# Product Test Certificate

**161086** Certificate Number

**27/04/2016** Date

AUSTRALIAN PIPE & TUBE

| PackFrom | PackTo | RHS/SHS/CHS Nominal Size (mm) d /do | b | t | L | Specification | Grade | Product Description |
|---|---|---|---|---|---|---|---|---|
| 16112M10028 | 16112M10037 | 50 | 50 | 2 | Any | AS1163 | C350L0 | Painted 50x50x2.0 |

| Heat No. | Steel Supplier | Testing Authority/NATA (ILAC) No | | | Steel Making Process | Steel Chemical Analysis (% x100) As supplied by Steelmaker ("L") | | | | | | | | | | | | | | | Mechanical Test Results (Orientation-"L") | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | Testing Report No-Sample ID | Condition | Tensile Test | | | Impact Test at 0°C | | | |
| | | | | | | | | | | | | | | | | | | | | | | | YS | TS | E | 1 | 2 | 3 | Avg |
| | | Tensile | Impact | Chemical | | C | P | Mn | Si | S | Ni | Cr | Mo | Cu | Al | Ti | Nb | V | B | CE | SiE | | | MPa | | % | Joules | | | |
| N42676 | Import | MTL/17279 | | SS/19570 | BO,CC | 16 | 1.5 | 97 | <2 | 1 | <1 | 2 | 1 | <1 | 3.3 | <1 | 1 | <1 | <0.05 | 33 | 6 | T3146-5402 | A | 481 | 560 | 30 | | | | |
| N47690 | Import | MTL/17279 | | SS/19570 | BO,CC | 16 | 1.1 | 92 | 1.5 | <2 | <1 | 2 | <1 | <1 | 1 | 1 | <1 | 4.2 | <0.05 | 32 | 4 | T3146-5401 | A | 502 | 583 | 30 | | | | |

**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 (b) of AS/NZS 1163; **6)** Data in the table refers to the samples representative for each line;

**7)** BO,SC= Basic Oxigen,Continuous (Slab) Casting; ALS=Australian Laboratory Services Industrial; MTL = Mec Test Laboratories; SS=Spectrometer Services Pty Ltd; BSL=Bluescope Steel;

**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".

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## Packs covered by this certificate

| Heat | Pack Numbers |
|---|---|
| N47690 | 16112M10028 16112M10029 16112M10030 16112M10031 16112M10032 16112M10033 16112M10034 16112M10035 16112M10036 16112M10037 |
| N42676 | 16112M10029 16112M10030 16112M10031 16112M10032 |

**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**