Hellenic Accreditation System

Annex F1/A22 to the Certificate No. **64**-7

SCOPE of ACCREDITATION

of the

Testing Laboratories

of the

Materials Industrial Research and Technology Center S.A. (MIRTEC S.A.)

VOLOS

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
	Non destructive tests	
Metallic products	1. Ultrasonic examination using the pulse echo technique	EN ISO 16810:2014
Welded joints.		ASME V Art. 4: 2017 ASME V Art. 5: 2017
Fusion weld joints in metallic materials to and above 8mm thick.		ELOT EN ISO 17640: E2:2018
Martensitic or ferritic steel forgings.		ELOT EN 10228-3 E2: 2016
Full penetration welded joints in ferritic steels.		ELOT EN ISO 11666: E2:2018
Gas and Arc welding in carbon and low-alloy steel piping.		API 1104: 21st Edition (Acceptance levels)
Cast steels.		ASME VIII App. 7: 2017 (Acceptance levels)
Welded joints.		ASME VIII App. 12: 2017 (Acceptance levels)

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Metallic products	2. Radiographic examination by X-Rays in Steel products up to 35mm in thickness and aluminum alloy products up to 100mm in thickness (the testing is only performed in permanent laboratory premises)	EN ISO 5579:2014 ASTM E94/E94M-17
Welded joints, Cast metallic materials		ASME V Art. 2: 2017
Fusion welds of metallic materials.		ELOT EN ISO 17636-1: 2013
Gas and Arc welding in carbon and low alloy steel piping.		API 1104: 21st Edition (Test method and acceptance levels)
Steel butt welds.		EN ISO 10675-1 E2: 2016 (Acceptance levels)
Aluminum butt welds.		EN ISO 10675-2 E2: 2018 (Acceptance levels)
Arc-welded joints in steels.		ELOT EN ISO 5817 E3: 2014 (Acceptance levels)
Welded joints in metallic materials.		ASME VIII App. 4: 2017 ASME IX QW-191.2: 2017
Cast steels.		ASME VIII App. 7 : 2017 (Acceptance levels) ASTM E 446: 2015 (Acceptance levels)
Ferromagnetic materials	3. Magnetic particle inspection using magnetic particles and YOKE (Electromagnetic balance)	ASTM E 709: 2017 ASME V Art. 7: 2017 ASME VIII App. 6: 2017 (Acceptance levels)
Ferromagnetic welds.		ELOT EN ISO 17638 E2: 2016 ELOT EN ISO 23278:2015 ELOT EN ISO 5817 E3: 2014 (Acceptance levels)
Forgings of ferromagnetic materials.		ELOT EN 10228-1 E2: 2016
Ferromagnetic cast steels.		ASME VIII App. 7: 2017
Metallic materials	4. Liquid penetrant inspection using visible and fluorescent contrast.	ASTM E165/E165M-12 ELOT EN 3452.01:2013 ASME V Art. 6: 2017 ASME VIII App. 8: 2017 (Acceptance levels)

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Welded joints of metallic materials. Cast steels.		ELOT EN ISO 23277 E2:2015 (Acceptance levels) ELOT EN ISO 5817 E3: 2014 (Acceptance levels) ELOT EN ISO 10042:2008 (Acceptance levels) ASME VIII App. 7: 2017 (Acceptance levels)
Metallic materials	5. Non-destructive testing - Ultrasonic thickness measurement	EN ISO 14127 E2:2011 ASTM E797/E797M-15
	Physical tests	
Welded joints.	1. Visual examination – Detection and evaluation of imperfections	ELOT EN ISO 17637: E2: 2017 ELOT EN ISO 5817 E3: 2014 ELOT EN ISO 10042: 2008 ASME V, art. 9: 2017
	Mechanical tests	
Metallic materials.	1. Tensile test (0-600)kN.	ELOT EN ISO 6892-1: E2: 2016 (tensile strength, yield strength, percentage plastic extension at maximum force, percentage elongation after fracture) ASTM E8/E8M-16a (Sample dimensions)
	2. Charpy impact test.	ELOT EN ISO 148-1: E2: 2017 ELOT EN ISO 9016 E2:2012 ASTM A370-17a (Sample dimensions)
Steel reinforcing bars.	3. Bend test (at 180˚ angle).	ELOT 1421-2,-3 E2: 2007 ELOT EN 10080: 2005
	4. Fatigue strength.	ELOT EN 10080:2005, ELOT 1421-2,-3 E2: 2007
	5. Surface geometry of ribbed or indented steel.	ELOT EN 10080: 2005, ELOT 1421-2,-3 E2: 2007
Welded joints. Gas and Arc welding in carbon and low alloy steel piping. Welded joints in pipes and plates.	6. Bend test in metallic materials.	API 1104: 21st Edition ELOT EN ISO 5173/A1: 2012 ASME IX, QW 162: 2010

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Chemical tests		
Carbon and low-alloy steel.	C, Si, Mn, P, S, Cr, Ni, Mo, V, Cu, Al, Co, Nb, Ti, Sn, N	ASTM E 415-17
Stainless steel.	C, Si, Mn, P, S, Cr, Ni, Mo, Cu	ASTM E 1086: 2014
Aluminum and aluminum-alloys.	Si, Fe, Cu, Mn, Mg, Zn, Ni, Cr, Pb, Sn, Ti	ELOT EN 14726: 2006
Copper alloys.	Sn, Pb, Zn, P, Mn, Fe, Ni, Si, Al, Cu	ELOT EN 15079: E2: 2016
Control tests for fire extinguishers		
Fire extinguishers	1. Corrosion (salt spray) tests	ELOT EN ISO 9227:9227 E3: 2017
Portable extinguishers Mobile extinguishers Small disposable of the aerosol type extinguishers	2. Extinguishing capacity tests (dielectric constant excluded)	ELOT EN 3-7 + A1: 2007 ELOT EN 1866-1: 2007 ELOT 1066 E2: 2006
Portable extinguishers Mobile extinguishers Small disposable of the aerosol type extinguishers	3. Characteristics, performance and test methods (dielectric constant excluded)	ELOT EN 3-7 + A1: 2007 ELOT EN 1866-1: 2007 ELOT 1066 E2: 2006

Site of assessment: **Laboratory permanent premises, A' Industrial Area, Volos, Greece.**
Approved Signatories: **N. Xiradakis, G. Archontis, A. Stamou,**
A. Papadimitriou, S. Katsalis, **A. Pigga, P. Tsolakis, K. Diamanti.**

This Scope of Accreditation replaces the previous one dated May 31st, 2021.
The Accreditation Certificate No. **64-7**, to ELOT EN ISO/IEC 17025:**2017**, is valid until 31.08.2022, according ESYD decision.

Athens, December 21st, 2021

Konstantinos Kourtalis
Chairman of ESYD