

COLORBOND® Permagard® Insulated Panel Steel

Revision 6 October 2016

This literature supersedes all previous issues



Prepainted - PP

GENERAL DESCRIPTION

COLORBOND® Permagard® Insulated Panel steel, designed by BlueScope Steel Limited, specifically for the manufacture of sandwich panels for coolrooms. The product offers excellent formability coupled with good durability and antibacterial properties.

TYPICAL USES

Coolroom panels. For alternative uses, or to determine if warranties apply, please contact your nearest BlueScope Steel Sales office for advice.

AUSTRALIAN STANDARDS

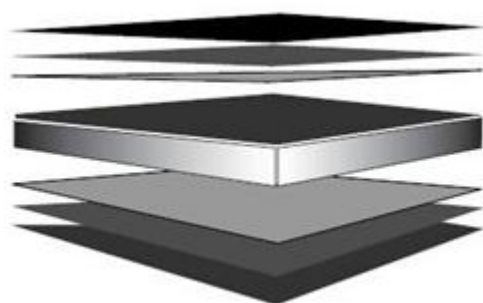
Substrate - AS 1397

Paint Coating - AS/NZS 2728 Type 2

PREFERRED SUBSTRATES

ZINCFORM® G300S Z275 BF steel {Refer Note 8}

Please refer to current price list or BlueScope Steel Limited State Sales Office for availability of colours and dimensions.



- ← Finish Coat (Finish Coat + Primer = nominal 25µm) {Refer Notes 4 & 5}
- ← Universal Corrosion Inhibitive Primer
- ← Conversion Coating
- ← Galvanized Steel Substrate
- ← Conversion Coating
- ← Universal Corrosion Inhibitive Primer
- ← Backing Coat (Backing Coat + Primer = nominal 10µm total){Refer Note 6}

ATTRIBUTES TESTED DURING MANUFACTURE

Property	Test & Evaluation Method(s)	Results
Adhesion		
Reverse Impact	AS/NZS 2728 (App. E); NCCA Tech. Bull. 4.2.6 (test & eval)	≥10 joules
T-bend	AS/NZS 2728 (App. F); NCCA Tech. Bull. 4.2.8 (test & eval)	Maximum 6T Refer Note 7
Hardness		
Pencil	AS/NZS 1580 405.1; NCCA Tech. Bull. 4.2.5 (test & eval)	HB or harder
Specular gloss		
60° meter	AS/NZS 1580 602.2; ASTM D523 (test & eval)	Nominal ± 10 units

Australia 1800 800 789

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PRODUCT ATTRIBUTES

Property	Test & Evaluation Method(s)	Results
Flexibility		
T-bend	ASTM D4145-83	Maximum 10T (no cracking)
Resistance to abrasion		
Scratch	AS/NZS 2331.4.7 (test & eval)	Typically 2000g
Adhesion		
Natural well washed exposure (10 yrs)	AS/NZS 1580.457.1	No flaking or peeling. Refer Notes 9 & 10.
Resistance to humidity		
Cleveland (500 hours)	ASTM D4585; AS/NZS 1580.481.1.9 (Blisters); AS/NZS 1580.408.4 (Adhesion)	Blister density: ≤ 3 . Blister size: $\leq S2$. No loss of adhesion or corrosion.
Resistance to corrosion		
Salt spray (500 hours)	AS/NZS 2728 (App. I); ASTM B117; AS 2331.3.1; AS/NZS 1580.481.1.9 (Blisters); AS/NZS 1580.408.4 (Adhesion)	Blister density: ≤ 2 . Blister size: $\leq S3$. Undercut from score: ≤ 2 mm. No loss of adhesion or corrosion. Refer Note 2.
Resistance to colour change		
QUV (2000 hours)	ASTM G154 & ASTM D2244 (Colour)	ΔE cielab 2000: Light colour: ≤ 6 units.
Natural well washed exposure (10 yrs) {Refer Notes 9 & 10}	AS/NZS 1580.457.1 & ASTM D2244 (Colour)	ΔE cielab 2000: Light colour: ≤ 6 units.
Resistance to chalking		
Natural well washed exposure (10 yrs)	ASTM G154 & AS/NZS 1580.481.1.11 (Chalk Method B)	Chalk rating: ≤ 4 . Refer Notes 9 & 10
QUV (1000 hours)	ASTM G154 & AS/NZS 1580 481.1.11 (Chalk Method B)	Chalk rating: ≤ 4 .
Resistance to Solvents		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.9 (Blisters)	No discolouration or blistering. Refer Notes 9 & 11.
Resistance to acids		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.9 (Blisters)	No discolouration or blistering. Refer Notes 3 & 11.
Resistance to fire		
Exposure	AS/NZS 1530.3 (test & eval)	Ignitability index: 0 rating in scale of 0-20 Spread of flame index: 0 rating in scale of 0-10 Heat evolved index: 0 rating in scale of 0-10 Smoke evolved index: 0 - 1 rating in scale of 0 - 10

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IMPORTANT NOTES

- 1 Only available in the colour Permagard® White. The antibacterial additive is incorporated into the topcoat during the paint manufacturing process to provide antibacterial properties during the life of the product. The inclusion of the antibacterial additive is not a substitute for good hygiene practices, but significantly increases the level of protection against bacteria in between cleanings and in areas difficult to reach during cleaning regimes.
- 2 Specific end uses may attract a warranty when using this product, depending upon location. To find out more, please refer to the BlueScope Steel website, or contact your nearest BlueScope Steel Sales office for advice. Terms and conditions apply.
- 3 Product may not be suitable if it is intended to use COLORBOND® Permagard® Insulated Panel steel in an exterior application within 1km of salt marine locations, severe industrial or abnormally corrosive environments; in areas not washed by rain, or in applications where it will be wholly or partly buried in the ground. For selection of the most appropriate COLORBOND® steel product, please refer to Technical Bulletins TB1a, TB1b, CTB16, CTB21 and CTB22. Before purchase, you should check on suitability by visiting the BlueScope Steel website or by contacting BlueScope Steel Direct for advice.
- 4 Finish Coat - the coating applied to the exposed surface of the prepainted coil which is expected to meet the Performance Requirements.
- 5 The product is supplied with a nominal 25 unit (60°) gloss Finish Coat
- 6 Backing coat - a thin coating applied to the reverse surface of the prepainted coil. This backing coat has been specially designed to facilitate adhesion to foam cores, for common foam core adhesives. It is the manufacturer's responsibility to test the suitability of their adhesives to this backer.
- 7 The minimum internal bend diameters for forming processes to achieve no paint cracking (visible using x10 magnification) and to avoid paint adhesion issues are specified by the T-bend flexibility and T-bend adhesion results respectively- where 1T equals the total coated thickness (tct) in mm of the material. These results are based on testing at 20-25°C.
- 8 For most products, the metallurgical ageing process which is inherent in the paint stoving cycle will result in some loss of ductility compared with unpainted product. However, minimum strength levels designated by relevant standards will still be applicable.
- 9 Improper storage or use of non-approved roll-forming lubricants may cause brand transfer and paint blushing, and may adversely affect colour and long term durability. Product in coil or sheet pack form must be kept dry. If the coil or sheet pack becomes wet, it must be separated and dried (refer AS/NZS 2728 Appendix L, and also Technical Bulletin TB7). Contact Steel Direct to obtain advice on appropriate rollforming lubricants.
- 10 Values quoted are for panels exposed in accordance with AS/NZS 2728. Variations for in-situ performance may occur due to complexity of building design and location.
- 11 COLORBOND® Permagard® Insulated Panel Steel has good resistance to accidental spillage of solvents such as methylated spirits, white spirit, mineral turpentine, toluene, trichloroethylene and dilute mineral acids and alkalis. However, all spillages should be immediately removed by water washing and drying.



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