Technical Data Sheet

clean Colorbond® ULTRA

Revision 2, February 2020

This literature supersedes all previous issues

GENERAL DESCRIPTION

Clean COLORBOND® ULTRA prepainted steel has been developed by NS BlueScope Vietnam Limited to provide a combined long term durability and an exceptional corrosion resistance in various applications.

TYPICAL USES

Exterior building profiles in applications requiring excellent corrosion resistance. Suited to moderately severe marine and industrial environments (typically 100 – 200m from the source of the severe environment).

STANDARD

Substrate – AS 1397, Paint Coating – AS 2728

PREFERRED SUBSTRATES: ZINCALUME® G300S and G550S Skinpassed AZ200 steel

DIMENSION: (for normal supply)

Preferred Base Metal Thickness (mm)	*Width range (mm)*
0.31 - 0.80	914 - 1220

PRETREATMENT: Corrosion resistant proprietary conversion coating.

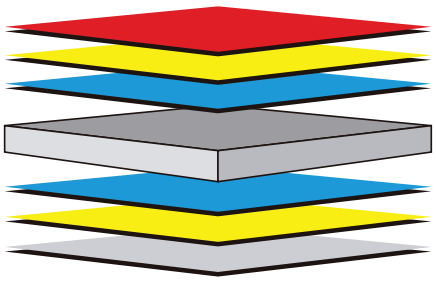
PRIMER COAT: Universal corrosion inhibitive primer. Nominal thickness 5 µm each side.

FINISH COAT: Custom formulated polyester paint system with inorganic pigments. Nominal thickness 20 µm 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 polyester paint system in Bass Grey colour. Nominal thickness 5µm.

COLOUR: A range of standard colours is available. Other specially required colours may be available on request.

GLOSS: Nominal 25% (60°).



← Finish Coat Custom Formulated Polyester System (Nominal 20 µm)
← Universal Corrosion Inhibitive Primer (Nominal 5 µm)
← Conversion Coating
← ZINCALUME® - AZ200 Zinc/Aluminium alloy coated steel substrate
← Conversion Coating
← Universal Corrosion Inhibitive Primer (Nominal 5 µm)
← Backing Coat Custom Formulated Polyester System (Nominal 5 µm)

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. This effect is 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 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 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 steel in this type of environment are clearly evident as shown in ***Table1*** below.

TABLE 1 - 12 months sample exposure comparisons

Colour Shade	**Typical Appearance Change (ΔE unit Hunterlab)**	
	Normal coil-coated products	Clean COLORBOND® ULTRA steel
Light Colour (eg White)	11	3
Intermediate (eg Beige)	6	2
Dark Colour (eg Eternal Red)	3	1

TYPICAL PROPERTIES:

Property	*Measured by*	*Test Method*	*Ref. Standard*	*Results*
Hardness	Pencil	AS/NZA 1580 405.1 NCCA – Tech.Bull.4.2.5	AS 2728	HB minimum
Adhesion	Impact Resistance	AS/NZS 2728 (App.E) NCCA II-Tech.Bull.4.2.6	AS 2728	≥ 10 joules
Flexibility	T-BEND	AS 2935 (App.E)		7T min, no cracking
Heat Resistance	Exposure 100°C continuous	ASTM D2244		Colour change with ΔE Hunterlab<= 3 units
Resistance to Abrasion	Taber Abrasion	AS 2105	AS 2728	≤ 20mg per cycles
Mark Resistance Scratch Resistance				Good Good

EXPECTED PRODUCT SERVICE PERFORMANCE

Film integrity: Clean COLORBOND® ULTRA steel under normal well washed exposure conditions should show no cracking (other than that which may occur during forming), flaking or peeling of the paint for 10 years.

Change in appearance: The appearance of Clean 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, 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, oxidized film and foreign contaminants. The typical appearance change of standard Clean COLORBOND® ULTRA steel colours in normal environments after 15 years of service are given in ***Table 2*** below.

Some chalking may occur to maximum chalk rating of not greater than 4 after 10 years exposure, measured in accordance with Tape off Test, ISO 4628-6.

Note: Improper storage or the use of non approved roll forming lubricants may adversely affect colour stability. Wet storage should be avoided, however, materials which become wet while in bundles should be separated and dried.

Corrosion resistance: (QFog 2000hrs) No more than 2 in blister density, less than size S2 blisters, less than 1mm undercutting from a score and no loss of adhesion.

Humidity resistance: (Cleveland 1000 hrs) No more than 2 in blister density, less than size S2 blisters and no loss of adhesion.

Chalking resistance: (QUV 2000 hrs) A chalk rating of not greater than 4 (Tape off Test, ISO 4628-6), is typically after 2000 hrs testing.

Chemical resistance: The integrity of the paint film on Clean COLORBOND® ULTRA steel is expected to be largely unaffected by accidental spillage of solvents such as methylated spirits, white spirits, mineral turpentine, toluene, trichloroethylene and dilute acids and alkali as long as these spillage are removed immediately by wiping or washing. However, contact with certain of these chemicals may reduce the resistance of the product to dirt pick-up.

Use under adverse condition: If it is intended to use Clean COLORBOND® ULTRA steel in an exterior application within 1km of salt marine locations, severe industrial or unusually corrosive environment, in areas not washed by rain, or in end uses where it will be wholly or partly buried in the ground, please contact your NS BlueScope Vietnam Limited office for specialized advice.

Table 2 – Expected Colour Change After 15 Years

Colour Shade	*Typical change(ΔE)*
Light Colour (eg White)	6
Intermediate (eg Beige)	9
Dark Colour (eg Eternal Red)	15

Table 3 – Fire Hazard Properties

Ignitability Index	(range 0-20)	0
Spread Of Flame Index	(range 0-10)	0
Heat Involved Index	(range 0-10)	0
Smoke Developed Index	(range 0-10)	0-1

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