



TEST CERTIFICATE

SUPPLIER: Austube Mills Pty Ltd
 146 Ingram Road
 Acacia Ridge, QLD4109
 ABN 21 123 666 679

PRODUCT DESCRIPTION

SPECIFICATION: AS/NZS 1163:2016 C350L0
MATERIAL: ERW Steel Tube with no subsequent overall heat treatment on the finished product
STEELMAKING: Basic Oxygen, Fully Killed, Continuous Cast, Fine Grained
STEEL FEED: Coil from Hot Strip Mill. Coil that has been subjected to a cold rolling reduction of more than 15%, following the reduction has been subjected to a subcritical annealing cycle that has recrystallized the structure and formed new ferrite grains

ITEMS COVERED BY THIS CERTIFICATE

GTIN	DESCRIPTION	Date Range
99317869919836	75X 75X4.0 BLUE RHS 8.0 M AS/NZS 1163-C350L0	06/11/19 - 06/11/19 19310 - 19310
99317869772110	75X 75X4.0 BLUE RHS 10.0 M AS/NZS 1163-C350L0	
99317869144634	75X 75X4.0 BLUE RHS 12.0 M AS/NZS 1163-C350L0	

NOTES - Items:

(1) The Date Range indicates the mill manufactured date range. Line marking on further processed product may be after these dates.

CHEMICAL ANALYSIS

Test No	Heat No	Test Lab	Analysis Category	Percentage of Elements by Mass									
				C	P	Mn	Si	S	Ni	Cr	Mo	Cu	
A47546	7689429	632	L	0.166	0.014	0.730	0.008	0.011	0.019	0.027	0.003	0.041	
SPEC LIMITS				L/P	0.200	0.030	1.600	0.250	0.030	0.250	0.300	0.100	0.250

Test No	Heat No	Test Lab	Analysis Category	Percentage of Elements by Mass								
				Al-t	Ti	Nb	V	B	CE	CF2	CF3	
A47546	7689429	632	L	0.035	<0.002	0.001	<0.003	0.0005	0.30	0.006	0.043	
SPEC LIMITS				L/P	0.020-0.100	0.040	0.150	0.100	0.0008	0.43	0.150	0.090

NOTES - Chemical Analysis:

- The Test No. represents the test report reference for this analysis.
- For details on Test Lab - see Laboratories section below.
- L/P: L=Ladle or Cast analysis ; P=Product analysis.
- Spec Limits represent maximum values. For Al the spec limits are minimum and maximum values (Al-t=Total; Al-s=Soluble).
- For products less than 6 mm thick with Al below the min. limit, finished product Ferrite Grain Size is greater than or equal to 6 as required by Clause 9.4.2.3(b) of AS/NZS 1163:2016 (separate report available on request).
- CE = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15; CF2 = Nb+V+Ti; CF3 = Si+2.5P.
- Analysis results are taken from supplier laboratory accredited Test Certificates and are not rounded.

MECHANICAL PROPERTIES

Tensile Test

Test No	Heat No	Test Lab	Test Cat	Test Type	Yield Strength (MPa)	Tensile Strength (MPa)	Elong (%)	Gauge Length Method	Comments
51234	7689429	17051	B	LSA	485	520	20.25	2	
51245	7689429	17051	B	LSA	470	510	22.50	2	
SPECIFICATION 15 < b/t <= 30				LSA	350	430	14	--	Minimum Values

NOTES - Tensile:

- The Test No. represents the test report reference for this analysis.
- For details on Test Lab - see Laboratories section below.
- TEST CATEGORY (Cat.): B = Batch; S = Statistical Sampling.
- For Test Category S, demonstration of process verification for product conformity (App. B3.2 of AS/NZS 1163:2016) can be supplied upon request for the relevant product listed.
- TEST TYPE : LSA=Longitudinal strip specimen tested in the artificially aged condition. LFA=Longitudinal full section tested in the artificially aged condition
- Proof Strength Extension Method is Rp0.2, Tensile Strength is Rm
- GAUGE LENGTH METHOD: 1 = 5.65 x SQRT(So) ; 2 = 50 mm converted to proportional gauge length in accordance with ISO 2566-1; 3 = 2 inches.
- All properties determined by Austube Mills (NATA Accreditation 17051) on samples supplied by production personnel and tested in accordance with Australian Standard AS 1391 using Austube Mills method ATM-0013-PR06-B.

NOTES - Impact:

- Impact test conformance is demonstrated by:
- Required quality of steel as noted in the above Product Description;
 - Use of Aluminium as a grain-refining element in the steel in accordance with Clauses 5.1 & 9.4.2.3(b) of AS/NZS 1163:2016; and;
 - Aluminium content being not less than 0.020% Total Aluminium or 0.015% Soluble Aluminium (refer to above Chemical Analysis).





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LABORATORIES:

632 BlueScope Steel, Port Kembla Works (NATA)
17051 Austube Mills, Acacia Ridge (NATA)

OVERALL NOTES:

- (1) For analyses not performed by Austube Mills the Test No. and Report No. represents the test report reference number for this analysis.
 - (2) The results fall within the distribution of properties for this product and not actual values of the pack/length.
 - (3) The quality management system of Austube Mills Pty Ltd - Acacia Ridge has been certified by Lloyd's Register of Quality Assurance Pty Ltd to meet ISO9001:2015 requirements, as detailed in certificate ISO 9001 - 0058437.
 - (4) Items displayed on this test certificate are compliant with the requirements of AS/NZS 1163:2016.
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I certify that the above information is in accordance with the records of the company and conforms to the specification(s) stated.

Milan Bijok
Signatory for Austube Mills

The pack number/s listed below were manufactured from this production LOT

8119035088