

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 0377 Accredited to ISO/IEC 17025:2017	Element Materials Technology Aberdeen Ltd	
	Issue No: 047 Issue date: 07 September 2021	
	Hareness Circle Altens Industrial Estate Aberdeen Scotland AB12 3LY	Contact: Mrs Samantha Withers Tel: +44 (0)1224-890020 Fax: +44 (0)1224-890220 E-Mail: info.aberdeen@element.com Website: www.element.com
Testing performed by the organisation at the locations specified below		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Location Address Hareness Circle Altens Industrial Estate Aberdeen Scotland AB12 3LY Local contact Mrs D McAdam Tel: +44 (0)1224-890020 Fax: +44 (0)1224-890220 Email : info.aberdeen@element.com	Metals & Weldments - Chemical tests Metals & Weldments - Corrosion tests Metals & Weldments - Mechanical tests Metals & Weldments - Metallurgical tests	Altens

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Commercial and industrial premises and sites	Metals & Weldments – Metallurgical Tests Metals & Weldments - Positive Material Identification	C&I



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DETAIL OF ACCREDITATION

Element Materials Technology Aberdeen Ltd, UKAS reference 0377, is accredited for a flexible scope that enables them to conduct accredited testing through the update of currently accredited test methods to the latest versions of those test methods, and to technically equivalent test methods, for the activities detailed below, in accordance with their documented in-house procedure MSP-20: – Management of Flexible Scope

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location code
METALS, ALLOYS and METAL PRODUCTS	<u>Mechanical Tests</u>		
	<u>Fracture toughness</u>		
	K _{1c}	BS 7448:Part 1 BS7448-4	Altens
	J _{critical}	BS EN ISO 15653 ISO 12135	
	J _{0.2BL}	DNV OS F101 ASTM E1820	
	J _{1c}	BS 8571 DNV RP F108	
	CTOD	ASTM E1921 ASTM E399	
	R-Curve		
	T ₀	Documented In-House Method 5.13 – Fracture Standards Overview	
	<u>Fatigue and Crack Propagation</u>		
Fatigue Crack Growth Rate at ambient temperature	ASTM E647 BS ISO 12108	Altens	
Load Controlled Low Cycle Fatigue at ambient temperature	ASTM E466 BS 3518-1 BS 3518-3	Altens	
<u>Tensile</u>			
Tensile (Forces up to 2000 kN)	BS EN ISO 6892-1 ASTM E8-/E8M ASTM A370 Documented In-House Method Test Proc No 2.4	Altens	



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METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Mechanical Tests</u> (cont'd)		
	Tensile (temperature range ambient to 600°C) (Forces up to 100 kN)	BS EN ISO 6892-2 ASTM E21	Altens
	Tensile (temperature range 10°C to -196 °C)	BS EN ISO 6892-3	Altens
	Charpy impact at temperatures between ambient and 100°C and -130°C and at -196°C	BS EN ISO 148-1 ASTM E23 ASTM A370	Altens
	Double Cantilever Beam (DCB) Testing	NACE TM0177-2016 Method D	Altens
	<u>Hardness</u>		
	Vickers hardness (HV 5 & 10)	BS EN ISO 6507-1 ASTM E92	Altens
	Brinell hardness (1/30 HBW)	BS EN ISO 6506-1 ASTM E10	Altens
Rockwell hardness (HRBW and HRC scales)	BS EN ISO 6508-1 ASTM E18	Altens	
Equotip hardness (Comparative)	Documented In-House Method Tech Proc No 3.2	Altens	



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METALS, ALLOYS and METAL PRODUCTS (cont'd) Weldments	<u>Mechanical Tests</u> (cont'd) Tensile, Impact, Bend, Hardness, Macro / Micro-examination, Nick Break, Fillet Fracture	BS EN ISO 15614-1 BS EN ISO 15614-2 BS EN 287:Part 1 BS EN ISO 9606-1 BS EN ISO 9606-2 BS EN ISO 4136 BS EN ISO 9016 BS EN ISO 5173 BS EN ISO 5178 BS EN ISO 9015-1 BS EN ISO 9017 BS EN ISO 17639 BS 4872:Part 1 BS 4872:Part 2 BS 4515-1 BS 4515-2 API 1104 API 6A AWS D1.1/D1.1M ASME IX	Altens
	<u>Metallurgical Tests</u> Grain size (Comparison method)	ASTM E112	Altens
	Volume fraction	ASTM E562	Altens
	Micro-examination - to determine microstructural constituents	Documented In-House Method Method No. 4.14	Altens
	Identification of Surface Structure and Modes of Failure	Documented In-House Method No.4.12 using scanning electron microscopy	Altens
	%Ferrite by Feritscope	Documented In-House Method Method No. 4.18	Altens / C&I
	Surface examination using metallographic replica techniques	Documented In-House Method Method No. 4.17	Altens / C&I



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METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Corrosion Tests</u>		
Duplex stainless steels	Detecting detrimental intermetallic phases	ASTM A923 (Method C)	Altens
Iron, Steels and other ferrous metals	Intergranular corrosion	ASTM A262 Practice C ASTM A262 Practice E BS EN ISO 3651-2 ASTM G28 Method A	Altens
	Pitting and crevice corrosion resistance of stainless steels	ASTM G48 Method A BS 4515-2 (Annex C)	Altens
	Hydrogen induced cracking (HIC)	NACE TM0284	Altens
	<u>Chemical Tests</u>		
Plain carbon, low alloy and stainless steels	Quantitative elemental analysis for: C, Si, Mn, P, S, Cr, Mo, N, Ni, Cu, V, Ti, Nb, Co, Zr, Pb, B and W	Documented In-House Method 1.15 using optical emission spectroscopy	Altens
Nickel and Nickel alloys	Quantitative elemental analysis for: C, Si, Mn, P, S, Cu, N, Fe, Cr, Mo, Ti, Al and Nb	Documented In-House Method 1.15 using optical emission spectroscopy	Altens
	Positive Material Identification by Hand Held XRF	Documented In-House Method Method No. 1.18	Altens / C&I
END			