

COLORBOND® steel

for insulated panels

General description

COLORBOND® steel for insulated panels (XIP), designed by BlueScope, specifically for the manufacture of sandwich panels for exterior building use. This prepainted product offers excellent formability coupled with good durability.

Typical uses

Exterior sandwich panels. To determine if warranties apply or for material selection advice, please visit steel.com.au or contact Steel Direct for advice.

Australian and International standards

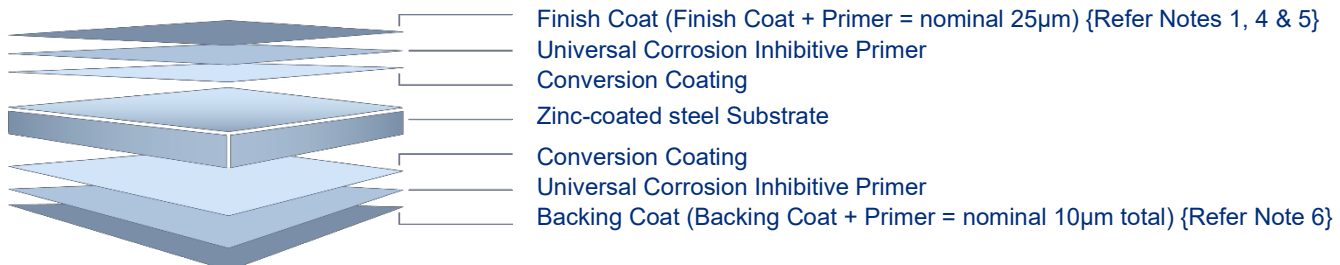
Substrate - AS 1397:2021
Paint Coating - AS/NZS 2728:2013 Type 3
ISO 9001:2015 Quality System certified

Preferred substrates

Z275 G300S BF steel {Refer Note 8}.

For substrate properties please refer to the relevant Metallic (Z) Coated steel datasheet or AS 1397:2021.

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
Adhesion		
Reverse impact	AS/NZS 2728:2013 (App. E)	≥10 joules
T-bend	AS/NZS 2728:2013 (App. F)	Maximum 6T. Refer Note 7.
Specular gloss		
60° meter	AS/NZS 1580.602.2:1995 (R2013); ASTM D523-14 (2018)	Nominal ± 10 units

Product attributes

Property	Test & Evaluation Method(s)	Results
Flexibility		
T-bend	ASTM D4145-10 (2018)	Maximum 10T (no cracking). Refer Note 7.
Resistance to abrasion		
Scratch	AS 2331.4.7-2006 (R2017)	Typically 2000g
Hardness		
Pencil	AS/NZS 1580.405.1:1996 (R2013)	HB or harder
Resistance to humidity		
Cleveland (500 hours)	ASTM D4585/D4585M-18; AS/NZS 1580.481.1.9:1998 (R2013) (Blisters); AS 1580.408.4-2004 (R2019) (Adhesion)	Blister density: ≤3 Blister size: ≤S2. Undercut from score: ≤2mm. No loss of adhesion or corrosion of base metal.
Resistance to corrosion		
Salt Spray (500 hours)	AS/NZS 1580.481.1.9:1998 (R2013) (Blisters); AS 1580.408.4-2004 (R2019) (Adhesion); AS 1580.481.3-2002 (R2013) (Undercutting, Corrosion)	Blister density: ≤2. Blister size: ≤S3. Undercut from score: ≤2mm. No loss of adhesion or corrosion of base metal. Refer Note 3.
Resistance to colour change		
Natural well washed exposure (10 years)	AS/NZS 1580.457.1:1996 (R2013) & ASTM D2244-21 (Colour)	ΔE CIEDE2000: Light colour: ≤4 units; Intermediate colour: ≤6 units; Dark colour ≤10 units. Refers Notes 9 & 10.
QUV (2000 hours)	ASTM G154-16 & ASTM D2244-21 (Colour)	ΔE CIEDE2000: Intermediate colour ≤5 units
Resistance to chalking		
Natural well washed exposure (10 years)	AS/NZS 1580.457.1:1996 (R2013) & AS/NZS 1580.481.1.11:1998 (R2013) (Chalk Method B)	Chalk rating: ≤4. Refer Notes 9 & 10.
QUV (1000 hours)	ASTM G154-16 & AS/NZS 1580.481.1.11:1998 (R2013) (Chalk Method B)	Chalk rating: ≤4

Property	Test & Evaluation Method(s)	Results
Resistance to solvents, acids, alkalis		
Exposure	ASTM D1308-20 (3.1.1); ASTM D2244-21 (Colour); AS/NZS 1580.481.1.9:1998 (R2013) (Blisters)	No discolouration or blistering. Refer Notes 3, 9 & 11.
Fire hazard properties		
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 2019; AS/NZS 1530.3:1999 (R2016)) *	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 (R2016)	
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.

Important notes

1. It is the panel manufacturer's responsibility to ensure the colour of the Finish Coat selected is suitable for the core material, adhesives and the intended exposure conditions of the finished panel. Darker colours can attain a higher surface temperature which needs to be considered in the overall exposure of the panel.
2. All warranties for a product, if any, are subject to eligibility. Terms and conditions apply. Nothing in this document is intended by BlueScope to extend, modify or otherwise affect any stated product warranty. To find out more, please visit the BlueScope website or contact Steel Direct for advice.
3. Product may not be suitable if it is intended to use COLORBOND® steel for insulated panels (XIP) 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® steel for insulated panels (XIP) 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®

steel.com.au

To learn more about this product

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