

Prepainted - PP

Structural - S

GENERAL DESCRIPTION

Clean COLORBOND® ULTRA MATT prepainted steel, specifically designed by BlueScope, combines long term durability and exceptional corrosion resistance in low gloss finish. To determine if warranties apply, please contact your nearest BlueScope sales office for advice.

TYPICAL USES

Exterior building profiles in applications requiring low gloss finish and excellent corrosion resistance. Suitable from moderate to severe marine or industrial environment. For material selection advice, please contact your nearest BlueScope sales office.

AUSTRALIAN STANDARD

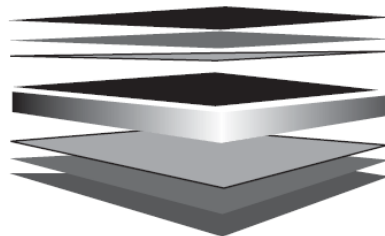
Paint Coating – AS/NZS2728 Type 4; Substrate – AS1397

MALAYSIAN STANDARD

Paint Coating – MS2383 C4; Substrate – MS1196

PRODUCT INFORMATION

PREFERRED SUBSTRATE	ZINCALUME® G550S AZ200 steel (Aluminium/Zinc alloy-coated steel)
	ZINCALUME® G300S AZ200 steel (Aluminium/Zinc alloy-coated steel) (Refer Note 8)
PRETREATMENT	Corrosion resistant proprietary conversion coating
PRIMER COAT	Universal corrosion inhibitive primer. Nominal dry film thickness 5µm each side
FINISH COAT	Custom formulated super polyester paint system with high performance pigments. Nominal dry film thickness 20µm on the top or weather side. The finish coat can, if required, be applied to both sides to provide a double-sided product
BACKING COAT	Custom formulated Bass Grey. Nominal dry film thickness 10µm
COLOUR	A range of standard colours is available. Other specifically required colours may be available on request.



Finish Coat (Nominal 20µm) (Refer Notes 4 & 5)
 Universal Corrosion Inhibitive Primer (Nominal 5µm)
 Conversion Coating
 ZINCALUME® AZ200 Steel Substrate
 Conversion Coating
 Universal Corrosion Inhibitive Primer (Nominal 5µm)
 Backing Coat (Bass Grey, Nominal 10µm) (Refer Note 6)

DIMENSIONAL CAPABILITIES*

ZINCALUME® G550S AZ200 STEEL		ZINCALUME® G300S AZ200 STEEL	
PREFERRED BASE METAL THICKNESS, mm*	MAXIMUM WIDTH, mm	PREFERRED BASE METAL THICKNESS, mm*	MAXIMUM WIDTH, mm
0.35, 0.55	1219	0.35, 0.55	1219
0.42, 0.48, 0.50, 0.60	1230	0.42, 0.48, 0.50, 0.60	1230
0.70, 0.75, 0.80	1219	0.70, 0.75, 0.80	1219

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.

NS BLUESCOPE (MALAYSIA) SDN. BHD. (223136-P)

(Formerly known as BlueScope Steel (Malaysia) Sdn. Bhd.)

Lot 1551, Jalan Bukit Kapar, 42200 Kapar, Selangor Darul Ehsan, Malaysia. Tel: +603-3361 6888 Fax: +603-3361 6889 Website: www.bluescope.com.my

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RESISTANCE TO DIRT STAINING

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.

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

The appearance change of normal coil-coated products and Clean COLORBOND® ULTRA MATT 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 Clean COLORBOND® ULTRA MATT 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	CLEAN COLORBOND® ULTRA MATT STEEL
Light (e.g. Cloudy Matt)	10 – 20	≤ 5
Intermediate (e.g. Oceania Matt)	5 - 10	≤ 3

EXPECTED PRODUCT SERVICE PERFORMANCE

The appearance of Clean COLORBOND® ULTRA MATT 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 change of standard Clean COLORBOND® ULTRA MATT 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. Cloudy Matt)	≤ 4
Intermediate (e.g. Oceania Matt)	≤ 6
Dark (e.g. Ruby Matt)	≤ 10

Notes

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 7 ± 3 units
Resistance to Abrasion		
Scratch	AS2331.4.7	Typically 2000g
Hardness		
Pencil	AS1580.405.1	HB or harder

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PROPERTY	TEST & EVALUATION METHOD (S)	RESULTS
Adhesion		
Reverse Impact	AS/NZS2728 (Appendix E)	≥ 10 joules
T-bend	AS/NZS2728 (Appendix F)	Maximum 6T. Refer Note 7
Natural well washed exposure (15 years)	AS/NZS 1580.457.1	No flaking or peeling. Refer Notes 9 & 10
Flexibility		
T-bend	ASTM D4145	Maximum 10T (no cracking). Refer Note 7
Resistance to Humidity		
Cleveland (500 hours)	ASTM D4545; 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		
Salt spray (1000 hours)	AS/NZS2728 (Appendix I), ASTM B117, AS2331.3.1, AS/NZS 1580.481.1.9 (Blisters), AS1580.408.4 (Adhesion)	Blister density: ≤2. Blister size: ≤S3. Undercut from score: ≤2mm. No loss of adhesion or corrosion. Refer Note 2
Resistance to Colour Change		
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		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.1.9 (Blisters)	No discoloration or blistering. Refer Notes 9 & 11
Resistance to Acids		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.1.9 (Blisters)	No discoloration or blistering. Refer Notes 9 & 11
Resistance to Alkalis		
Exposure	ASTM D1308 (3.1.1) & ASTM D2244 (Colour); AS/NZS 1580.481.1.9 (Blisters)	No discoloration or blistering. Refer Notes 9 & 11
Resistance to Fire		
Exposure	AS/NZS 1530.3	Ignibility 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
Resistance to Heat		
Exposure 100°C continuous (500 hours)	ASTM D2244 (Colour)	Colour change ΔE CIELAB 2000: ≤3 units

IMPORTANT NOTES

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. If it is intended to use Clean COLORBOND® ULTRA MATT 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, please contact your nearest BlueScope sales office for specialized advice. For selection of the most appropriate Clean COLORBOND® ULTRA MATT 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 7 unit (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 on appropriate rollforming 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. Clean COLORBOND® ULTRA MATT steel has good resistance to accidental spillage of solvents such as methylated spirits, white spirit, mineral turpentine, toluene, and trichloroethylene and dilute mineral acids and alkalis. However, all spillages should be immediately removed by water washing and drying.