

Pre-painted - PP

GENERAL DESCRIPTION

COLORBOND® Ultra prepainted steel with Activate™ technology lies in the unique composition and microstructure of 4 phases including Aluminium - Zinc and 2 strategically positioned magnesium compounds (MgZn₂, Mg₂Si) specifically designed by NS BlueScope Vietnam combines long term durability and excellent corrosion resistance.

TYPICAL USES

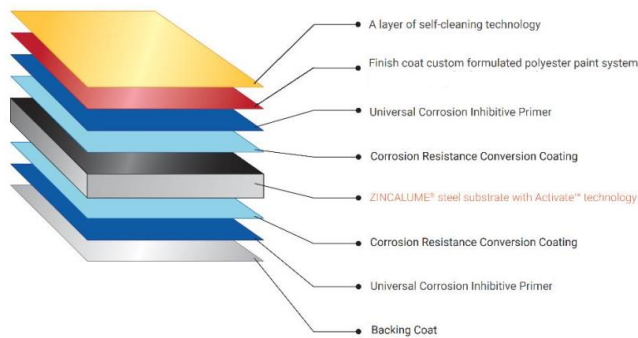
Exterior building profiles in applications requiring excellent corrosion resistance and long-term durability. Suited to moderately severe marine and industrial environments. To determine if warranties apply or for material selection advice, please contact your nearest BlueScope sales office.

AUSTRALIAN & INTERNATIONAL STANDARDS

Substrate – AS1397: 2011 (Table 3.5)
Paint Coating – AS/NZS 2728: 2013 Type 4
ISO 9001-2015 Quality System certified

PREFERRED SUBSTRATES

Coating thickness: Nominal 0.05mm (150g/m²) G300S/G550S steel with Activate™ technology (Refer Note 8)



Finish Coat custom formulated Polyester system (Finish coat + Primer = nominal 25µm total) {Refer Note 4 & 5}
Universal Corrosion Inhibitive Primer
Conversion Coating
Aluminum /Zinc /Magnesium alloy coated steel with Activate® technology substrate
Conversion Coating
Universal Corrosion Inhibitive Primer
Backing Coat custom Formulated Polyester System (Backing Coat + Primer = nominal 10µm total {Refer Note 6}

DIMENSIONAL CAPABILITIES*

G550S STEEL		G300S STEEL	
PREFERRED BASE METAL THICKNESS, mm*	WIDTH, mm	PREFERRED BASE METAL THICKNESS, mm*	WIDTH, mm
0.31 – 0.80	914 – 1220	0.31 – 0.80	914 – 1220

Notes
* These dimensions are a reflection of technical capability to produce. Any other sizes may be available on request
Supply conditions may be subject to dimensional restrictions and is 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.

RESISTANCE TO DIRT STAINING

NS BLUESCOPE VIETNAM

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The change in appearance of normal coil-coated products due to weathering is expected to be minimal within one year of installation. Yet, the overall appearance change can be large in some environments, not as a result of changes in the paint system itself, but as a result of severe dirt pick-up which causes darkening of its surface. These effects are more pronounced on light colours than on dark colours. Some atmospheric dirt can actually become engrained into the surface of the paint, causing dirt staining which is difficult to remove.

COLORBOND® Ultra steel is resistant to dirt pick-up and more importantly, RESISTANT to DIRT STAINING.

The appearance changes of normal coil-coated products and COLORBOND® Ultra steel in environments where atmospheric dirt is known to cause dirt-staining problems has been monitored. The samples tested after one year of exposure were not cleaned of dirt or other contaminants but had been exposed to rainfall during the test period. The benefits of using COLORBOND® Ultra steel in this type of environment are clearly evident as shown in TABLE 1 below.

TABLE 1 – 12 MONTHS SAMPLE EXPOSURE COMPARISONS

COLOUR SHADE	TYPICAL APPEARANCE CHANGE (ΔE UNITS CIELAB 2000)	
	NORMAL COIL-COATED PRODUCTS	COLORBOND® Ultra STEEL
Light (e.g. Off White)	10 – 20	≤ 5
Intermediate (e.g. Beige)	5 - 10	≤ 3

EXPECTED PRODUCT SERVICE PERFORMANCE

The appearance of COLORBOND® Ultra steel and other coil-coated products can change over time on exterior weathering not only due to pick-up of dirt but also to changes in the paint system itself such as gloss loss, chalking and fading of pigmentation. Colour change, which is largely due to the changes in pigmentation will depend on the colour chosen. It is measured using a spectrophotometer, according to ASTM D-2244 on surfaces thoroughly cleaned of dirt, chalk, oxidised film and foreign contaminants. The typical appearance changes of standard COLORBOND® Ultra steel colours in normal environments after 10 years of service are given in TABLE 2.

TABLE 2 – EXPECTED COLOUR CHANGE AFTER 10 YEARS IN NATURAL WELL-WASHED EXPOSURE (AS/NZS 1580.457.1 & ASTM D-2244)

COLOUR SHADE	TYPICAL APPEARANCE CHANGE (ΔE UNITS CIELAB 2000)
Light (e.g. White)	≤ 4
Intermediate (e.g. Beige)	≤ 6
Dark (e.g. Eternal Red)	≤ 10

Refer Note 9 & 10

ATTRIBUTES TESTED DURING MANUFACTURE

PROPERTY	TEST & EVALUATION METHOD (S)	RESULTS
Specular Gloss		
60°meter	AS/NZS1580.602.2; ASTM D523	Nominal 25 ± 10 units
Adhesion		
Reverse Impact	AS/NZS2728 (Appendix E)	≥ 10 joules
T-bend	AS/NZS2728 (Appendix F)	Maximum 6T. Refer Note 7
Hardness		
Pencil	AS1580.405.1	HB or harder

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PRODUCT ATTRIBUTES

PROPERTY	TEST & EVALUATION METHOD (S)	RESULTS
Resistance to Abrasion		
Scratch	AS 2331.4.7	Typically 2000g
Flexibility		
T-bend	ASTM D4145	Maximum 10T (no cracking). Refer Note 7
Adhesion		
Natural well washed exposure (15 years)	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 1580.408.4 (Adhesion)	Blister density: ≤3. Blister size: ≤S2. No loss of adhesion or corrosion
Resistance to Corrosion		
QFog (2000 hours)	AS/NZS 1580.481.1.9 (Blisters); AS1580.408.4 (Adhesion), AS1580.481.3 (undercutting, Corrosion)	Blister density: ≤2. Blister size: ≤S2. Undercut from score: ≤1mm. No loss of adhesion or corrosion of base metal. Refer Note 2.
Resistance to Colour Change		
Natural well washed exposure (10 years)	AS/NZS 1580.457.1 & ASTM D2244 (Colour)	ΔE CIELAB 2000: Light colour: ≤4 units; Intermediate colour: ≤6 units; Dark colour: ≤10 units. Refers Notes 9 & 10.
QUV (2000 hours)	ASTM G154 & ASTM D2244 (Colour)	ΔE CIELAB 2000: Intermediate colour: ≤ 5 units
Resistance to Chalking		
Natural well washed exposure (10 years)	AS/NZS 1580.457.1 & AS/NZS 1580.481.1.11 (Chalk Method B)	Chalk Rating: ≤4. Refer Notes 9 & 10
QUV (2000 hours)	ASTM G154 & AS/NZS 1580.481.1.11 (Chalk Method B)	Chalk Rating: ≤4
Resistance to Solvents, Acids and Alkalis		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.1.9 (Blisters)	No discoloration or blistering. Refer Notes 2, 9 & 11.
Resistance to Fire		
Fire test performance	AS/NZS 1530.3	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 0-10 Smoke developed index: 2 rating in scale of 0-10
Resistance to Heat		
Exposure 100°C continuous (500 hours)	ASTM D2244 (Colour)	Colour change ΔE CIELAB 2000: ≤3 units

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1. 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 contact your nearest BlueScope sales office.
2. Product may not be suitable if it is intended to use COLORBOND® Ultra steel in an exterior application within 200m 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, please contact your nearest BlueScope sales office for specialized advice. For selection of the most appropriate COLORBOND® Ultra steel product, please refer to Technical Bulletins TB1a, TB1b, CTB16, CTB21, CTB22.
3. Customers should use product promptly (within 6 months) to avoid the possibility of storage related corrosion.
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 25unit (60°) gloss Finish Coat.
6. 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, but for aesthetic reasons is not recommended for exposure to sunlight. Performance requirements are generally not applicable to backing coats. Where specific Performance requirements are deemed necessary for the reverse surface coating, a “double sided” product should be specified, in which case a topcoat of full nominal thickness will be applied.
7. The minimum internal bend diameters for forming processes to achieve no paint cracking (visible using x 10 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/NZS2728 Appendix L, and also Technical Bulletin TB7). Contact nearest BlueScope sales office to obtain advice on appropriate roll forming lubricants.
10. Values quoted are for panels exposed in accordance with AS/NZS2728. Variations for in-situ performance may occur due complexity of building design and location.
11. COLORBOND® Ultra steel has good resistance to accidental spillage of solvents such as methylated spirits, white sprit, mineral turpentine, toluene, and trichloroethylene and dilute mineral acids and alkalis. However, all spillages should be immediately removed by water washing and drying.

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