Hellenic Accreditation System

Annex F1/28 to the Certificate No. **177**-10

SCOPE of ACCREDITATION

of the

Testing Laboratory

of

PILIDIS THOMAS & Co G.P.
(NDT METALS)

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Non-destructive tests using magnetic particles		
Ferromagnetic materials and welds of metal plates and pipes	*Magnetic particles examination and use of portable yoke.*	**EN ISO 17638: 2016** Non-destructive testing of welds. Magnetic particle testing **ΕΛΟΤ EN 10228-1 E2: 2016** Non-destructive testing of steel forgings. Magnetic particle inspection. **ASME V: 2023** Boiler and Pressure Vessel Code Non Destructive Examination Article 7: Magnetic Testing. **API 1104 *22nd Edition*** Standard Welding of Pipelines and Related Facilities. Paragraph 9.4: Magnetic Particle Testing. **ASTM E3024_E3024M-22A** Practice for Magnetic Particle Testing for General Industry **ASTM E 709: *21*** Standard Practice for Magnetic Particle Testing

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Non-destructive tests using penetrant fluids		
Non-porous materials and constructions and welds	*In situ inspection by penetrant fluids*	**EN ISO 3452-1:** ***2021*** Non-destructive testing. Penetrant testing. General principles **ΕΛΟΤ ΕΝ 10228-2 Ε2: 2016** Non-destructive testing of steel forgings. Penetrant testing. **ASME V: 2023** Boiler and Pressure Vessel Code Non Destructive Examination Article 6: Penetrant testing. **API 1104** ***22nd Edition*** Standard Welding of Pipelines and Related Facilities. Paragraph 9.5: Liquid Penetrant Testing. **ASTM E 1417/E 1417M-*21e1*** Standard Practice for Liquid Penetrant Testing **ASTM E 165/E165M-2023** Standard Practice for Liquid Penetrant Examination for General Industry.
Ultrasonic non-destructive tests		
Ferromagnetic materials and welds of metal plates	*Ultrasonic examination.*	**EN ISO 16810: 2014** Non-destructive testing. Ultrasonic testing. General principles **ΕΛΟΤ ΕΝ 10228-3 Ε2: 2016** Non-destructive testing of steel forgings. Ultrasonic testing of ferritic or martensitic steel forgings. **EN ISO 23279: 2017** Non-destructive testing of welds. Ultrasonic testing. Characterization of discontinuities in welds **EN ISO 17640: 2018** Non-destructive testing of welds. Ultrasonic testing. Techniques, testing levels, and assessment **ASME V: 2023** Boiler and Pressure Vessel Code Non Destructive Examination Article 4: In Service Inspection, Article 5: Inspection of Materials and Fabrications. **API 1104 22nd Edition** Standard Welding of Pipelines and Related Facilities. Paragraph 9.6: Ultrasonic Testing. **ASTM E 797/E797M:** ***21*** Standard Practice for Measuring Thickness by Manual Ultrasonic Pulse Echo Contact Method

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
	Phased Array Method	**EN ISO 13588: 2019** Non-destructive testing of welds- Ultrasonic testing. Used of automated Phased array technology. **ASME V2023:** **Boiler and Pressure Vessel Code** **Non Destructive Examination** Article 4: Mandatory Appendix IV, Article 4: Mandatory Appendix V, Article 4: Mandatory Appendix P, Article 23: SE-2491
Non-destructive tests by radiographic examination		
Metallic materials and welds	X and γ ray radiographic examination.	**EN ISO 5579:2013** Non-destructive Testing. Radiographic Testing of Metallic Materials using film and x- or gamma Rays. Basic Rules. **EN ISO 17636-1:** ***2022*** Non-destructive Testing of Welds. Radiographic Testing. X- and gamma- rays techniques with film. **ASME V: 2023** Boiler and Pressure Vessel Code Non Destructive Examination Article 2: Radiographic examination. **API 1104** ***22st Edition*** Standard Welding of Pipelines and Related Facilities. Paragraph 9.3: Radiographic Testing. **ASTM E94/E94M-*22*** Standard Guide for Radiographic Examination **ASTM E 1032: 19** Standard Test Method Guide for Radiographic Examination of weldments

Materials / Products to be tested	Types of test / Properties to be measured	Applied methods / Techniques to be used
Non-destructive tests by visual examination		
Metallic materials and welds	Visual examination	**EN ISO 17637 E2: 2017** Non-destructive testing of welds. Visual testing of fusion-welded joints. **EN ISO 5817: 2023** Welding. Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded). Quality levels for imperfections.
Mechanical tests		
Metallic materials	Tensile test: Maximum force Elongation after fracture Upper & lower yield point Fracture stress	BS EN ISO 6892-1:2019
Metallic materials	Impact testing (charpy) Absorbed impact energy	EVS EN ISO 148-1:2016
Weld metallic specimens	Face Bend testing (FBB) & Root Bend testing (RBB):	EVS EN ISO 5173:2023
Weld metallic specimens	Transverse tensile test: - Elongation - Fracture stress Rm	BS EN ISO 4136:2022
Metallurgical tests		
Metallic materials & Welding metallic specimens	Vickers Hardness / Hardness (HV10)	EVS EN ISO 6507-1:2023
Welding metallic specimens	Macroscopic Examination	EVS EN ISO 17639:2022

Site of assessment: **Laboratory Permanent premises, Industrial Park Neochoroudas, 54500 Neochorouda, Thessaloniki, Greece.**

Approved signatories: **Thomas Pilidis.**

This Scope of Accreditation replaces the previous one dated September 9th, 2024.
The Accreditation Certificate No. **177**-10, to ELOT EN ISO/IEC 17025: **2017**, is valid until 22.09.2029.

Athens, October 23rd, 2024

Konstantinos Kourtalis
Chairman of ESYD