




# TEST CERTIFICATE

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Certificate No.: W119721  
Transmission Date: 05/12/19

Customer: <b>H J ASMUS AND CO LTD</b> <b>PO BOX 14-441</b> <b>AUCKLAND</b>	Supplier: OneSteel Manufacturing Pty Limited Whyalla, SA - 5600, Australia A.B.N. 42 004 651 325
Ship To: NEW ZEALAND	Sales Order No: Z9216 Printed on: 06/12/2019

 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 0626 Approved Signatory - K. Barsby Mechanical results as identified are from Bureau Veritas Minerals Pty Ltd, Whyalla 0626 Approved Signatory - I. Harrison
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STEELMAKING: Basic Oxygen - Slab Cast  
SPECIFICATION: **AS/NZS3679.1-300PLUS**  
PRODUCT: **150X150X12ANG**

INSPECTION: Supplier  
CERTIFICATION: Supplier

## ITEMS COVERED BY THIS TEST CERTIFICATE

Item No	Heat No	Customer Order	Length
1155	589042	88145	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
1155	589042	0626	L	.160	.018	1.41	.220	.018	.006	.033	.001	.006	.002	.002

Item No	Heat / Unit No	NATA Lab	L/P	Nb	Ti	B	V	N	Ca	Zr	CF1
1155	589042	0626	L	.001	.002	.0003	.003	.0050	.0012	.001	.40

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 %
1155	589042	589042	0626	58900	330	490	33
1155	589042	589042	0626	58900	330	490	35

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


## BUNDLES

Item No	Heat No	Bundles
1155	589042	32851228

## COMMENTS

Liberty OneSteel is quality endorsed to AS/NZS ISO9001 under SAI GLOBAL Lic. No. - QEC0351.  
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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 05/12/19
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