

ZINC HI-TEN® G500 Steel

Revision 8 January 2014

This literature supersedes all previous issues



Metallic Coated - MC

Structural - S

GENERAL DESCRIPTION

"ZINC HI-TEN® G500 steel is a hot-dipped zinc-coated structural steel with a spangled surface and guaranteed minimum yield strength of 500 MPa. Suitable for roll-forming to a 4t minimum internal diameter.

ZINC HI-TEN® G500S steel is skin passed to improve surface quality. This skin passed product is only available up to 2mm thick. "

TYPICAL USES

Structural sections, House framing, agricultural posts and trellises.

AUSTRALIAN STANDARDS

AS/NZS 1365:1996 1

AS 1397:2001

GUARANTEED PROPERTIES OF STEEL BASE

| MECHANICAL PROPERTIES | GUARANTEED MINIMUM |
|-------------------------------|--------------------|
| Longitudinal Tensile | |
| Yield Strength, Mpa | 500 min |
| Tensile Strength, MPa | 520 min |
| Elongation on 80mm % | 7 min |
| 180° transverse bend (L axis) | 6t |

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 | 1t |
| Z200 | 2t |
| 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 |

Australia 1800 800 789

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DIMENSIONAL CAPABILITIES

| THICKNESS RANGES (mm) | PRODUCT | MAX. WIDTH MM |
|-----------------------|-------------|---------------|
| 1.01-1.49 | G500, G500S | 1350 |

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 | 2 | Lock Forming | - |
| Drawing | NR | Welding | 5 |
| Pressing | NR | Painting Pretreatment | 5 |
| Roll Forming | 3 | | |

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

TYPICAL PROPERTY RANGES (FOR NORMAL SUPPLY PRODUCT)

| Yield Strength (MPa) | | |
|----------------------|---------|---------|
| | Minimum | Maximum |
| 1.2 | 590 | 650 |
| 1.4 | 520 | 600 |

| Tensile Strength (MPa) | | |
|------------------------|---------|---------|
| | Minimum | Maximum |
| 1.2 | 580 | 660 |
| 1.4 | 570 | 610 |

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| Total Elongation on 80mm (%) | | |
|------------------------------|---------|---------|
| | Minimum | Maximum |
| 1.2 | 8 | 14 |
| 1.4 | 11 | 15 |

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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