


TEST CERTIFICATE

Customer: BRICE METALS - CAVAN 522 CROSS KEYS ROAD CAVAN SA 5094 Sold To: OST-LAV TO SOUTHERN STEEL GROUP	Supplier: INFRABUILD STEEL 105 DOHERTYS ROAD A.B.N. 89069426955 LAVERTON NORTH VIC 3026
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	Accreditation no: Chemical Lab 1726 Mechanical Lab 1843	Authorised Signatories S. Ciuciulete S. Ciuciulete
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ITEMS COVERED BY THIS CERTIFICATE

Sales Order No.	Sales Order Line	Heat No.	Steel Making Process	Customer Order No.	Description
917363	4	218284	EAF	89421 4	CHANNEL PF 150x75x12000mm 2bd1 300PLUS (AS/NZS 3679.1-300)
917363	4	218285	EAF	89421 4	CHANNEL PF 150x75x12000mm 2bd1 300PLUS (AS/NZS 3679.1-300)
918426	6	216242	EAF	9085 15	UA 100x75x10x9000mm 2bd1 300PLUS (AS/NZS 3679.1-300)

EAF - "Electric Arc-Billet Cast", BOS - "Basic Oxygen-Billet Cast"

CHEMICAL ANALYSIS % of element by mass (Cast, CE = Chemical Formula)

Sales Order No.	Sales Order Line	Heat No.	NATA Lab.	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V	B	Al	Nb	Ti	CE
917363	4	218284	1726	0.19	0.91	0.23	0.016	0.026	0.24	0.06	0.12	0.01	0.001	0.0003	0.003	0.004	0.001	0.39
917363	4	218285	1726	0.20	0.91	0.25	0.018	0.027	0.24	0.06	0.12	0.01	0.001	0.0003	0.003	0.004	0.001	0.40
918426	6	216242	1726	0.21	0.83	0.23	0.020	0.029	0.23	0.06	0.12	0.02	0.001	0.0002	0.002	0.002	0.001	0.39

MECHANICAL ANALYSIS

Sales Order No.	Sales Order Line	Heat No.	NATA Lab	YS Re MPa	UTS Rm MPa	Gauge Length	El %
917363	4	218284	1843	367	539	A	32
917363	4	218285	1843	379	543	A	35
918426	6	216242	1843	343	529	A	40

BUNDLES

Sales Order No.	Sales Order Line	Heat No.	Bundles
917363	4	218284	28945801 28945803 28945805
917363	4	218285	28945809 28945810 28945817
918426	6	216242	28938945

COMMENTS

InfraBuild Laverton is quality endorsed to ISO 9001 under SAI GLOBAL Certificate No: QEC0759
 Chemical Results - Measurement Uncertainty Results are available on request.

Lab 1726: CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15

Gauge Length: A = 5.65 √ the original cross-sectional area of the test piece.

U = The gauge length used in the determination of uniform elongation (Agt) in accordance with the relevant standard.

Lab 1726 OneSteel, Laverton North

- The methods of sampling and testing per LMS-OPS-LAB-SWI-001 and LMS-OPS-LAB-SWP-002,% by mass using AES

Lab 1843 OneSteel, Laverton North

- Sampling per OneSteel LRM-ROLL-LAB-LMN-001 mechanical tests carried out in accordance with AS1391.

Measurement Uncertainty charts can be viewed at this web address : <https://www.infrabuild.com/en-au/resource-centre/resources/measurement-uncertainty/>

AUTHORISATION

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.

S. Ciuciulete - Senior Metallurgist



Certified True Copy 19/11/19