

Coated Steel – Prepainted Data Sheet



Aug 2020. This literature supersedes all previous issues

Exterior Manufactured Articles prepainted steel

General description

Exterior Manufactured Articles prepainted steel, specifically designed by BlueScope to provide a cost-effective product with outdoor durability and formability.

Typical uses

Air conditioner panels, garden sheds. For material selection advice, please contact Steel Direct.

Australian and International standards

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

Preferred substrates

AM100 G550S steel with Activate® technology. AM100 G300S steel with Activate® technology. Z275 G300S steel {Refer Note 7}

For substrate properties please refer to the relevant Metallic (AM or 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.

CORSTRIP® protective film may be available on request {Refer Note 2}



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 6.
Hardness		
Pencil	AS/NZS 1580.405.1:1996 (R2013)	HB or harder
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 6.
Resistance to abrasion		
Scratch	AS 2331.4.7-2006 (2017)	Typically 2000g
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		
QFog (1000 hours) (AM substrate)	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: ≤S2. Undercut from score: ≤1mm. No loss of adhesion or corrosion of base metal. Refer Note 3.
Salt Spray (500 hours) (Z substrate)	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 1.
Resistance to colour change		
Natural well washed exposure (10 yrs)	AS/NZS 1580.457.1:1996 (R2013) & ASTM D2244-16 (Colour)	ΔE CIElab 2000: Light colour: ≤6 units. Intermediate colour: ≤9 units. Dark colour: ≤15 units. Refer Notes 8 & 9.
QUV (2000 hours)	ASTM G154-16 & ASTM D2244-16 (Colour)	ΔE CIElab 2000: Intermediate colour: ≤6 units.
Resistance to chalking		
Natural well washed exposure (10 yrs)	AS/NZS 1580.457.1:1996 (R2013) & AS/NZS 1580.481.1.11:1998 (R2013) (Chalk Method B)	Chalk rating: ≤4. Refer Notes 8 & 9.
QUV (1000 hours)	ASTM G154-16 & AS/NZS 1580.481.1.11:1998 (R2013) (Chalk Method B)	Chalk rating: ≤4.
Resistance to solvents, acids, alkalis		
Exposure	ASTM D1308-02 (2013) (3.1.1); ASTM D2244-16 (Colour); AS/NZS 1580.481.1.9:1998 (R2013) (Blisters)	No discolouration or blistering. Refer Notes 1, 8 & 10.
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)
Resistance to heat		
Exposure 100°C continuous (500 hrs)	ASTM D2244-16 (Colour) Colour change: ΔE CIElab 2000; ≤ 3 units.	Colour change: ΔE CIElab 2000: ≤3 units.

Important notes

1. Product may not be suitable if it is intended to use Exterior Manufactured Articles prepainted 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 BlueScope prepainted 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.
2. The CORSTRIP® protective film should be removed from the painted steel strip immediately on installation. Sunlight can increase adhesion of the protective film to the painted surface if left uncovered outside.
3. Finish Coat - the coating applied to the exposed surface of the prepainted coil which is expected to meet the Performance Requirements.
4. A range of Finish Coat gloss levels between 10 and 80 units (60°) may be available.
5. Backing coat - a thin coating applied to the reverse surface of the prepainted coil. It also gives additional durability to the reverse surface during the service life of the product. For aesthetic reasons the Backing Coat is not recommended for exposure to direct sunlight.
6. 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.
7. 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.
8. 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.
9. 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.
10. Exterior Manufactured Articles prepainted 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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For more information contact Steel Direct

