Created by	New Zealand Tube Mills	Technical Information	Page : 1 of 1
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Revision Date	No		Approved by:
03-Feb-09	02		QA Engineer

NZTM-Q06B:- **G310 / Z450 GALVANIZED STEEL (BHP N.Z STEEL)**
{Hot-Dipped zinc-coated with minimum spangled}

A specification covering the mechanical properties and chemical composition of G310 / Z450 grade Galvanized Steel material sourced from BHP New Zealand Steel and used by the New Zealand Tube Mills prior to being manufactured into tubular section.

Zinc coating helps in two different ways of protecting steel substrate from rusting:-
1) Barrier Effect - Protect from direct intrusion agent to the steel
2) Galvanic Effect - Protect its adjacent steel substrate by scarifying itself

When forming steel 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.

Testing has been performed showing that tube sections formed from this material will exceed 350 MPa Yield strength.

SPECIFIED MINIMUM MECHANICAL PROPERTIES OF STRIP

YIELD STRESS	**310 MPa (min.)**
TENSILE STRESS	400 MPa (min.)
ELONGATION	18 % (min.)

NORMAL RANGE OF MECHANICAL PROPERTIES OF STRIP

YIELD STRESS	310 to 380 MPa
TENSILE STRESS	400 to 490 MPa
ELONGATION	26 to 40 %

SPECIFIED CHEMICAL COMPOSITION - (LADLE ANALYSIS)

CARBON	C	0.194 % max.
MANGANESE	Mn	0.70% max.
PHOSPHORUS	P	0.03 % max.
SULPHUR	S	0.03 % max.
SILICON	Si	0.03 % max.
ALUMINUM	AL	0.09 % max

ZINC COATING WEIGHT (Z450)

COATING WEIGHT	**450**	**g / m^2**	**both side**
Calculated Coating Thickness	**63**	**µ m**	
	Based on Standard AS1397 - 2001		

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