

ZINCALUME[®] steel

with Activate[®] technology

G450

General description

ZINCALUME[®] steel with Activate[®] technology G450 is a hot-dipped aluminium / zinc / magnesium alloy-coated structural steel with a regular spangle surface and a guaranteed minimum yield strength of 450MPa with limited ductility. Suitable for rollforming to a minimum internal diameter of 4t.

Typical uses

Structural sections.

Australian and International Standards

AS/NZS 1365:1996 (R2016)
AS 1397:2021
ISO 9001:2015 Quality System certified

Guaranteed properties of steel base

| Mechanical properties | Guaranteed minimum |
|--|--------------------|
| Yield Strength, MPa (longitudinal tensile) | 450 |
| Tensile Strength, MPa (longitudinal tensile) | 480 |
| Elongation on 80mm (≥ 0.60mm) % | 9 |
| 90° Transverse Bend | 4t |

Chemical composition of steel base

| Chemical properties | Guaranteed maximum % |
|---------------------|----------------------|
| Carbon – C | 0.20 |
| Manganese – Mn | 1.20 |
| Phosphorus – P | 0.040 |
| Sulphur – S | 0.030 |



Metal coating adhesion – 180° bend test

| Coating class | Result |
|---------------|--------|
| AM125 | 2t |

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

Dimensional capabilities

| Thickness range (mm) | Max width (mm) |
|----------------------|----------------|
| 1.50 – 1.60 | 1000 |

Notes: Not every combination of thickness and width may be available. Supply conditions may be subject to dimensional restrictions and are subject to BlueScope Sales and Marketing confirmation. Slitting and shearing available on request from BlueScope Sales Offices. For requirements outside the standard product range please contact your local Sales Office.

Fire hazard properties

| Test & Evaluation Methods | Range | Result |
|---|---|---|
| Simultaneous determination of ignitability, flame propagation, heat release and smoke release (AS/NZS 1530.3:1999 (R2016)) * | Ignitability Index (0 – 20) | 0 |
| | Spread of Flame Index (0 – 10) | 0 |
| | Heat Evolved Index (0 – 10) | 0 |
| | Smoke Developed Index (0 – 10) | 2 |
| NCC non-combustible material concessions (NCC 2022; AS/NZS 1530.3:1999 (R2016)) * | National Construction Code, Building Code of Australia 2022; Volume 1 Part C1, C2D10, (5) and (6)(e) and Volume 2: Section H, Part H3, H3D2, (1)(e) AS/NZS 1530.3:1999 (R2016) | May be used wherever a non-combustible material is required |
| Combustibility test for materials (steel substrate) (AS 1530.1-1994 (R2016)) # | AS 1530.1-1994 (R2016) | Not deemed combustible (steel substrate) |

* The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

Supply conditions

| Attribute | Normal | Optional |
|------------------------|---------------------------|-------------|
| Coating Class | AM125 | - |
| Surface Condition | Spangled | - |
| Surface Treatment | Passivated & Resin coated | - |
| Branding | Branded | Not branded |
| Tolerance – Dimensions | Class A | Class B |
| Tolerance – Flatness | Class A | - |

Important Notes: Optional supply conditions may be subject to dimensional restrictions.

Fabricating performance

| Method | Rating |
|--|--------|
| Bending | 3 |
| Drawing | NR |
| Pressing | NR |
| Rollforming | 4 |
| Lock Forming | NR |
| Welding (design must allow for some strength reduction near welds) | 4 |
| Painting Pre-treatment | 5 |

Where: 1 = Limited to 5 = Excellent or NR = Not Recommended
The ratings in this table are general indicators only, given as a guide to fabricating performance.

Important information

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.

Zincalume®

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To learn more about this product

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The information contained in this datasheet is provided by way of general information about this product only, and has not been prepared with your specific needs in mind. We recommend that you seek BlueScope Steel Limited's advice as to the suitability of this product for the purpose(s) for which you propose to use it. To contact BlueScope Steel Limited for advice about your proposed use of this product, please contact Steel Direct. ZINCALUME®, Activate®, BlueScope and the BlueScope brand mark are registered trade marks of BlueScope Steel Limited. © 2023 BlueScope Steel Limited ABN 16 000 011 058. All rights reserved.