Accredited to LST EN ISO/IEC 17025:2018

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SCOPE OF ACCREDITATION

(Flexible*)

Taikos pr. 7, 31107 Visaginas, Lithuania

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Base metal of equipment and structures Metallic rolled and forged products Metal welded joints and claddings Castings	External defects: Cracks, slag’s, inclusions, pores, lack of penetration and other discontinuities. Internal defects: Cracks, lack of fusion, lack of penetration and other discontinuities	LST EN 10308 LST EN 10160 LST EN 10306 LST EN ISO 16810 LST EN 10228-3 LST EN 10228-4 LST EN ISO 16828 GOST 17410 GOST P 55724 LST EN ISO 17640 LST EN ISO 22825 LST EN ISO 10863 LST EN ISO 13588 GOST 14782 AFtd-158 (LST EN ISO 10863, LST EN ISO 13588) LST EN 12680-1 LST EN 12680-2 LST EN 12680-3	Ultrasonic testing (UT)
Metallic and non-metallic materials	Thickness	LST EN ISO 16809	Ultrasonic thickness measurement (UTth)
Base metal of eqaftuipment and structures Metallic rolled and forged products, castings Metal welded joints and claddings	External defects: Cracks, slag’s, inclusions, pores, lack of penetration, undercuts, excess penetration, root concavity and other discontinuities. Internal defects: Cracks, slag’s, inclusions, lack of penetration, lack of fusion, cavities and other discontinuities. Defect shape and dimensions.	LST EN ISO 17636-1 LST EN ISO 17636-2 LST EN ISO 5579 GOST 7512 LST EN ISO 16371-2	Radiographic testing (RT)

Materials or products tested	**Component, parameter or characteristic to be tested**	**Reference number of the document specifying test methods, clause (if relevant)**	**Techniques, methods and/or equipment used (where appropriate)**
Base metal of equipment and structures Metallic rolled and forged products, castings Metal welded joints and claddings.	External defects: Cracks, slag's, inclusions, pores, lack of penetration, undercuts, excess penetration, root concavity and other discontinuities. Geometry of welded joints. Geometry of objects. Surface roughness.	LST EN 13018 LST EN ISO 17637 GOST 23479	Visual testing (VT)
	External defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration, burns through and other discontinuities.	LST EN ISO 3452-1 GOST 18442	Dye penetrant testing (PT)
	External defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration, burns through and other discontinuities.	LST EN ISO 17638 LST EN ISO 9934-1 LST EN ISO 10893-5 LST EN 1369 LST EN 10228-1 GOST 21105	Magnetic particle testing (MT)
	Surface defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration, burns through and other discontinuities. Subsurface defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration and other discontinuities.	LST EN ISO 15549 LST EN ISO 17643	Eddy current testing (ET)
Vessels, tanks, pipelines, base metal, welded joints.	Throughwall defects	LST EN ISO 20485 LST EN 13184 LST EN 1593	Leak testing (LT)
Welded joints	Internal defects: Porosity, cracks, lack of fusion, lack of penetration, inclusions on fracture surface	LST EN ISO 9017	Fracture tests
Surface of metallic products, base metal, welded joints and claddings	Brinell hardness (8 ÷ 650) HBW	ASTM A370 (Ch. 17) LST EN ISO 6506-1 ASTM E10	Brinell hardness testing
	Rockwell hardness (20 ÷ 70) HRC (10 ÷ 100) HRBW	LST EN ISO 6508-1 ASTM E18	Rockwell hardness testing
	Vickers hardness (20 ÷ 900) HV	LST EN ISO 6507-1 ASTM E92	Vickers hardness testing
Surface of metallic products, base metal, welded joints and	Mass percent part of chemical elements in low alloy steels	LST CR 10320 GOST 18895	Optical emission analysis for metal chemical

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claddings.	Mass percent part of chemical elements in metals and alloys	AFtd-86 (LST CR 10320, GOST 18895)	composition determination
Surface of metallic products, base metal, welded joints and claddings. Metallic rolled and forged products, castings. Metal welded joints and claddings.	Metal surface macro and micro defects. Metal surface macro and micro structure.	AFtd-165 (LST EN ISO 17639, RD 70 0015)	Metal macro and micro structure examination
	Metals and alloys phase composition. Sensitivity level of austenitic stainless steels.	ASTM E562 AFtd-166 (ASTM E562, ASTM A262, LST EN ISO 643)	
	Grain size.	LST EN ISO 643 GOST 5639 ASTM E112	
	Type and quantity of non-metallic inclusions in steels.	ISO 4967 GOST 1778 ASTM E45 (excluding Ch. 5)	
	Ferritic phase quantity in austenitic steels.	GOST 11878 RD EO 0199 (Appendix D, 3 p.)	
	Steel macrostructure.	GOST 10243 ISO 4969	
Metal welded joints and claddings.	Macro and micro structure characteristics of welded joint	LST EN ISO 17639	
Base metal of steel equipment and structures Steel rolled and forged products, castings Steel welded joints Base metal of equipment and structures Metal rolled and forged products, castings Metal welded joints	Testing temperature: (23±5) ^{0}C Tensile strength Proof strength Upper yield strength Lower yield strength Percentage elongation Percentage reduction of area	ASTM A370 (6-14 sk.) LST EN ISO 6892-1 GOST 1497 ASTM E8/E8M	Tensile test
	Testing temperature: (50÷365) ^{0}C Tensile strength Proof strength Upper yield strength Lower yield strength Percentage elongation Percentage reduction of area	LST EN ISO 6892-2 GOST 9651 ASTM E21	
Base metal of steel equipment and structures Steel rolled and forged products, castings Steel welded joints Base metal of equipment	Testing temperature: (23±5) ^{0}C (-80÷180) ^{0}C -196 ^{0}C Impact absorbed energy Impact toughness Lateral expansion Percent shear fracture	ASTM A370 (Ch. 20 - 29) LST EN ISO 148-1 GOST 9454 ASTM E23	Charpy impact test

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
and structures Metal rolled and forged products, castings Welded metal joints	Plasticity determined by the cracks appearance or not when bended by required angle	LST EN ISO 7438 GOST 14019 ASTM E290	Bend test
	Plasticity determined by the cracks appearance or not when flattened to the required distance	LST EN ISO 8492 GOST 8695	Flattening test
Welded metal joints	Testing temperature: (23±5) ^{0}C (50÷365) ^{0}C Tensile strength (maximum tensile strength) Testing temperature: (23±5) ^{0}C Tensile strength (maximum tensile strength)	LST EN ISO 4136 GOST 6996 (8 p.) LST EN ISO 9018	Tensile test
	Plasticity determined by the cracks appearance or not when bended to required angle Plasticity determined by the bend angle when the first crack appears	LST EN ISO 5173 GOST 6996 (9 p.) ASTM E190	Bend test
	Testing temperature: (23±5) ^{0}C (-80÷180) ^{0}C -196 ^{0}C Impact absorbed energy Impact toughness	LST EN ISO 9016 GOST 6996 (Ch. 5)	Charpy impact test
	Vickers hardness (20÷900) HV	LST EN ISO 9015-1	Vickers hardness test
Welded joint metal	Testing temperature: (23±5) ^{0}C (50÷365) ^{0}C Tensile strength Proof strength Upper yield strength Lower yield strength Percentage elongation Percentage reduction of area	LST EN ISO 5178	Tensile test
Welded reinforcement joints	Testing temperature: (23±5) ^{0}C Maximum tensile strength Proof strength Upper yield strength Lower yield strength Percentage elongation	LST EN ISO 17660-1 LST EN ISO 17660-2	Tensile test

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
Austenitic and austenitic-ferritic steel electrodes. Austenitic steel welded joints.	Delta-ferrite contents (determination of FN value)	LST EN ISO 8249 (Ch. 8)	Delta-ferrite content determination by magnetic method
Austenitic, ferritic and austenitic- ferritic stainless steel products. Base metal, welded joints and cladding, weld metal.	Resistance determined by the cracks appearance or not when bended to defined angle after corrosion test.	LST EN ISO 3651-2 (method A) GOST 6032 (method AMU, AM)	Resistance to inter-granular corrosion test
Austenitic stainless steel products. Base metal, welded joints and cladding, weld metal.	Micro structure. Resistance determined by the cracks appearance or not when bended to defined angle after corrosion test, specimen mass loss.	ASTM A262 (methods A, E, C)	
Nickel alloy. Base metal, welded joints and cladding, weld metal.	Corrosion rate.	ASTM G28	
Corrosion-resistant steels and related alloys rolled and forged products, castings. Corrosion-resistant steels and related alloys welded joints.	Specimen mass loss and surface conditions examination after corrosion test.	ASTM G48 (method A)	Resistance to pitting corrosion test
Metal coated flat steel products	Specimen mass loss.	LST EN 10346 Appendix A	Coating mass determination
Base metal of equipment and structures made of austenitic- ferritic stainless steel (duplex). Austenitic- ferritic stainless steel (duplex) rolled and forged products, castings. Austenitic- ferritic stainless steel (duplex) welded joints.	Harmful inter-metallic phases	ASTM A923 (methods A, B, C)	Microstructure examination Charpy impact test Pitting corrosion rate test
Brazed joints	Shear strength	LST EN 12797 (Ch. 4, 5, 6, 7)	Shear test
	Tensile strength	LST EN 12797 (Ch. 5)	Tensile test
	Macro and micro structure	LST EN 12797 (Ch. 6)	Macro and micro structure examination
	Vickers hardness (20÷900) HV	LST EN 12797 (Ch. 7)	Vickers macro hardness test
Steel fasteners	Fracture area. Tensile strength or maximum load.	LST EN ISO 898-1 (Ch. 9.1) ASTM A370 (Ch. A.3)	Tension test with a wedge

Materials or products tested	Component, parameter or characteristic to be tested	Reference number of the document specifying test methods, clause (if relevant)	Techniques, methods and/or equipment used (where appropriate)
	Tensile strength	LST EN ISO 898-1 (Ch. 9.2) ASTM A370 (Ch. A.3.)	Tensile test
	Tensile strength Proof strength Percentage elongation Percentage reduction of area	LST EN ISO 898-1 (Ch. 9.7) ASTM A370 (Ch. A.3.)	Tensile test of fasteners machined to round test specimen
	Brinell hardness (8÷650) HBW	LST EN ISO 898-1 (Ch. 9.9) ASTM A370 (Ch. A.3.3.)	Brinell hardness test
	Vickers hardness (20÷900) HV	LST EN ISO 898-1 (Ch. 9.9)	Vickers hardness test
	Rockwell hardness (20÷70) HRC	LST EN ISO 898-1 (Ch. 9.9) ASTM A370 (Ch. A.3.3.)	Rockwell hardness test
	Testing temperature: (23±5) ^{0}C (-80÷180) ^{0}C -196 ^{0}C Impact toughness Impact absorbed energy	LST EN ISO 898-1 (Ch. 9.14) GOST 1497 (Ch. 6.6)	Charpy impact test
	Decarburized layer	LST EN ISO 898-1 (Ch. 9.10.2)	Microstructure examination
NPP equipment and pipelines *Base metal*	External and internal defects Cracks, slag's, inclusions, pores and other discontinuities.	PNAE G-7-016 RD 34.10.130 GOST 23479	Visual testing (VT)
		PNAE G-7-018 GOST 18442	Penetrant testing (PT)
		PNAE G-7-015 GOST 21105	Magnetic particle testing (MT)
		PNAE G-7-014 GOST 17410 BS 7706	Ultrasonic testing (UT)
	Metal thickness measurement	PNAE G-7-031	Ultrasonic thickness measurement (UTth)
NPP equipment and pipelines *Welded joint and claddings*	External defects determination: undercuts, cracks, pores, overlap, welded joint geometry, lack of penetration, burn through.	PNAE G-7-016 RD 34.10.130 GOST 23479	Visual testing (VT)
		PNAE G-7-018 GOST 18442 LST EN ISO 3452-1	Penetrant testing (PT)
		PNAE G-7-015 GOST 21105	Magnetic particle testing (MT)
	Internal defects determination: cracks, slag's, inclusion, lack of penetration, lack of	PNAE G-7-030 PNAE G-7-032 GOST 14782 GOST P 55724 BS 7706	Ultrasonic testing (UT)

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	fusion, defect shape and dimensions, other defects and discontinuities.	PNAE G-7-017 GOST 7512	Radiographic testing (RT)
	Throughwall defects	PNAE G-7-019	Leak testing (LT)
NPP equipment and pipelines *Base metal,* *Welded joint and claddings*	Metal macro and micro structure Weld metal macro and micro structure	RD 70 0015	Macro Microstructure examination

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Metallic and non-metallic materials	Thickness	LST EN ISO 16809	Ultrasonic thickness measurement (UTth)
Base metal of equipment and structures Metallic rolled and forged products, castings Metal welded joints and claddings	External defects: Cracks, slag's, inclusions, pores, lack of penetration, undercuts, excess penetration, root concavity and other discontinuities. Internal defects: Cracks, slag's, inclusions, lack of penetration, lack of fusion, cavities and other discontinuities. Defect shape and dimensions.	LST EN ISO 17636-1 LST EN ISO 17636-2 LST EN ISO 5579 GOST 7512 LST EN ISO 16371-2	Radiographic testing (RT)

	External defects: Cracks, slag's, inclusions, pores, lack of penetration, undercuts, excess penetration, root concavity and other discontinuities. Geometry of welded joints. Geometry of objects. Surface roughness.	LST EN 13018 LST EN ISO 17637 GOST 23479	Visual testing (VT)
	External defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration, burns through and other discontinuities.	LST EN ISO 3452-1 GOST 18442	Dye penetrant testing (PT)
Base metal of equipment and structures Metallic rolled and forged products, castings Metal welded joints and claddings.	External defects: Cracks, undercuts, pores, slags, inclusions, lack of penetration, burns through and other discontinuities.	LST EN ISO 17638 LST EN ISO 9934-1 LST EN ISO 10893-5 LST EN 1369 LST EN 10228-1 GOST 21105	Magnetic particle testing (MT)
Surface of metallic products, base metal, welded joints and claddings. Metallic rolled and forged products, castings. Metal welded joints and claddings. Metal products, base metal, surface of welded welded joints and claddings.	Vickers hardness (20÷900) HV	LST EN ISO 6507-1 ASTM E92	Vickers hardness test
	Mass percent part of chemical elements in low alloy steels. Mass percent part of chemical elements in metals and alloys	LST CR 10320 GOST 18895 AFtd-86 (LST CR 10320. GOST 18895)	Optical emission analysis for metal chemical composition determination.
	Metal surface macro and micro defects. Metal surface macro and micro structure.	AFtd-165 (LST EN ISO 17639, RD 70 0015)	Metal macro and micro structure examination.

* One degree of flexibility are established and applied for the whole accreditation scope:

1. application of the updated documents of test methods already covered by accreditation or the identical documents superseding them.

Actual scope of accreditation is published on the website: http://www.dekra-industrial.lt

Director Tadas Juodelis