

Metallic Coated Structural ZINCALUME®

G550 steel

Revision 1, May 2004
This literature supersedes all previous issues

GENERAL DESCRIPTION

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

TYPICAL USES

Roofing, cladding, roll-formed sections for structural applications.

STANDARDS

AS/NZS 1365:1996
AS 1397:2001

GUARANTEED PROPERTIES OF STEEL BASE

MECHANICAL PROPERTIES	GUARANTEED MINIMUM
Yield Strength, MPa	550
Tensile Strength, MPa	550
Elongation on 50mm % (≥0.6mm)	2

CHEMICAL PROPERTIES	GUARANTEED MAXIMUM %
Carbon (C)	0.05
Phosphorous (P)	0.02
Manganese (Mn)	0.22
Sulphur (S)	0.025

COATING ADHESION – 180° BEND TEST

COATING CLASS	GUARANTEED
AZ150	1t

Other coating classes may be available by enquiry

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	Max. Width
mm	mm
≥ 0.30 < 0.33	940
≥ 0.33 < 0.35	1050
≥ 0.35 < 0.40	1176
≥ 0.40 < 1.00	1230

Slitting and shearing available on request from New Zealand Steel.

These dimensions are a reflection of technical capability to produce. Supply conditions may be subject to dimensional restrictions and is subject to New Zealand Steel Marketing confirmation. Other dimensional combinations may be available by enquiry.

NORMAL/OPTIONAL SUPPLY CONDITIONS

	NORMAL	OPTIONAL
Coating Class	AZ150	As above
Surface Condition	Spangled	-
Surface Treatment	Passivated & Resin coated	Oiled
Branding	Branded	Unbranded

Important Notes

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

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

In the as-oiled state long term corrosion resistance cannot be guaranteed. Further surface treatment/coating is required.

ZINCALUME® is a registered trademark of BlueScope Steel Limited.

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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	
0.350																						
0.400																						
0.420																						
0.480																						
0.550																						
0.750																						
0.950																						

Key yield strength tensile strength

Thickness mm	Total Elongation on 50mm (%)											
	2	3	4	5	6	7	8	9	10	11	12	13
0.350												
0.400												
0.420												
0.480												
0.550												
0.750												
0.950												

FABRICATING PERFORMANCE

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

TYPICAL CHEMICAL COMPOSITION OF STEEL BASE

	%
Carbon (C)	0.020 – 0.070
Phosphorus (P)	0.01 – 0.02
Manganese (Mn)	0.14 – 0.22
Sulphur (S)	0.01 – 0.02
Silicon (Si)	0.00 – 0.02
Aluminium (Al)	0.03 – 0.06
Nitrogen (N)	0.004 – 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.

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