

ZINC HI-TEN® G450 Steel

Revision 7 January 2014

This literature supersedes all previous issues



Metallic Coated - MC

Structural - S

GENERAL DESCRIPTION

"ZINC HI-TEN® G450 steel is a hot-dipped zinc-coated structural steel with a spangled surface and guaranteed minimum yield strength of 450 MPa. Suitable for roll-forming to a 4t minimum internal diameter.

ZINC HI-TEN® G450S steel is skin passed to improve surface quality. This skin passed product is only available up to 2mm thick. "

TYPICAL USES

Purlins, structural decking, scaffolding.

AUSTRALIAN STANDARDS

AS/NZS 1365:1996 1

AS 1397:2001

GUARANTEED PROPERTIES OF STEEL BASE

MECHANICAL PROPERTIES	GUARANTEED MINIMUM
Longitudinal Tensile	
Yield Strength, Mpa	450 min
Tensile Strength, MPa	480 min
Elongation on 80mm %	9 min
180° transverse bend (L axis)	4t

CHEMICAL COMPOSITION OF STEEL BASE

CHEMICAL PROPERTIES	GUARANTEED MAX %
Carbon - C	0.20
Phosphorus - P	0.04
Manganese - Mn	1.2
Silicon - Si	-
Sulphur - S	0.03
Aluminium - Al	-
Nitrogen - N	-

METAL COATING ADHESION - 180° BEND TEST

COATING CLASS	
Z100	0t
Z200	1t
Z275	2t
Z450	2t
Z600	3t

Where t = the diameter of mandrel in terms of thickness of product.

FIRE HAZARD PROPERTIES

INDEX	RANGE	RESULT
Ignitability Index	0-20	0
Spread Of Flame Index	0-10	0
Heat Evolved Index	0-10	0
Smoke Developed Index	0-10	0

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DIMENSIONAL CAPABILITIES

THICKNESS RANGES (mm)	PRODUCT	MAX. WIDTH MM
1.5-1.6		1350
1.61-1.80		1235
1.81-2.00		1220
2.01-2.50		1200
2.51-3.20		1130

Notes: These dimensions are a reflection of technical capability to produce. Supply conditions may be subject to dimensional restrictions and is subject to BlueScope Steel Sales and Marketing confirmation.

Slitting and shearing available on request from BlueScope Steel Sales Offices.

For requirements outside the standard product range please contact your local Sales Office.

NORMAL/OPTIONAL SUPPLY CONDITIONS

	NORMAL	OPTIONAL
Surface Treatment	Passivated	-
Tolerance Class	AS/NZS 1365:1996	
-Thickness	A Class	-
-Width	A Class	-
-Length	A Class	-
-Flatness	A Class	-
Branding	Branded	-
Coating Class	Z275	Z200
-		Z450
--		Z600
Surface Finish	Spangled	Minimised Spangle

Important Notes

Optional supply conditions may be subject to dimensional restrictions

FABRICATING PERFORMANCE

METHOD	RATING	METHOD	RATING
Bending	3	Lock Forming	-
Drawing	NR	Welding	5
Pressing	NR	Painting Pretreatment	5
Roll Forming	4		

Where: 1 = Limited to 5 = Excellent or NR = Not Recommended

TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)

Yield Strength (MPa)		
	Minimum	Maximum
1.5	520	580
2.0	470	530
2.5	480	520
3.0	470	550

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Tensile Strength (MPa)		
	Minimum	Maximum
1.5	560	600
2.0	520	560
2.5	510	550
3.0	510	570

Total Elongation on 80mm (%)		
	Minimum	Maximum
1.5	11	15
2.0	14	18
2.5	13	17
3.0	13	17

IMPORTANT INFORMATION

Typical mechanical properties are based on typical product despatched to customers. Note that ductility will decline through a natural ageing process during storage and/or paint stoving cycle.

Skin-Passing of GALVALUME® G250S Steel will generally give a marginally higher yield strength and marginally reduced % elongation.

Material should be used promptly (within six months) to avoid the possibility of a storage related corrosion. For selection of the most appropriate metallic coated steel, please refer to technical bulletins TB1a, TB1b, CTB21 and CTB22. For storage, rollforming lubricants and other information please refer to the Technical Bulletins.

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