AUSTRALIAN PIPE & TUBE

Product Test Certificate

15076	25/08/2015
Number	Date

Line	Pack NoNo included		RHS/SHS/CHS Nominal Size (mm)				Specification	Grade	Steel Supplier	Testing Authority/ NATA (ILAC) No			Steelmaking process
	From	To	d /do	b	t	L				Tensile	Impact	Chemical	
1	15231M10034	15231M10036	75	50	6	Any	AS1163	C350 L0	BSL	MTL/17219	MTL/17219	BSL/632	BO,CC +note 9
2	15231M10038	15231M10049	75	50	2.3	Any	AS1163	C350 L0	YPE	MTL/17219		YPE	BO,CC
3	15230M10013	15230M10030	75	75	2.5	Any	AS1163	C350 L0	YPE	MTL/17219		YPE	BO,CC
4	15231M10052	15231M10068	75	75	2	Any	AS1163	C350 L0	YPE	MTL/17219		YPE	BO,CC
5	15230M10031	15230M10041	75	75	3	Any	AS1163	C350 L0	YPE	MTL/17219		YPE	BO,CC
6	15230M10042	15230M10045	75	75	2.5	Any	AS1163	C350 L0	Bengang Steel	MTL/17219		Bengang Ste	BO,CC

Line	STEEL CHEMICAL ANALYSES (%)-As supplied by Steelmaker ("L")																MECHANICAL TEST RESULTS (Orientation-"L")								
		C	P	Mn	Si	S	Ni	Cr	Mo	Cu	Al	Ti	Nb	V	B	CE	SiE	Testing Report No- Sample ID	Condition	Tensile test			Impact test at 0ºC			
	HEAT No	x100																		YS	TS	E	1	2	3	Ave
																				MPa		%	Joules			
1	6451669	14.8	1.7	102.0	0.9	1.3	1.1	1.9	0.5	1.7	3.9	0.2	1.4	0.3	0.03	33	5	T2981-3445	A	493	561	23	58	55	63	63
2	5G03462B	13.0	2.0	66.0	1.0	0.9					2.9					25	6	T2981-3446	A	474	538	27				
3	5G03461B	14.0	1.5	67.0	2.0	0.6					2.8					26	6	T2981-3447	A	480	536	29				
4	5G03461B	14.0	1.5	67.0	2.0	0.6					2.8					26	6	T2981-3448	A	417	506	35				
5	5G02896B	14.0	1.5	64.0	1.0	0.3					3.1					26	5	T2982-3449	A	520	585	22				
6	1532040	15.0	1.0	70.0	1.0	0.8					2.8					28	4	T2982-3450	A	406	480	36				

Notes: **1)** CE=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15; **2)** SiE=Si+2.5P; **3)** Gauge Length for E= 5.65√So; **4)** Impact test piece thickness is 5 mm; **5)** For t less than 6 mm L0 properties derived as per Cl 10.6.2.2 of AS/NZS 1163; **6)** Data in the table refers to the samples representative for each line; **7)** BSL=BlueScope Steel; YPE=Yien Phui Enterprise CO., LTD; BO,SC= Basic Oxigen,Continuous (Slab) Casting; ALS=Australian Laboratory Services Industrial; **8)** The production date in the format yyddd constitutes the first 5 digits of the pack number and is printed on each length; **9)** Information provided by BSL " STEEL FEED: IN ACCORDANCE WITH CLAUSES 6 AND 10.6.2.2 OF AS/NZS 1163:2009 THESE COILS WERE PRODUCED FROM ALUMINIUM FULLY KILLED, FINE GRAINED STEEL AND ALUMINIUM HAS BEEN USED AS THE GRAIN REFINING ELEMENT".

Packs covered by this certificate		
Line	Heat	Pack numbers
1	6451669	15231M10034 15231M10035 15231M10036
2	5G03462B	15231M10038 15231M10039 15231M10040 15231M10041 15231M10042 15231M10043 15231M10044 15231M10045 15231M10046 15231M10047 15231M10048 15231M10049
3	5G03461B	15230M10013 15230M10014 15230M10015 15230M10016 15230M10017 15230M10018 15230M10019 15230M10020 15230M10021 15230M10022 15230M10023 15230M10024 15230M10025
	5G03461B	15230M10026 15230M10027 15230M10028 15230M10029 15230M10030
4	5G03461B	15231M10052 15231M10053 15231M10054 15231M10055 15231M10056 15231M10057 15231M10058 15231M10059 15231M10060 15231M10061 15231M10062 15231M10063 15231M10064
	5G03461B	15231M10065 15231M10066 15231M10067 15231M10068
5	5G02896B	15230M10031 15230M10032 15230M10033 15230M10034 15230M10035 15230M10036 15230M10037 15230M10038 15230M10039 15230M10040 15230M10041
6	1532040	15230M10042 15230M10043 15230M10044 15230M10045

Australian Pipe & Tube confirms that products listed above were manufactured, tested, and supplied in full compliance with the specifications quoted in this certificate

Authorized signatory: ***R.Fisher***