

Metallic Coated MC Structural S ZINCALUME® G550 steel G550S steel

Revision 10, November 2003

This literature supersedes all previous issues

GENERAL DESCRIPTION

ZINCALUME® G550 steel is a hot-dipped zinc/aluminium alloy – coated structural steel with a spangled surface and a guaranteed minimum yield strength of 550 MPa with limited ductility. Suitable for roll forming to a minimum internal diameter of 4t.

ZINCALUME® G550S steel is skinpassed to improve surface quality. Skinpassed material is used to supply COLORBOND® steel and is not available without the COLORBOND® paint finish.

TYPICAL USES

Roll-formed decking and walling.

AUSTRALIAN STANDARDS

AS 1365
AS 1397:2001

GUARANTEED PROPERTIES OF STEEL BASE

MECHANICAL PROPERTIES	GUARANTEED MINIMUM
Yield Strength, MPa	550
Tensile Strength, MPa	550
Elongation on 80mm (≥ 0.60mm) %	2

CHEMICAL PROPERTIES	GUARANTEED MAXIMUM %
Carbon (C)	0.2
Phosphorus (P)	0.04
Manganese (Mn)	1.2
Sulphur (S)	0.03

Note – tensiles tested in longitudinal direction

COATING ADHESION – 180° BEND TEST

COATING CLASS	GUARANTEED
AZ150	2t
AZ200	2t

FIRE HAZARD PROPERTIES

IGNITABILITY INDEX	(range 0-20)	0
SPREAD OF FLAME INDEX	(range 0-10)	0
HEAT EVOLVED INDEX	(range 0-10)	0
SMOKE DEVELOPED INDEX	(range 0-10)	0-1

DIMENSIONAL CAPABILITIES

Thickness Ranges mm		Max. Width mm
≥ 0.30 < 0.32	G550/ G550S	1070
≥ 0.32 < 0.33		1100
≥ 0.33 < 0.35		1150
≥ 0.35 < 0.40		1220
≥ 0.40 ≤ 0.60		1235
> 0.60 ≤ 1.00		1220

Slitting and shearing available on request from BlueScope Steel sales offices.

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.

NORMAL/OPTIONAL SUPPLY CONDITIONS

	Normal	Optional
Coating Class	AZ150	AZ200
Surface Condition	Spangled	–
Surface Treatment	Passivated/ Resin coated	–
Tolerance Class		
Dimensions	A Class	B Class
Flatness	A Class	–
Branding	Branded	–

Important Notes

Material should be used promptly (within 6 months) to avoid the possibility of storage related corrosion.

For selection of the most appropriate metallic coated steel, please refer to technical bulletins TB1a, TB1b, CTB21 and CTB22.

Mechanical properties are guaranteed at ambient/room temperatures. Please consult technical representatives at BlueScope Steel Sales office for high/low temperature use.

ZINCALUME® and COLORBOND® are registered trade marks of BlueScope Steel Limited.

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Please ensure you have the current data sheet for this product as displayed at www.bluescopesteel.com.au

BlueScope Steel Limited

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Continued

TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)

Thickness mm	Yield Strength & Tensile Strength MPa																									
	560	570	580	590	600	610	620	630	640	650	660	670	680	690	700	710	720	730	740	750	760	770	780	790	800	
0.35																										
0.42																										
0.48																										
0.55																										
0.75																										
1.0																										

Key yield strength tensile strength

Thickness mm	Total Elongation on 80mm (%)												
	0	1	2	3	4	5	6	7	8	9	10	11	12
0.35													
0.42													
0.48													
0.55													
0.75													
1.0													

FABRICATING PERFORMANCE

Method	Rating
Bending	1
Drawing	NR
Pressing	NR
Roll-Forming	3
Welding (design must allow for some strength reduction near welds)	4
Painting (Pretreatment)	5

TYPICAL CHEMICAL COMPOSITION OF STEEL BASE

	%
Carbon (C)	0.035 - 0.070
Phosphorus (P)	0.00 - 0.02
Manganese (Mn)	0.20 - 0.30
Sulphur (S)	0.00 - 0.02
Silicon (Si)	0.00 - 0.02
Aluminium (Al)	0.02 - 0.07
Nitrogen (N)	0.000 - 0.008

where 1 = limited to 5 = excellent, or NR = not recommended

IMPORTANT NOTES:

- Typical Mechanical Properties are based on typical product dispatched to customers. Note that ductility will decline through a natural aging process during storage and/or paint stoving cycle.
- The Skin-Passing of ZINCALUME® G550S steel will generally give a marginally higher yield strength and marginally reduced % elongation.

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