

Created by
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New Zealand
Tube Mills

Technical Information

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QA Engineer

NZTM-Q04A:- Stainless Steel Coil Specification (S304)

This internal specification covers the mechanical properties, chemical compositions & surface finish of type 304 Stainless Steel coil used by New Zealand Tube Mills for the manufacture of tubular product.

When forming stainless strip into tubular sections, the mechanical properties are affected. The extent of this effect depends on the specific dimensions of tube being produced and particularly the tube diameter to thickness ratio. In general during tube forming, the yield stress will be substantially increased, the tensile strength slightly increased and elongation reduced.

SPECIFIED MINIMUM MECHANICAL PROPERTIES OF COIL

YIELD STRESS (min)	205 MPa	(30 ksi)
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TENSILE STRESS (min)	515 MPa	(75 ksi)
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ELONGATION (min)	40%
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HARDNESS (max)	92 Rockwell B (201 HB)
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NORMAL RANGE OF MECHANICAL PROPERTIES OF COIL

YIELD STRESS	274 - 357 MPa	(39 - 51 ksi)
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TENSILE STRESS	605 - 710 MPa	(89 - 103 ksi)
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ELONGATION	47 - 61%
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HARDNESS	60 - 88 Rockwell B
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SPECIFIED CHEMICAL COMPOSITION - (LADLE ANALYSIS)

CARBON	C	0.07 %	Max
SILICON	Si	0.75 %	Max
MANGANESE	Mn	2.00 %	Max
PHOSPHORUS	P	0.045 %	Max
SULPHUR	S	0.03 %	Max
CHROMIUM	Cr	17.50 - 19.50 %	Range
NICKEL	Ni	8 - 10.5 %	Range
NITROGEN	N	0.10 %	Max

SURFACE FINISH

FINISH	2B
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CONFORMANCE STANDARD

ASTM A240 / A480

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