Schedule of Accreditation

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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
The standard detailed is the latest current version, unless withdrawn, which is stated, with the year to which this applies

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	SOP 103506 By ICP-OES
	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, B, Co, Pb, Ti, V, Nb, W, Sn, Zr, N	SOP 103507 By Spark-OES
	C, S	SOP 103505 By Combustion
	O, N, H	SOP 103508 By Inert-Gas Fusion
Aluminium alloys	Cu, Si, Mn, Cr, Ni, Bi, Pb, Mg, Sn, Ti, V, Zn, Fe, Zr	SOP 103506 By ICP-OES

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
Cobalt alloys	Si, Mn, P, Cr, Ni, Mo, Fe, W, Al, Sn, Ti, Cu	SOP 103506 By ICP-OES
	C, S	SOP 103505 By Combustion
	O, N, H	SOP 103508 By Inert-Gas Fusion
Copper alloys	Si, Mn, P, Cr, Ni, Al, Bi, Cd, Sb, Pb, Mg, Be, Zn, Fe, B	SOP 103506 By ICP-OES
	Mn, P, Cr, Ni, Al, Bi, Pb, Sn, Zn, Fe	SOP 103507 By Spark-OES
	Carbon	SOP 103505 By Combustion
	Oxygen	SOP 103508 By Inert-Gas Fusion
Nickel alloys	Si, Mn, Ta, P, Cr, Mo, Ni, Al, Co, Cu, Pb, Ti, W, V, Nb, Fe	SOP 103506 By ICP-OES
	C, Si, Mn, P, S, Cr, Mo, Al, Co, Cu, Ti, W, V, Nb, Fe	SOP 103507 By Spark-OES
	C, S	SOP 103505 By Combustion
	O, N, H	SOP 103508 By Inert-Gas Fusion
Titanium alloys	V, Al, Fe, Mg, Mn, Zr, Mo, Si, Sn, Cu	SOP 103506 By ICP-OES
	Carbon	SOP 103505 By Combustion
	O, N, H	SOP 103508 By Inert-Gas Fusion

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Corrosion Tests</u>	Documented In-House Methods
Iron, Steels and other ferrous metals	Intergranular corrosion	BS EN ISO 3651-2 ASTM A262 Methods A, C & E ASTM G28-2022 Method A
	Pitting corrosion	ASTM G48 Method A
	<u>Mechanical Tests</u>	
	Bend	BS EN ISO 7438
	Compression (temperature - ambient) (forces from 0.4 kN to 2000 kN)	Documented In-House Methods MTP12
	Impact: Izod Charpy (V- notch and U-notch) (temperatures -196°C to ambient)	BS 131-1 BS EN ISO 148-1 ASTM E23
	Creep: (forces from 1.5 kN (330lbs) to 45 kN (10,000lbs)) (ambient temperature to 950°C)	BS EN 2002-005 BS EN ISO 204 ASTM E139
	Hardness: Brinell (10/3000, 10/1000, 5/750, 1/30)	BS EN ISO 6506-1 ASTM E10
	Rockwell (Scales B & C)	BS EN ISO 6508-1 ASTM E18
	Vickers (0.1, 0.2, 0.3, 0.5, 1.0, 10 & 30 kg)	BS EN ISO 6507-1 ASTM E92 ASTM E384 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 BS EN ISO 204 ASTM E139 ASTM E292

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)	
	Tensile: (temperature - ambient) (forces from 0.2 kN to 800 kN)	BS EN ISO 6892-1 BS EN 2002-1 ASTM A370 ASTM E8/E8M ASTM B557/B557M
	Tensile: (Elevated temperature from ambient to 950°C) (forces from 0.2 kN to 250 kN)	BS EN ISO 6892-2 BS EN 2002-2 ASTM E21
	Proof and Tensile strength (temperature - ambient) (forces from 0.2 kN - 2000 kN)	Documented In-House Method MTP2
Bolts, screws and nut	Tension and compression	To documented plans agreed with clients. BS EN ISO 898-1 BS EN ISO 898-2 BS EN ISO 3506-1(Excluding clause 9.5) BS EN ISO 3506-2 BS 3692 (nuts) ASTM A194/A194M ASTM A370 ASTM F606/F606M SAE J429
	Shear stress	Documented In-House Method MTP40

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)	
Metal Scaffolding Couplers	Friction type sleeve couplers - bending moment	BS EN 74-1
	Right angle couplers - rotation, cruciform bending moment and stiffness, pull apart force, and indentation test	BS EN 74-1
	Failure force for right angle and swivel couplers	BS EN 74-1
	Slippage force for right angle, swivel and sleeve couplers	BS EN 74-1
	Slippage force for Putlog couplers	BS 1139-2.2
Weldments and brazings	Tests designated in specified welding codes as detailed below	BS 4871-3:1985 (withdrawn) BS 4872-1: BS 4872-2 BS EN 287-1:2011 (Withdrawn) BS EN ISO 9606-2 BS EN ISO 15614-1 BS EN ISO 15614-2 BS EN ISO 15614-8 BS EN ISO 4136 BS EN ISO 5173 BS EN ISO 5178 BS EN ISO 9015-1 BS EN ISO 9015-2 BS EN ISO 9016 BS EN ISO 9017 BS EN 17639 BS 2633 PD 5500 ASME IX
	Bend, Fracture, Hardness, Impact, Tensile, Micro and Macro-examination tests in accordance with specified welding and brazing codes	
	Metallurgy Tests	
	Case depth Decarburised depth	BS 6286 BS EN ISO 18203 BS EN ISO 2639:2022 (withdrawn) ISO 3754:1996 (withdrawn) Documented In-House Method MET1

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Metallurgy Tests (cont'd)	
Weldments and brazings (cont'd)	Macroscopic determination of grain flow	Documented In-House Method MET3N
	Grain size	ASTM E112
	Identification and counting of inclusions	ASTM E45 Documented In-House Methods MET2N
	Volume Fraction and Delta Ferrite (Manual method)	ASTM E562 AMS 2315
	Physical Tests	
Steel tubes	Dimensional assessment	BS EN 39 Documented In-House Method MTP19
Metals, Alloys and Metal Products	Coefficient of Linear Thermal Expansion (CLTE)	ASTM E228 using a push-rod Dilatometer
END		