45.30.188;24.10.3;24.10.4;24.10.5;24.10.6;24.10.8;24.31;24.32;24.33;24.34;25.30.22.123	-	Tensile strength	- from 49 to 784 (MPa) from 49 to 784 (N/mm ²) from 5 to 80 (kgf/mm ²)
					Conventional yield strength	- from 49 to 686 (MPa) from 49 to 686 (N/mm ²) from 5 to 70 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 80 (%)
					Relative contraction after rupture	- from 5 to 85 (%)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.19.		galvanic or other coating and sheet products made of high-speed and electrical steel; Hot-rolled steel sections and wire rods; Other rolled ferrous metals, not included in other groups; Cold-drawn rods; Narrow cold rolled strip; Cold stamped or bent products; Cold drawn wire; Channels of active zones of nuclear reactors, including technological channels (Metals);				
1.20.	GOST 10006; Physical and mechanical; strength	Titanium pipes and tubes; Zirconium products (Seamless and welded metal pipes); Hafnium products (Seamless and welded metal pipes); Hollow pipes, profiles and their steel fittings;	24.45.30.186;24.45.30.233;24.45.30.353;24.20	-	Tensile strength	- from 49 to 784 (MPa) from 49 to 784 (N/mm ²) from 5 to 80 (kgf/mm ²)
					Conventional yield strength	- from 49 to 686 (MPa) from 49 to 686 (N/mm ²)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.20.						from 5 to 70 (kgf/mm ²)
					Relative elongation after rupture	- from 10 to 60 (%)
					Relative contraction after rupture	- from 15 to 80 (%)
1.21.	GOST 10446; Physical and mechanical; strength	Wire, rods, titanium profiles; Tantalum wire; Cold drawn wire;	24.45.30.183;24.45.30.133;24.34	-	Tensile strength	- from 49 to 686 (MPa) from 49 to 686 (N/mm ²) from 5 to 70 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 70 (%)
1.22.	GOST 14759; Physical and mechanical; strength	Adhesives based on polymerization resins (Epoxy resin);	20.52.10.110	-	Shear stress at break	- from 1 to 50 (MPa)

No.	Documents establishing rules and methods of research (testing) and measurements	Name of the object	CODE of OKPD 2	FEACN of the CU CODE	Defined characteristic (Indicator)	Definition range
1.23.	GOST 19040; Physical and mechanical; strength	Titanium pipes and tubes (Seamless metal tubes); Zirconium products (Seamless metal tubes); Hafnium products (Seamless metal tubes); Tubes, hollow profiles and their steel fittings (Seamless metal tubes);	24.45.30.186;24.45.30.233;24.45.30.353;24.20	-	Tensile strength	- from 98 to 784 (MPa) from 98 to 784 (N/mm ²) from 10 to 80 (kgf/mm ²)
					Yield strength	- from 98 to 686 (MPa) from 98 to 686 (N/mm ²) from 10 to 70 (kgf/mm ²)
					Relative elongation after rupture	- from 5 to 80 (%)
					Relative contraction after rupture	- from 5 to 85 (%)
1.24.	GOST 21981 Physical and mechanical; strength	Sealants;	20.30.22.170	-	Peel-off bond strength to metal	- from 0.1 to 20.0 (kN/m)

General Director of JSC CMP

position of authorized person

Signed with an electronic signature

signature of authorized person

S.V. Chineikin

initials, name of the authorized person