




TEST CERTIFICATE

Customer: BRICE METALS AUSTRALIA PTY LTD PO BOX 97 DRY CREEK S A5113	Supplier: OneSteel Manufacturing Pty Limited Whyalla, SA - 5600, Australia A.B.N. 42 004 651 325
Ship To:	Sales Order No: A9751 Printed on: 11/09/2019

 Accredited for compliance with ISO/IEC 17025 - Testing. This document shall not be reproduced except in full.	Sampling undertaken by Liberty Primary Steel 20348 Approved Signatory - M. Bubicich Chemical results as identified are from Bureau Veritas Minerals Pty Ltd, Whyalla 0794 Approved Signatory - K. Barsby Mechanical results as identified are from Bureau Veritas Minerals Pty Ltd, Whyalla 0794 Approved Signatory - I. Harrison
---	--

STEELMAKING: Basic Oxygen - Slab Cast
 SPECIFICATION: **AS/NZS3679.1-300PLUS**
 PRODUCT: **200PFC**

INSPECTION: Supplier
 CERTIFICATION: Supplier

ITEMS COVERED BY THIS TEST CERTIFICATE

Item No	Heat No	Customer Order	Length
0624C	587502	FAX90650 9036	9.000
0624C	587517	FAX90650 9036	9.000
0625C	583428	FAX90650 9036	10.500
0626C	587516	FAX90650 9036	12.000
0626C	587533	FAX90650 9036	12.000

CHEMICAL ANALYSIS

Percentage of element by mass (L=Cast, P=Product, -S=Soluble, -T=Total, CF=Chemical Formula, n=Min, x=Max)

Item No	Heat / Unit No	NATA Lab	L/P	C	P	Mn	Si	S	Ni	Cr	Mo	Cu	Sn	Al
0624C	587502	0794	L	.169	.019	1.43	.220	.012	.004	.032	.001	.006	.001	.002
0624C	587517	0794	L	.167	.013	1.45	.210	.014	.004	.029	.001	.006	.002	.002
0625C	583428	0794	L	.188	.017	1.34	.190	.018	.007	.027	.001	.006	.002	.001
0626C	587516	0794	L	.164	.010	1.47	.200	.012	.004	.026	.001	.006	.001	.004
0626C	587533	0794	L	.190	.016	1.33	.200	.015	.003	.029	.001	.004	.002	.002

Item No	Heat / Unit No	NATA Lab	L/P	Nb	Ti	B	V	N	Ca	Zr	CF1
0624C	587502	0794	L	.001	.001	.0005	.002	.0052	.0002	.001	.42
0624C	587517	0794	L	.001	.002	.0004	.002	.0063	.0002	.001	.42
0625C	583428	0794	L	.001	.002	.0004	.003	.0074	.0001	.001	.42
0626C	587516	0794	L	.001	.001	.0003	.002	.0040	.0002	.001	.41
0626C	587533	0794	L	.001	.001	.0004	.002	.0036	.0005	.001	.42

$$CF1=C+Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15$$

MECHANICAL TESTING

Tensile

Item No	Heat No	Tested Unit	NATA Lab	Test Report	ReH MPa	Rm MPa	ELONGN %
0624C	587502	587502	0794	58537	345	500	31
0624C	587502	587502	0794	58537	360	510	33
0624C	587517	587517	0794	58537	350	500	32
0624C	587517	587517	0794	58537	345	500	33
0625C	583428	583428	0794	58202	345	510	34
0625C	583428	583428	0794	58202	355	510	34
0626C	587516	587516	0794	58537	350	500	31
0626C	587516	587516	0794	58537	375	500	32
0626C	587533	587533	0794	58538	360	520	32
0626C	587533	587533	0794	58538	365	520	30

Yield Strength - determined in accordance with requirements of nominated product standard



TEST CERTIFICATE

Page 2 of 2
Certificate No.: W112025
Transmission Date: 10/09/19

BUNDLES

Item No	Heat No	Bundles
0624C	587502	32592437 32592517
0624C	587517	32592517
0625C	583428	32378526
0626C	587516	32592955 32593016
0626C	587533	32595452

COMMENTS

Liberty OneSteel is quality endorsed to AS/NZS ISO9001 under SAI GLOBAL Lic. No. - QEC0351.
This document shall not be reproduced except in full.

To view Measurement Uncertainty [click here](#)

I certify the conformance of the material to the specification (unless noted otherwise) and that the information on this certificate is in accordance with the records of the company.

E. Bennett - Steel Products Process Development Manager

Certified True Copy 10/09/19