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0136

TEST CERTIFICATE

University of Manchester
Sackville Street
Manchester, North West England M1 3BU
UK

PO / SO: ELM2255936
Material: Steel

Specification(s): Client Requirements

Lab Job#: 715015
Certification Date: 28/10/21

Ref: EUROFER WELD SECTION

Size / Description: Test Piece

Chemical Analysis

Test Date: 27-10-21

Operator: Mark Maloney

Test ID	Element	Description	Result	Min	Max	Unit	Test Type	Method Reference
792918	Al	Aluminium	0.01		0.01	Wt. %	ICP CM088	Accredited In House Method
	As	Arsenic	<0.01	INFO		Wt. %	ICP CM088	Notes: Please note the elements As, Sb & Ta are not covered by our schedules of accreditation.
	B	Boron	0.001		0.001	Wt. %	OES/AES	
	C	Carbon	0.110	0.090	0.120	Wt. %	Combustion CM098	
	Co	Cobalt	<0.01	INFO		Wt. %	ICP CM088	
	Cr	Chromium	9.00	8.50	9.50	Wt. %	ICP CM088	
	Cu	Copper	<0.01	INFO		Wt. %	ICP CM088	
	Mn	Manganese	0.52	0.20	0.60	Wt. %	ICP CM088	
	Mo	Molybdenum	<0.01	INFO		Wt. %	ICP CM088	
	Nb	Niobium	<0.01	INFO		Wt. %	ICP CM088	
	Ni	Nickel	0.02	INFO		Wt. %	ICP CM088	
	P	Phosphorus	<0.005		0.005	Wt. %	ICP CM088	
	S	Sulfur	<0.003		0.005	Wt. %	Combustion CM098	
	Sb	Antimony	<0.02	INFO		Wt. %	ICP CM088	
	Si	Silicon	0.030		0.050	Wt. %	ICP CM088	
	Sn	Tin	<0.01	INFO		Wt. %	ICP CM088	
	Ta	Tantalum	0.12	0.05	0.09	Wt. %	ICP CM088	
	Ti	Titanium	<0.01		0.01	Wt. %	ICP CM088	
	V	Vanadium	0.21	0.15	0.25	Wt. %	ICP CM088	
	W	Tungsten	1.1	1.0	1.2	Wt. %	ICP CM088	
	Zr	Zirconium	<0.01	INFO		Wt. %	ICP CM088	

Signed for and on behalf of Element

Billie Deakin, Laboratory Manager

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Size / Description: Test Piece

Chemical Analysis

Test Date: 28-10-21

Operator: Shaun Foster

Test ID	Element	Description	Result	Min	Max	Unit	Test Type	Method Reference
792916	N2	Nitrogen	0.020	0.015	0.045	Wt. %	Fusion-H2, N2, O2 CM090	Accredited In House Method
	O2	Oxygen	<0.0010		0.01	Wt. %	Fusion-H2, N2, O2 CM090	

Disposition

Does NOT conform to requirements. Underlined results above do not conform to requirements.

When Element is making statements of conformity a simple acceptance rule has been applied.
Uncertainty budgets have been determined and are available on request.

Signed for and on behalf of Element

Billie Deakin, Laboratory Manager