

TEST CERTIFICATE



Certificate No: 462171

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Customer: MACSTEEL INTERNATIONAL Customer Order No: 113275 EndUser Reference: 168349	Supplier: New Zealand Steel Limited A BlueScope Company 131 Mission Bush Road, Glenbrook, South Auckland Postal: Private Bag 92121, Auckland 1142, New Zealand Telephone: (09) 375 8111 Auckland Fax: (09) 375 8959 Sales Order No : 1429917 Printed On : 15/04/2020
<p>All tests reported herein have been performed in accordance with the laboratory's scope of accreditation</p>	I certify that the original records of the company show that the Item(s) referred to on this certificate conform to the specifications as stated. S. BESTER - NEW ZEALAND STEEL APPROVED SIGNATORY Mechanical LAB 965 D. GRANGER - NEW ZEALAND STEEL APPROVED KTP Chemical LAB 101
Specification: ASTMA36(2019) Product : 0.1874" x 48" x Coil HOT ROLLED COIL	
Inspection: Supplier Certification: Supplier	

ITEMS COVERED BY THIS CERTIFICATE

Pack No	Heat No	Ordered Dimensions	Tested Unit
HNG6307901 #61021	975234	0.1874" x 48" x Coil	HNG6307901
HNG6314501 #61011	976382	0.1874" x 48" x Coil	HNG6314501
HNG6324501, HNG6324601 #61018	976382	0.1874" x 48" x Coil	HNG6324501
HNG6324701, HNG6324901, HNG6325001 #61004	976350	0.1874" x 48" x Coil	HNG6324701
HNG6325101, HNG6325301, HNG6325401 #61014	976348	0.1874" x 48" x Coil	HNG6325101

CHEMICAL ANALYSIS

Percentage of element by mass

(L=Cast, P=Product, S=Soluble, -T=Total, CEV = Carbon Equivalent Value)

Heat No	L/P	x100										x10000			x100		
		C	Si	Mn	P	S _s	Cu	Ni	Cr	Mo	V	Nb	Ti	Al-T	B	N	CEV
975234	L	20	1	58	14	18	13	17	18	TR	9	TR	1	47	TR	70	30
976348	L	17	2	59	15	18	12	16	23	TR	14	5	2	39	TR	40	27
976350	L	18	TR	59	11	18	12	17	25	TR	10	4	1	46	TR	50	28
976382	L	19	TR	61	18	17	12	17	22	TR	6	6	TR	52	TR	50	29

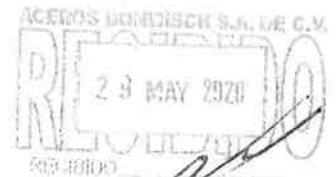
TR composition: Si (TR) < 0.01%, Mo/Nb/Ti (TR) < 0.001%, B (TR) < 0.0001%

CEV = C+Mn/6

MECHANICAL TESTING

Tensile

Tested Unit	Heat No	ReL psi MPa	Yield point type	Rm psi	Lo	ELONG %
HNG6307901	975234	48400	ReL	69500	F	23
HNG6314501	976382	46700	ReL	71800	F	25
HNG6324501	976382	46800	ReL	70300	F	24
HNG6324701	976350	44700	Rp0.2	68300	F	25
HNG6325101	976348	45000	ReL	67300	F	22



COMMENTS

Steel produced through the basic oxygen steelmaking process by New Zealand Steel. Steel is fine grained, fully killed, continuously cast. - Heat analysed from ladle - Results relate to test on a representative sample of the items covered in this test certificate. - This certificate may not be reproduced except in full. - NZ Steel, Chemical Laboratory IANZ Accreditation Number 101, KTP Mr David Granger. - NZ Steel, Mechanical Laboratory IANZ Accreditation Number 965, Approved Signatory Mr Schalk Bester. NZ Steel Laboratories are accredited by, International Accreditation New Zealand (IANZ), a signatory to the International Laboratory Accreditation Cooperation mutual Recognition Agreement.

Test methods for chemical analysis were, ASTM E415: 2017 & JIS G1253: 2002.

New Zealand Steel operate a quality management system conforming to AS/NZS ISO 9001: 2015 as assessed by Telarc Ltd Registration Number: 82.