

# Coated Steel – Prepainted Data Sheet



September 2019. This literature supersedes all previous issues



# COLORBOND® Permagard® steel

### General description

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

### Typical uses

Coolroom panels. To determine if warranties apply or for material selection advice, please visit [colorbond.com](http://colorbond.com) and [steel.com.au](http://steel.com.au) or contact Steel Direct for advice.

### Australian and International standards

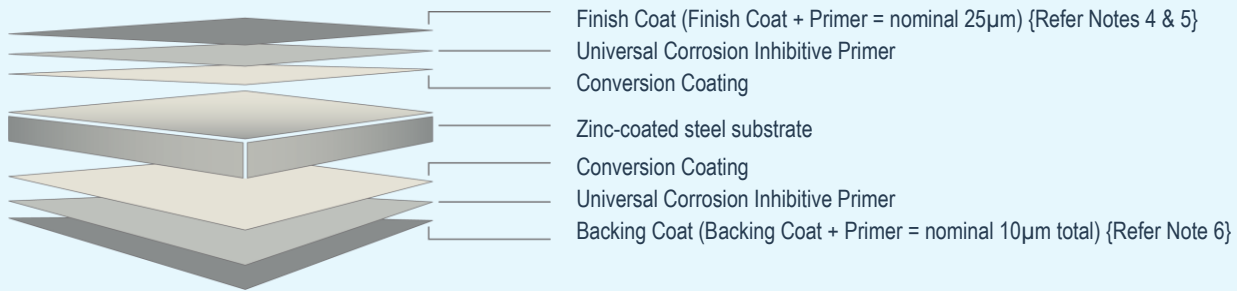
Substrate - AS 1397:2011  
Paint Coating - AS/NZS 2728:2013 Type 3  
ISO 9001:2015 Quality System certified

### Preferred substrates

Z275 G300S BF steel {Refer Note 8}

For substrate properties please refer to the relevant Metallic (Z) Coated steel datasheets or AS 1397:2011.

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



### Attributes tested during manufacture

Property	Test & Evaluation Method(s)	Results
<b>Adhesion</b>		
Reverse Impact	AS/NZS 2728:2013 (App. E).	≥10 joules
T-bend	AS/NZS 2728:2013 (App. F).	Maximum 6T Refer Note 7
<b>Hardness</b>		
Pencil	AS/NZS 1580 405.1:1996	HB or harder
<b>Specular gloss</b>		
60° meter	AS/NZS 1580.602.2:1995; ASTM D523-14 (2018)	Nominal ± 10 units

**Product attributes**

Property	Test & Evaluation Method(s)	Results
<b>Flexibility</b>		
T-bend	ASTM D4145-10 (2018)	Maximum 10T (no cracking). Refer Note 7
<b>Resistance to abrasion</b>		
Scratch	AS 2331.4.7-2006 (Test & eval)	Typically 2000g
<b>Adhesion</b>		
Natural well washed exposure (10 yrs)	AS/NZS 1580.457.1:1996 AS/NZS 1580.481.1.10:1998	No flaking or peeling. Refer Notes 9 & 10.
<b>Resistance to humidity</b>		
Cleveland (500 hours)	ASTM D4585/D4585M-18; AS/NZS 1580.481.1.9:1998 (Blisters); AS 1580.408.4-2004 (Adhesion)	Blister density: ≤ 3. Blister size: ≤ S2. Undercut from score: ≤2mm. No loss of adhesion or corrosion of base metal.
<b>Resistance to corrosion</b>		
QFog (1000 hours)	AS/NZS 1580.481.1.9:1998 (Blisters); AS 1580.408.4-2004 (Adhesion), AS 1580.481.3-2002 (Undercutting, Corrosion)	Blister density: ≤2. Blister size: ≤S2. Undercut from score: ≤1mm. No loss of adhesion or corrosion of base metal. Refer Note 3.
<b>Resistance to colour change</b>		
Natural well washed exposure (10 yrs)	AS/NZS 1580.457.1:1996 & ASTM D2244-16 (Colour)	ΔE CIElab 2000: Light colour: ≤ 6 units. Refer Notes 9 & 10
QUV (2000 hours)	ASTM G154-16 & ASTM D2244-16 (Colour)	ΔE CIElab 2000: Light colour: ≤ 6 units.
<b>Resistance to solvents, acids, alkalis</b>		
Exposure	ASTM D1308-02 (2013) (3.1.1) & ASTM D2244-16 (Colour); AS/NZS 1580.481.9:1998 (Blisters)	No discolouration or blistering. Refer Notes 3, 9 & 11.
<b>Fire hazard properties</b>		
Simultaneous determination of ignitability, flame propagation, heat release and smoke release (AS/NZS 1530.3:1999)	Ignitability index (0 – 20)	0
	Spread of flame index (0 – 10)	0
	Heat evolved index (0 – 10)	0
	Smoke developed index (0 – 10)	1
NCC non-combustible material concessions (NCC 2019; AS/NZS 1530.3:1999)	National Construction Code, Building Code of Australia 2019; Volume 1 Part C1.9.e, and Volume 2: Part 3.7.1.1.e	May be used wherever a non-combustible material is required.
	AS/NZS 1530.3:1999	
Combustibility test for materials (steel substrate) (AS 1530.1-1994)	AS 1530.1-1994	Not deemed combustible (steel substrate)

### Important notes

1. Only available in the colour Permagard® White. The antibacterial product protection 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 actively helps reduce the risk of cross-contamination.
2. Specific end uses may attract a warranty when using this product, depending upon location. To find out more, please refer to the BlueScope website, or contact your nearest BlueScope Sales office for advice. Terms and conditions apply.
3. Product may not be suitable if it is intended to use COLORBOND® Permagard® 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 website or by contacting 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 2728:2013 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 2728:2013. Variations for in-situ performance may occur due to complexity of building design and location.
11. COLORBOND® Permagard® 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.

**Colorbond®**  
**PERMAGARD®**

**steel.com.au**

To learn more about this product

**1800 022 999**

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For more information contact Steel Direct

