

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>UKAS TESTING</p> <p>0854</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p>Zurich Management Services Ltd trading as Zurich Laboratory Services</p> <p>Issue No: 043 Issue date: 28 October 2021</p>	
	<p>Zurich Engineering Technical Centre</p> <p>Unit 3, Steelpark Wednesfield Wolverhampton WV11 3BF</p>	<p>Contact: Ms Amy Cole</p> <p>Tel: +44 (0)800 026 1504 Fax: +44 (0)121 210 1139 E-Mail: amy.cole@uk.zurich.com Website: www.zurich.co.uk/en/engineering/zurich-laboratory/</p>
<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS	<u>Mechanical Tests</u>	
	Bend testing	BS EN ISO 7438:2020
	Drift expansion	BS EN ISO 8493:2004
	Flattening	BS EN ISO 8492:2013
	Hardness:	
	Rockwell (Scales B and C)	BS EN ISO 6508-1:2016 ASTM E18-20
	Vickers (HV5, 10 and 30)	BS EN ISO 6507-1:2018 ASTM E92-17
	Impact:	
	Charpy V-notch (temperatures - 196 °C and - 70 °C to ambient)	BS EN ISO 148-1:2016 ASTM A370-20 ASTM E23-18
	Charpy Lateral expansion	BS EN ISO 148-1:2016 ASTM A370:20 ASTM E23-18
Proof loads (loads from 2.5 kN to 500 kN)	Documented In-House Method QMS/SOP/LS/08	
Tensile		
Temperature - ambient (Force from 1 kN to 500 kN)	BS EN ISO 6892-1:2019 ASTM A370-20 ASTM E8/E8M-2021	



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METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Metallurgical Tests</u>	
Sheet Steel	Case depth	BS 6286:1982(2005) (ISO 4970:1979)
	Decarburised depth	BS EN ISO 3887:2018
	Ferrite determination	ASTM E562-19e1
	Grain size	ASTM E112 -13 Comparison Procedure
	Graphite distribution and size	ASTM A247-19
	Particle size	Documented In-House Method QMS/SOP/LS/15
Metallic coatings	Measurement of coating thickness	BS EN ISO 1463:2004
	<u>Corrosion Tests</u>	
	Pitting corrosion	ASTM G48-11 (2020) e1 Method A
Austenitic stainless steels	Intergranular corrosion	BS EN ISO 3651-2:1998 ASTM A262-15 Practices A and E
WELDMENTS and BRAZINGS	<u>Mechanical and Metallurgical Tests</u>	
	Bend, Fracture, Hardness, Impact, Tensile, Visual, Macro- and Micro-examination	BS EN 287-1:2011 (withdrawn) BS EN ISO 9606-1 :2017 BS EN ISO 9606-2:2004 BS EN ISO 9606-3 :1999 BS EN ISO 9606-4 :1999 BS EN ISO 9606-5 :2000 BS EN ISO 15613 :2004 BS EN ISO 15614-1:2017+A1:2019 BS EN ISO 15614-2:2005 BS EN ISO 15614-5:2004 BS EN ISO 15614-6:2006 BS EN ISO 15614-7:2019



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METALS	<u>Chemical Analysis</u> - Elemental Analysis	Documented In-House Methods QMS/SOP/LS/20 using optical emission spectrometric technique
Aluminium Alloys	Al, B, Be, Bi, Ca, Cr, Cu, Fe, Mg, Mn, Ni, P, Pb, Sb, Si, Sn, Ti, V, Zn, Zr	
Copper and Copper Alloys	Ag, Al, As, Bi, C, Cd, Cu, Fe, Mg, Mn, Ni, P, Pb, S, Sb, Si, Sn, Te, Zn,	
Low Alloy and Carbon Steel	Al, As, C, Cr, Cu, Fe, Mn, Mo, Nb, Ni, P, Pb, S, Si, Sn, Ti, V	
Stainless Steel	Al, As, C, Cr, Cu, Fe, Mn, Mo, Nb, Ni, P, S, Si, Ti, V	
Cast Iron	Al, As, C, Cr, Co, Fe, Mg, Mn, Mo, Nb, Ni, P, Pb, S, Si, Sn, Ti, Ta, V, W	



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METALS CONTINUED Nickel and Nickel Based Alloys	<u>Chemical Analysis</u> - Elemental Analysis C, Si, Mn, P, S, Cr, Mo, Fe, Al, Cu, Co, Ti, Nb, V, W, Zr, Ta, Mg, As, Pb	Documented In-House Methods QMS/SOP/LS/20 using optical emission spectrometric technique
END		