INDEPENDENT TUBEMILLS

UNITED BY STRENGTH

Product Test Certificate

14057	17/06/2014
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	14105M10060	14105M10067	100	50	4	Any	AS/NZS 1163	C350 L0	BSL	MTL/17219		BSL/632	BO,CC +note 9
2	14105M10068	14105M10104	100	50	3	Any	AS/NZS 1163	C350 L0	BSL	MTL/17219		BSL/632	BO,CC +note 9
3	14105M10105	14105M10119	100	50	3	Any	AS/NZS 1163	C350 L0	Bengang Steel	MTL/17219		FS/14877	BO,CC +note 9
4	14106M10001	14106M10016	100	50	2.5	Any	AS/NZS 1163	C350 L0	Bengang Steel	MTL/17219		FS/14877	BO,CC +note 9
5	14106M10017	14106M10022	100	50	2.3	Any	AS/NZS 1163	C350 L0/C450L0	BSL	MTL/17219		BSL/632	BO,CC +note 9
6	14106M10023	14106M10033	100	50	2	Any	AS/NZS 1163	C350 L0	BSL	MTL/17219		BSL/632	BO,CC +note 9

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 0°C			
																				YS	TS	E	1	2	3	Ave
	HEAT No	x100																		MPa		%	Joules			
1	7381409	15.4	1.1	101.0	0.9	1.2	1.3	1.8	0.3	2.9	3.3	0.2	1.5	0.3	0.0	33	4	T2552-2287	A	448	537	27				
2	6396499	14.8	1.5	75.0	0.5	1.4	1.7	2.7	0.7	3.6	3.0	0.2	0.1	0.3	0.0	28	4	T2552-2288	A	434	514	35				
3	1430352	14.0	2.0	71.0	2.0	0.8	0.5	3.4	0.2	0.5	2.4	0.1	0.0	0.3	0.1	27	7	T2557-2289	A	420	492	30				
4	1470361	15.0	1.7	73.0	1.1	0.5	0.5	3.2	0.2	0.4	3.3	0.0	0.0	0.2	0.1	28	5	T2557-2290	A	358	473	38				
5	7383029	15.2	2.1	75.0	0.7	0.9	3.0	3.8	0.2	3.2	3.5	0.2	0.1	0.3	0.0	29	6	T2557-2291	A	493	549	25				
6	7384219	15.8	2.2	76.0	0.9	1.1	2.8	2.3	0.3	1.7	2.9	0.2	0.1	0.3	0.0	29	6	T2557-2292	A	422	483	32				

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 the steel supplier " 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	7381409	14105M10060 14105M10061 14105M10062 14105M10063 14105M10064 14105M10065 14105M10066 14105M10067
2	6396499	14105M10068 14105M10069 14105M10070 14105M10071 14105M10072 14105M10073 14105M10074 14105M10075 14105M10076 14105M10077 14105M10078 14105M10079 14105M10080
	6396499	14105M10081 14105M10082 14105M10083 14105M10084 14105M10085 14105M10086 14105M10087 14105M10088 14105M10089 14105M10090 14105M10091 14105M10092 14105M10093
	6396499	14105M10094 14105M10095 14105M10096 14105M10097 14105M10098 14105M10099 14105M10100 14105M10101 14105M10102 14105M10103 14105M10104
3	1430352	14105M10105 14105M10106 14105M10107 14105M10108 14105M10109 14105M10110 14105M10111 14105M10112 14105M10113 14105M10114 14105M10115 14105M10116 14105M10117
	1430352	14105M10118 14105M10119 14114M10067
4	1470361	14106M10001 14106M10002 14106M10003 14106M10004 14106M10005 14106M10006 14106M10007 14106M10008 14106M10009 14106M10010 14106M10011 14106M10012 14106M10013
	1470361	14106M10014 14106M10015 14106M10016
5	7383029	14106M10017 14106M10018 14106M10019 14106M10020 14106M10021 14106M10022
6	7384219	14106M10023 14106M10024 14106M10025 14106M10026 14106M10027 14106M10028 14106M10029 14106M10030 14106M10031 14106M10032 14106M10033

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

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