

COLORSTEEL® ENDURA®

PRODUCT DESCRIPTION

The COLORSTEEL® Endura® paint system consists of a ZINCALUME® steel substrate to which a prepainted finish system is applied. The system is designed to provide protection against corrosion in areas where moderate to severe environmental conditions are experienced. COLORSTEEL® Endura® product is suitable for a wide range of rollformed roof and wall claddings, rainwater accessories and general building products. The COLORSTEEL® Endura® paint system will exceed the service life of most traditional post painted systems.

DURABILITY

When rollformed, installed and maintained in accordance with New Zealand Steel's recommendations, COLORSTEEL® Endura® prepainted steel is warranted by New Zealand Steel to meet the performance requirements of NZBC B2.3(c) for a 15 year durability when used for the manufacture of roof and wall claddings. COLORSTEEL® Endura® products are expected to fade uniformly over the surface, the extent being no more than 8 Hunterlab units on the Delta E scale, and have a chalk rating of 4 (AS 1580 481.1.11, 1998) after 10 years exposure.

COMPOSITION

The COLORSTEEL® Endura® prepainted steel substrate is steel strip, commonly 0.40 mm or 0.55 mm thick and coated with a 45% zinc, 55% aluminium alloy to a nominal coating mass of 150g/m² manufactured in accordance to AS1397:2001. A range of thicknesses, widths and strengths are available. Following pretreatment, a corrosion inhibitive primer and top coat are applied to the outer surface and a corrosion inhibitive primer and a backer to the reverse side. These coatings are oven cured to provide colour and corrosion performance.

APPEARANCE

COLORSTEEL® Endura® products are available in a range of colours. The backer coat is Perpetual Grey™.

FIRE TESTING

New Zealand Steel's coated products have been tested in accordance with ISO 5660 Part 1 and Part 2 by CSIRO – Materials Science and Engineering, North Ryde, NSW, Australia.

The tests were performed in accordance with International Standard ISO 5660-1:2002 Reaction to fire tests – Heat Release, smoke production and mass loss rate – Part 1: Heat release rate (cone calorimeter method) and Part 2: Smoke production rate (dynamic measurement). All test specimens were exposed in the horizontal orientation with standard pilot operating.

The Group number was determined in accordance with Verification Method C/VM2 Appendix A Paragraph A1.2 and Paragraph A1.3 of the New Zealand Building Code. The Average specific

extinction area was determined in accordance with Verification Method C/VM2 Appendix A Paragraph A1.2 of the New Zealand Building Code.

Product	Group Number	Average specific extinction area
Galvsteel®	Group 1 - S	2.6m ² /kg
Zincalume®	Group 1 - S	3.8m ² /kg
COLORSTEEL® Endura®	Group 1 - S	132.2m ² /kg
COLORSTEEL® Maxx®	Group 1 - S	107.0m ² /kg

PROFILES

Not all COLORSTEEL® prepainted steel roofing is corrugated. It is available in a range of profiles, from a simple decking profile to the more advanced secret fix systems. They are designed to make full use of the steel properties from which they are engineered.

When designing your home, consider which profile is appropriate - each profile has a minimum pitch below which it should not be installed. Discuss your requirements with the designer or contact your local rollformer for further information.

Rollforming companies operate throughout New Zealand, each offering their own range of profiles. Certain profiles are only suitable for cladding, while others can be used for both cladding and roofing.

Contact your local [rollformer](#) who will be able to show you samples of the profiles and locations where its product has been installed.

IDENTIFICATION

COLORSTEEL® Endura® prepainted steel is identified by a brand applied to the reverse surface, indicating product type and date of manufacture.

AVAILABILITY

COLORSTEEL® Endura® prepainted steel is available ex stock from most roofing distributors in a range of COLORSTEEL® Endura® colours. Where a colour is not available, delivery is normally within two to four weeks, depending on the location of the distributor.

SERVICEABLE LIFE

COLORSTEEL® Endura® coating can be painted to extend its serviceable life. Contact New Zealand Steel for recommendations on overpainting weathered COLORSTEEL® prepainted steel products.

DRINKING WATER

Rainwater collected from roofs clad with products made from GALVSTEEL®, ZINCALUME® steel and COLORSTEEL® prepainted steel, will comply with the provisions of NZBC G12.3.1, provided the water is not contaminated from other sources.

The first 25mm of rainfall from a newly installed roof must be discarded before drinking water collection starts. Where a paint or paint system is applied to the roof, its suitability for the collection of drinking water must be established.

APPLICABLE STANDARDS

All COLORSTEEL® products are supplied to conform to the appropriate NZ standards.

Dimensional Tolerances:

AS/NZS 1365

Organic Finishes:

AS/NZS 2728: Prepainted and organic film/metal laminate products – performance requirements for interior/exterior applications in buildings

AS/NZS 4020: Testing of products for use in contact with drinking water

COLORSTEEL® ENDURA® GUIDELINES FOR USE

LIMITATIONS OF USE

COLORSTEEL® Endura® prepainted steel products are not recommended for use in very severe environments, ie within approximately 100 metres of breaking surf or corrosive industrial emissions. (Very severe marine environments are characterised by heavy salt deposits and the almost constant smell of salt spray in the air.) Refer to New Zealand Steel's [Environmental Categories, Warranties and Product Maintenance Recommendation Brochure](#) for further information on the definition of corrosive environments. (For very severe environments, COLORSTEEL® Maxx® prepainted steel may be suitable). Before using COLORSTEEL® Endura® prepainted steel products near sources of industrial pollution or in geothermal areas, please contact New Zealand Steel's [Technical Market Manager](#).

COLORSTEEL® Endura® prepainted steel products should **not** be used in the following applications:

- Embedded in concrete

- In contact with permanently wet materials
- Water tanks
- In contact with soil, bark or similar
- As concrete formwork
- In intensive animal shelters

Copper or brass pipes must **not** be allowed to discharge onto COLORSTEEL® prepainted steel products or be allowed to come into contact with them. The use of other materials in proximity to COLORSTEEL® prepainted steel products must be in accordance with New Zealand Steel's [Specifier's and Builder's Guide](#). Mixing of brands of prepainted material on the same building is not recommended.

The reaction between ZINCALUME® steel and lead flashings will degrade the ZINCALUME® steel material. Soft zinc or aluminium flashings should be used. Marking with lead pencils is not advised, and sealing washers should be low carbon non-conducting.

MAINTENANCE

Areas of COLORSTEEL® Endura® prepainted steel that are not regularly washed with rain water, such as wall claddings and areas of high risk, must be routinely washed to remove surface deposits to ensure satisfactory life is obtained from the product. Specific maintenance recommendations are given in the table below. Check guttering and downpipes regularly and remove any debris which may lead to ponding or flooding. Always wear soft soled shoes when walking on COLORSTEEL® surfaces to avoid causing damage.

MAINTENANCE RECOMMENDATIONS FOR COLORSTEEL® ENDURA® PRODUCTS USED FOR ROOFING AND WALL CLADDING

	Environment		
	Moderate ISO Category 3	Severe ISO Category 4	Very Severe ISO Category 5
Roof	Rain washing	Rain washing	Not recommended
Wall cladding	Rain washing plus manual washing every year	Not recommended	Not recommended
Unwashed and High Risk Areas	Manual washing every 6 months	Manual washing every 3 months	Not recommended

FIXINGS

- Aluminium and factory painted fixings are acceptable

- Stainless steel, Monel or other copper alloy fixings **must not** be used
- Lead-head nails **must not** be used
- Fixings that meet AS3566 class 3 and 4 are acceptable

For more information, please see [Information Bulletin 10: Fasteners for Roofing and Walling Products](#).

SEALING AND JOINING

- Use only neutral-cure silicone rubber sealants
- Do not use abrasive cutting wheels
- Do not weld, braze or solder

Touch-up Paints

These paints should not be used, as air drying paints have different weathering characteristics to the COLORSTEEL® prepainted steel coating. For more information, see [Information Bulletin 5: Touch-Up Paints and COLORSTEEL® Building Products](#).

Clean-up

All debris (particularly from roofing installation) must be removed from COLORSTEEL® prepainted steel product surfaces at the end of each day's work. Take care not to damage the coating when removing sharp fixing debris. For more information, see [Information Bulletin 7: Swarf Staining of Steel Roofing and Cladding](#).

EXTERNAL MOISTURE

COLORSTEEL® prepainted steel roof cladding must be installed at a minimum of 3° or over the minimum pitch given for the profile by the profile manufacturer, whichever is greater. Factors likely to affect the resistance of COLORSTEEL® prepainted steel to external moisture include the quality of the installation, severity of the climate, roof configuration, material profile and design and execution of junctions between similar materials and other elements.

SPREAD OF FIRE

COLORSTEEL® prepainted steel comprises a combustible surface adhered to a noncombustible substrate. Used on roofs, it meets the requirements of NZBC C3/AS1 in all purpose groups. Refer to C3/AS1 Section 4.0 External Walls and Roofs which covers vertical and horizontal spread of fire.

HAZARDOUS BUILDING MATERIALS

The use of roofing and wall claddings manufactured from COLORSTEEL® prepainted steel in accordance with New Zealand Steel's instructions will meet the nonhazardous performance requirements of NZBC F2.3.1.

HANDLING AND STORAGE

If COLORSTEEL® prepainted steel products are to be stored for any time prior to forming or installation, they must be stored in dry, well ventilated conditions. Storage which allows water (including condensation) to be trapped between the sheets may damage the coating beyond repair. COLORSTEEL® prepainted steel products must be handled carefully during transport, fabrication and fixing to avoid damaging the surface.

WARRANTY

Both COLORSTEEL® Endura® and COLORSTEEL® Maxx® have residential warranties available. The product used and the location of the building determines the warranty period.

The New Zealand Building Code (BIA B2.3.1 Durability) has indicated that non-structural roofing shall have a minimum durability of 15 years (with maintenance).

Our residential roofing warranties meet this requirement. Cladding, fascia and rainwater products also meet the appropriate durability requirements.

The environment of the building location dictates the warranty term.

The New Zealand Steel [Environmental Categories, Warranties and Product Maintenance Recommendations brochure](#) has warranty periods, product recommendations, maintenance requirements and product usage restrictions.

Residential roofing and rainwater products (gutter, fascia and downpipes) warranties are issued by our [Distributors](#). Request one when you order your COLORSTEEL® prepainted steel roof or rainwater products.