Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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Accredited to ISO/IEC 17025:2017

Element Materials Technology Sheffield Ltd, Trading as Element Materials Technology Sheffield – Magna Way

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Testing performed at the above address only

DETAIL OF ACCREDITATION

Element Materials Technology Sheffield Ltd is accredited for a flexible scope that enables them to:
Modify existing test methods already covered by ISO/IEC 17025:2017 accreditation to broaden the applicability to other materials, products and sample types.
Include technically equivalent standard methods to those already covered by ISO/IEC 17025:2017 accreditation.
Include newly revised standard methods that are already covered by ISO/IEC 17025:2017.
In accordance with their documented in-house procedure SOP 109864 Management of Testing Flexible Scope at Sheff-DT

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS	Chemical Tests	Documented In-House Methods
Cast iron, Ferrous alloys, High speed tool steel, Stainless steels	Si, Mn, P, Cr, Mo, Ni, Al, Cu, Co, Ti, V, Nb, W, Sn, Mg, Zr	ICP-OES – ICP6000
	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, B, Co, Pb, Ti, V, Nb, W, Sn, Zr, N	Spark-OES – OES MAX1
	C, S	Combustion – CS844
	O, N, H	Fusion – ONH836
Aluminium alloys	Cu, Si, Mn, Cr, Ni, Bi, Pb, Mg, Sn, Ti, V, Zn, Fe, Zr	ICP-OES – ICP6000
Cobalt alloys	Si, Mn, P, Cr, Ni, Mo, Fe, W, Al, Sn, Ti, Co, Cu	ICP-OES – ICP6000
	C, S	Combustion – CS844
	O, N, H	Fusion – ONH836

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Chemical Tests (cont'd)	Documented In-House Methods
Copper alloys	Si, Mn, P, Cr, Ni, Al, Bi, Cd, Sb, Cu, Pb, Mg, Be, Zn, Fe, B	ICP-OES – ICP6000
	Mn, P, Cr, Ni, Al, Bi, Pb, Sn, Zn, Fe	Spark-OES – OES MAX1
	Carbon	Combustion – CS844
	Oxygen	Fusion – ONH836
Nickel alloys	Si, Mn, Ta, P, Cr, Mo, Ni, Al, Co, Cu, Pb, Ti, W, V, Nb, Fe	ICP-OES – ICP6000
	C, Si, Mn, P, S, Cr, Mo, Al, Co, Cu, Ti, W, V, Nb, Fe	Spark-OES – OES MAX1
	C, S	Combustion – CS844
	O, N, H	Fusion – ONH836
Titanium alloys	Ti, V, Al, Fe, Mg, Mn, Zr, Mo, Si, Sn, Cu	ICP-OES – ICP6000
	Carbon	Combustion – CS844
	O, N, H	Fusion – ONH836
	Corrosion Tests	
Iron, Steels and other ferrous metals	Intergranular corrosion	BS EN ISO 3651-2:1998 ASTM A262-15 (2021) Methods A, C & E ASTM G28-2022 Method A
	Pitting corrosion	ASTM G48-11(2020) Method A
	Mechanical Tests	
	Bend	BS EN ISO 7438:2020
	Compression (temperature - ambient) (forces from 0.4 kN to 2000 kN)	Documented In-House Methods MTP12

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Mechanical Tests</u>	
	Impact: Izod Charpy (V- notch) (temperatures -196°C to ambient)	BS 131-1:1961(2015) BS EN ISO 148-1:2016 ASTM E23-23
	Creep: (forces from 1.5 kN (330lbs) to 45 kN (10,000lbs)) (ambient temperature to 950°C)	BS EN 2002-005:2007 BS EN ISO 204:2023 ASTM E139-11 (2018)
	Hardness: Brinell (10/3000, 10/1000, 5/750)	BS EN ISO 6506-1:2014 ASTM E10-23
	Rockwell (Scales B & C)	BS EN ISO 6508-1:2016 ASTM E18-22
	Vickers (0.1, 0.2, 0.3, 0.5, 1.0, 10 & 30 kg)	BS EN ISO 6507-1:2023 ASTM E92-23 ASTM E384-22 Documented In-House Method MET 5N
	Stress-rupture (forces from 1.5 kN (330lbs) to 45 kN (10,000lbs)) (ambient temperature to 950°C)	BS EN 2002-005:2007 BS EN ISO 204:2023 ASTM E139-11 (2018) ASTM E292-18
	Tensile: (temperature - ambient) (forces from 0.2 kN to 800 kN)	BS EN ISO 6892-1:2019 BS EN 2002-1:2005 ASTM A370-22 ASTM E8/E8M-22
	Tensile: (Elevated temperature from ambient to 950°C) (forces from 0.2 kN to 250 kN)	BS EN ISO 6892-2:2018 BS EN 2002-2:2005 ASTM E21-20
	Proof and Tensile strength (temperature - ambient) (forces from 0.2 kN - 2000 kN)	Documented In-House Method MTP2

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Mechanical Tests (cont'd)	
Bolts, screws and nut	Tension and compression	To documented plans agreed with clients. BS EN ISO 898-1:2013 BS EN ISO 898-2:2022 BS EN ISO 3506-1:2020 (Excluding clause 9.5) BS EN ISO 3506-2:2020 BS 3692:2014 (nuts) ASTM A194/A194M-22a ASTM A370-22 ASTM F606/F606M-21 SAE J429: 2014
	Shear stress	Documented In-House Method MTP40
Metal Scaffolding Couplers	Friction type sleeve couplers - bending moment	BS EN 74-1:2022
	Right angle couplers - rotation, cruciform bending moment and stiffness, pull apart force, and indentation test	BS EN 74-1:2022
	Failure force for right angle and swivel couplers	BS EN 74-1:2022
	Slippage force for right angle, swivel and sleeve couplers	BS EN 74-1:2022
	Slippage force for Putlog couplers	BS 1139-2.2:2009+A1:2015

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Mechanical Tests (cont'd)	
Weldments and brazings	Tests designated in specified welding codes as detailed below Bend, Fracture, Hardness, Impact, Tensile, Micro and Macro-examination tests in accordance with specified welding and brazing codes	BS 4871-3:1985 (withdrawn) BS 4872-1:1982(2018) BS 4872-2:1976(2018) BS EN 287-1:2011 (Withdrawn) BS EN ISO 9606-2:2004(2019) BS EN ISO 15614-1:2017+A1 :(2019) BS EN ISO 15614-2:2005(2014) BS EN ISO 15614-8:2016 BS EN ISO 4136:2022 BS EN ISO 5173:2023 BS EN ISO 5178:2019 BS EN ISO 9015-1:2011 BS EN ISO 9015-2:2016 BS EN ISO 9016:2022 BS EN ISO 9017 :2018 BS EN 17639 :2022 BS 2633:1987(2016) PD 5500:2015+A1 ASME IX-2019
	Case depth Decarburised depth	BS 6286:1982(2005) BS EN ISO 2639:2002 ISO 3754:1976 Documented In-House Method MET1
	Macroscopic determination of grain flow	Documented In-House Method MET3N
	Grain size	ASTM E112-13(2021)
	Identification and counting of inclusions	ASTM E45-18a Documented In-House Methods MET2N
	Volume Fraction and Delta Ferrite (Manual method)	ASTM E562-19e1 AMS 2315H 2020

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Physical Tests	
Steel tubes	Dimensional assessment	BS EN 39:2001 Documented In-House Method MTP19
Metals, Alloys and Metal Products	Coefficient of Linear Thermal Expansion (CLTE)	ASTM E228 using a push-rod Dilatometer
END		