

### **Data Sheet**

# **G**300

# Metal-Coated – ZINCALUME® – Structural

Revision: 31/1/2012

#### **GENERAL DESCRIPTION**

ZINCALUME® G300 steel is a hot-dipped zinc/aluminium alloy-coated structural steel with guaranteed minimum yield strength of 300MPa with good ductility. Suitable for roll forming to a minimum internal diameter of 1t.

#### **APPLICATIONS**

- Rainwater goods
- Gutters
- Garden sheds
- Roofing
- Cladding

#### **STANDARDS**

- AS 1397:2011
- AS/NZS 1365:1996

|                      | ≤0.8mm        | >0.8mm       | ≤0.80mm                                | >0.80mm |  |  |  |
|----------------------|---------------|--------------|--|---------|--|--|--|
| CHEMICAL COMPOSITION | TYPICA        | L (wt %)     | EXPECTED MAXIMUM (wt %) <sup>[1]</sup> |         |  |  |  |
| Carbon (C)           | 0.035 - 0.070 | 0.06 - 0.100 | 0.07                                   | 0.10    |  |  |  |
| Manganese (Mn)       | 0.14 - 0.25   | 0.50 - 0.70  | 0.25                                   | 0.70    |  |  |  |
| Sulphur (S)          | 0.01 - 0.02   | 0.00 - 0.02  | 0.03                                   | 0.03    |  |  |  |
| Phosphorus (P)       | 0.01 - 0.02   | 0.00 - 0.02  | 0.03                                   | 0.03    |  |  |  |
| Silicon (Si)         | 0.00 - 0.03   | 0.00 - 0.02  | 0.03                                   | 0.03    |  |  |  |
| Aluminium (AI)       | 0.03 - 0.07   | 0.03 - 0.07  | 0.08                                   | 0.08    |  |  |  |

<sup>[1]</sup> Values shown refer to relevant Australian/ New Zealand standards unless tighter internal limits are applied

| MECHANICAL PROPERTIES              | EXPECTED MINIMUM |
|------------------------------------|------------------|
| Yield strength, MPa                | 300              |
| Tensile strength, MPa              | 340              |
| Elongation, % on L₀= 50mm (≥0.6mm) | 20               |
| 180° transverse bend               | 1t               |

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.

| COATING ADHESION - 180° BEND TEST |    |  |  |  |  |  |  |
|-----------------------------------|----|--|--|--|--|--|--|
| COATING CLASS GUARANTEED          |    |  |  |  |  |  |  |
| AZ150                             | 1t |  |  |  |  |  |  |

Other coating classes may be available by enquiry

| DIMENSION CAPABILITIES |                  |  |  |  |  |  |  |  |  |  |
|------------------------|------------------|--|--|--|--|--|--|--|--|--|
| THICKNESS RANGE (mm)   | WIDTH RANGE (mm) |  |  |  |  |  |  |  |  |  |
| 0.35 - 0.39            | 70 – 1082        |  |  |  |  |  |  |  |  |  |
| 0.39 - 0.40            | 70 – 1193        |  |  |  |  |  |  |  |  |  |
| 0.40 - 0.99            | 70 – 1250        |  |  |  |  |  |  |  |  |  |

Slitting and shearing available on request from New Zealand

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.

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# **New Zealand Steel Limited**

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| FABRICATING PERFORMANCE 1 = Limited 5 = Excellent |        |  |  |  |  |  |  |  |
|---|--------|--|--|--|--|--|--|--|
| Method  | Rating |  |  |  |  |  |  |  |
| Drawing   | 2      |  |  |  |  |  |  |  |
| Pressing  | 2      |  |  |  |  |  |  |  |
| Bending   | 5      |  |  |  |  |  |  |  |
| Roll-forming                                      | 5      |  |  |  |  |  |  |  |
| Welding   | 4      |  |  |  |  |  |  |  |
| Painting (Pre-treatment)                          | 5      |  |  |  |  |  |  |  |

| AVAILABLE FINISHES |                           |           |  |  |  |  |  |  |  |
|--------------------|---------------------------|-----------|--|--|--|--|--|--|--|
| NORMAL OPTIONAL    |                           |           |  |  |  |  |  |  |  |
| Surface Condition  | Finely spangled           | -         |  |  |  |  |  |  |  |
| Surface Treatment  | Passivated & Resin coated | Oiled     |  |  |  |  |  |  |  |
| Branding           | Branded                   | Unbranded |  |  |  |  |  |  |  |

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.

## **PACKING**

Despatched material will be packed appropriately providing protection against weather and transit damage.

## **TYPICAL PROPERTY RANGES**

| Thickness<br>mm |   |     |     |     |     |     | Yie | eld Stre | ength &<br>M | Tensile<br>Pa | e Stren | gth |     |     |     |     |     |     |
|-----------------|---|-----|-----|-----|-----|-----|-----|----------|--------------|---------------|---------|-----|-----|-----|-----|-----|-----|-----|
|                 | 300   | 310 | 320 | 330 | 340 | 350 | 360 | 370      | 380          | 390           | 400     | 410 | 420 | 430 | 440 | 450 | 460 | 470 |
| 0.35            |   |     |     |     |     |     |     |          |              |               |         |     |     |     |     |     |     |     |
| 0.40            |   |     |     |     |     |     |     |          |              |               |         |     |     |     |     |     |     |     |
| 0.55            |   |     |     |     |     |     |     |          |              |               |         |     |     |     |     |     |     |     |
| 0.75            |   |     |     |     |     |     |     |          |              |               |         |     |     |     |     |     |     |     |
| 0.95            |   |     |     |     |     |     |     |          |              |               |         |     |     |     |     |     |     |     |
|                 | Key Yield Strength (YS) Tensile strength (U |     |     |     |     |     |     |          |              | JTS)          |         |     |     |     |     |     |     |     |

| Thickness<br>mm |    | Total Elongation (%) GL= 50mm |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----|-------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                 | 20 | 21                            | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| 0.35            |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0.40            |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0.55            |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0.75            |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0.95            |    |                               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

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