

***COLORCOTE***<sup>®</sup>

**TECHNICAL**

**INFORMATION**



***COLORCOTE***<sup>®</sup>

**PRE-PAINTED METAL PRODUCTS**



# Technical Information

ColorCote® ZRX™

Conforms to AS/NZS2728: 2007

Product Type 4 (Table 1.1)

Suitable for ISO9223

Atmospheric Classifications C1- C4

## Description:

A highly durable and corrosion resistant product with high formability, outstanding gloss and colour retention, and premium weatherability.





## Specification

### Substrate:

Hot dipped aluminium/zinc alloy coated steel coil, AZ150 coating weight.  
Manufactured to AS 1397: 2001

### Pretreatment:

Corrosion resistant chromate conversion coating.

### Primer:

High build, flexible corrosion resistant chromated primer on both sides. Nominal film thickness  $16\mu \pm 2\mu$  on the top side and  $10\mu \pm 2\mu$  on the reverse.

### Finish Coat:

70% PVF2 system. Nominal film thickness  $20\mu \pm 2\mu$ . The exterior coat of ColorCote® ZRX™ is a PVF2 (polyvinyl difluoride) paint system containing at least 70% PVF2 resin in the dry paint film.

### Backing Coat:

Shadow Grey (Standard Colour) wash coat,  $5\mu \pm 1\mu$  nominal thickness.

### Gloss:

Typical gloss levels are 23% measured in accordance with ASTM D523-89 (60 degrees). Non standard gloss levels may be available on application.

### Strippable Film:

Products can be supplied with an optional strippable protective film at extra cost. This material has a relatively short life span when exposed to sunlight and weather. It should be removed either just before, or immediately after installation. If stored indoors strippable film should be removed within 12 months of delivery from Pacific Coilcoaters.

## Performance

COLOUR	E HUNTER UNITS 15 YEARS	E HUNTER UNITS 20 YEARS
LIGHT COLOURS e.g. Titania, Gull Grey, Bone White	4	5
INTERMEDIATE COLOURS e.g. Mist Green, Lichen, Terracotta	6	7
DARK COLOURS e.g. Slate, Ironsand, Karaka	8	10

### Outdoor Durability:

ColorCote® ZRX™, under normal well washed conditions of exposure, can be expected to show no cracking (other than that which may occur during forming), flaking or peeling of the paint film for 15 years from date of installation.

Colour change during service will depend on the colour chosen, aspect, design of the structure and the environment. Maximum colour change levels of ColorCote® ZRX™ colours in normal environments after 15 and 20 years of service are given in the table above. Colour change is measured using an instrumental colour

spectrophotometer, according to ASTM D-2244-93, and determined on clean surfaces, free of all dirt, chalk, oxidized film, oil, grease, and other foreign contaminants.

Some chalking may occur. A maximum rating of 2 is expected after 20 years exposure, when measured in accordance with AS/NZS 1580.481.1.11: 1998. Scale is between 0 and 5 with a lower number indicating less chalking.

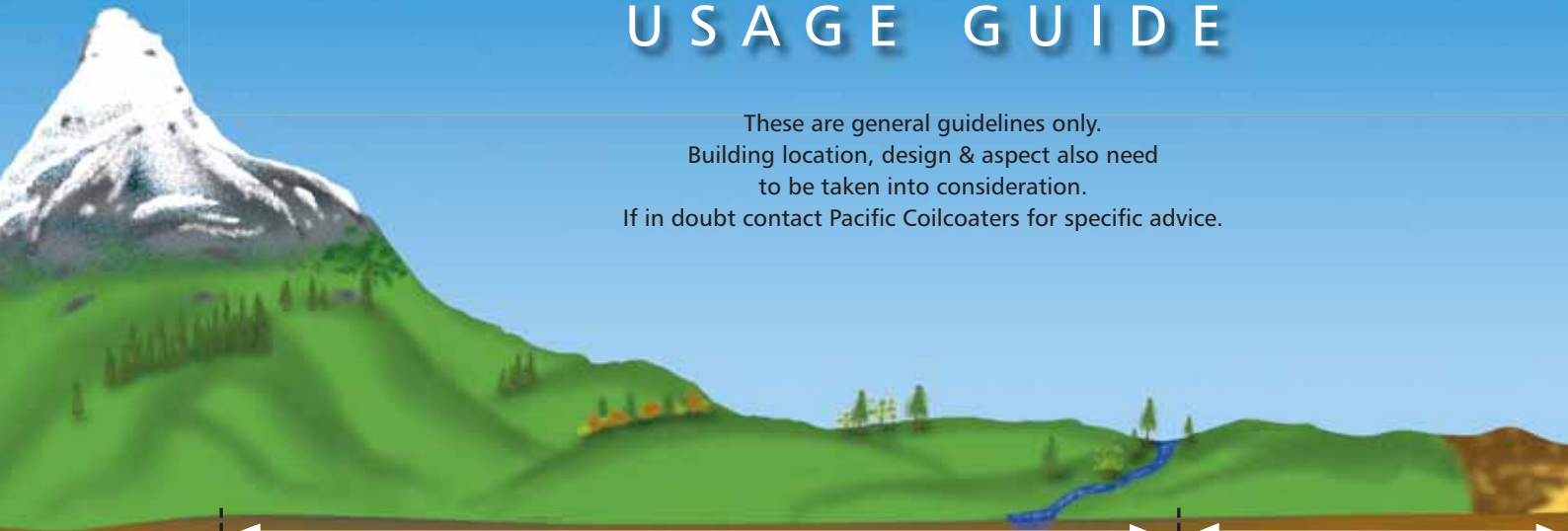
The above are subject to minimum maintenance requirements.



# Atmospheric Environments

## USAGE GUIDE

These are general guidelines only.  
 Building location, design & aspect also need  
 to be taken into consideration.  
 If in doubt contact Pacific Coilcoaters for specific advice.



MILD ISO Category 1-2	MODERATE ISO Category 2	INDUSTRIAL ISO Category 3-4	MARINE ISO Category 3	SEVERE MARINE ISO Category 4
Areas far inland	Inland other than far inland	Areas around major industrial complexes	Areas influenced by coastal salts	<b>Begins</b> anywhere from 100-400 metres in from the beach front of breaking surf and can extend inland
PRODUCT TYPE 2-4				5

## Typical Properties

Mar Resistance: \_\_\_\_\_

Good

Scratch Resistance: \_\_\_\_\_

Good

Impact Resistance: \_\_\_\_\_

AS/NZS2728:2007 Table 2.2 and Appendix E – Greater than 10 Joules.

Pencil Hardness: \_\_\_\_\_

AS/NZS1580.405.1 – F minimum

Bend Test: \_\_\_\_\_

AS/NZS2728:2007 section 2.6.1 and Appendix F – No loss of adhesion or paint cracking when bent around a diameter equal to five times the thickness of the sheet.

Heat Resistance: \_\_\_\_\_

Suitable for continuous service up to 100 degrees C. Continuous service at higher temperatures may cause some colour change and damage to the paint film.



**COLORCOTE®**  
PRE-PAINTED METAL PRODUCTS



**VERY SEVERE**  
ISO Category 5

Very Severe Marine  
Offshore and anywhere within 100-400 metres  
from the water line of areas of breaking surf  
but can extend inland

Industrial and Geothermal

6



## Accelerated Corrosion Tests

Tests are conducted on a flat panel.

Pacific Coilcoaters as a New Zealand manufacturer and supplier of pre-painted metal products for roofing and cladding conducts testing in New Zealand environmental conditions. Test sites are at Penrose, Auckland, and Muriwai Beach, northwest of Auckland.



### Salt Spray

Meets the requirements of AS/  
NZS2728:2007 Sections 2.8 and 2.10.

### Humidity Resistance

Meets the requirements of AS/  
NZS2728:2007 Sections 2.8 and 2.9.

### QUV Resistance

Meets the requirements of AS/  
NZS2728:2007 Sections 2.8 and Table 2.4.

### Chemical Resistance:

Good resistance to accidental spillage of solvents such as methylated spirits, white spirits, mineral turpentine, toluene, trichloroethylene and dilute acids and alkalis.

All spillages should be removed immediately by wiping or washing.

# Recommended End Uses

ZRX™ has outstanding colour and gloss retention and is suitable for roofing, cladding, and rainwater goods. ColorCote® ZRX™ is ideal for interior uses, and for exterior applications such as severe marine and industrial sites where there is a high risk of deterioration from corrosive elements in the environment. ColorCote® ZRX™ can be substituted as a premium alternative to ColorCote® ZR8™.

For information concerning product use in areas not covered by ColorCote® ZRX™ refer to the ColorCote® ARX™ technical information brochure or contact Pacific Coilcoaters for details.

## Roof Pitch

*Do not use a pitch less than three degrees (eight degrees for corrugated profile) to avoid ponding and premature degradation of the coating system.*

## ColorCote® ZRX™ Is Not Suitable For Use In The Following Situations:

- a) **Animal shelters** where excessive ammonia fumes can accumulate due to inadequate venting, or where direct contact with animal effluent can occur
- b) **Water tanks** or areas where a constantly wet environment is maintained
- c) **In direct contact with concrete** or where lime deposits are evident
- d) **In contact with soil.** (Allow a 75mm run off below cladding sheets to ground level).

## Handling & Roll-Forming

To avoid damaging the paint surface the material must be handled carefully during transport and roll-forming.

Pacific Coilcoaters does not recommend the use of roll-forming lubricants on ColorCote® products.

The use of roll-forming lubricants will affect performance of pre-painted metal and will lead to staining and uneven premature fading.

## Storage Of Coil

On no account should coils be allowed to get wet. Rain or condensation is drawn between the surfaces by capillary action, and then cannot evaporate normally. This can cause deterioration of the coating leading to a reduced life expectancy and poor appearance. The same applies for finished roofing and cladding sheets.

Roll-forming performance may be affected if coils are stored for more than 12 months.

## Site Practice

If nestable profiles become wet while closely stacked, formation of wet storage stain or 'white rust' is inevitable.

To minimise the possibility of inadvertent damage:

- a) **Inspect deliveries on arrival.** If moisture is present, individual sheets should be dried immediately with a clean rag and then stacked to allow air to circulate and complete the drying process.
- b) **Well ventilated storage is essential.** Always store metal products under cover in clean, well ventilated buildings.
- c) **Cross stack or fillet sheets** where outside storage is unavoidable and make provision for a fall to allow water to run off. Cover the sheets.

It is the responsibility of the roofing contractor to avoid damaging the roof sheeting during its installation and fixing. Never drag sheets from a pile. Remove by 'turning off' the stack. Lift sheets onto a roof, and do not drag over the eaves or the purlins. Use clean footwear. Remove swarf and other contaminants regularly. Refer to the MRM Code of Practice for further information.

## Installation

Refer to the MRM Code of Practice for correct installation guidelines, particularly in regard to underlays/building papers, penetrations, flashings, fasteners, pitch, etc.

## Touch Up Paint

ColorCote® is a baked on paint system which has different weathering characteristics to standard air drying paints. Do not use touch-up paint on ColorCote® products. Minor scratches should be left alone.

## Clean Up

Installation procedures involving self drilling screws, drills and hacksaws, etc, will leave deposits of swarf and metal particles. These particles including blind rivet shanks, nails and screws should be swept and washed from the roof regularly. Refer to the MRM Code of Practice for further information.

## Dissimilar Metals

When dissimilar metals come into contact with each other, the electric potential difference between the metals establishes a corrosion cell, and accelerated corrosion can occur.

To avoid this problem the following precautions should be observed:

- b) **Avoid** discharges of water from brass or copper pipes on to ColorCote® ZRX™
- c) **Do not use** non-galvanised steel, copper, brass, lead, stainless steel or monel metal in direct contact with ColorCote® ZRX™
- d) **Do not use** lead flashings in contact with ColorCote® ZRX™ products. Soft edge aluminium or notching of flashings are the best solutions
- e) **Do not use** tanalised timber in direct contact with ColorCote® ZRX™ products. Use PVC tape or similar barrier to isolate potential problem points of contact between materials.

## Fastenings

Match corrosion resistance of the fastenings with the service life of the ColorCote® ZRX™ product.

For ZRX™, Class 4 coated screws are recommended.

**Do not use** stainless steel or monel fasteners on ColorCote® ZRX™ products.

**Do not use** galvanised nails on ColorCote® ZRX™ products.

In all cases ensure the fasteners are installed correctly with the ColorCote® ZRX™ product.

For further details refer to the MRM Code of Practice or consult your fastening supplier.

## Sealing & Jointing

Where sealed joints are required, use only neutral cure silicon rubber sealant together with mechanical fasteners such as aluminium rivets.

**Do not weld or solder ColorCote® ZRX™ products.**

## Cut Edge Sealing

For cladding in severe environments, Coil-on clear cut edge protection lacquer must be used to meet warranty requirements.

Coil-on is not mandatory for roofs because of the washing effects of rain. However, it does enhance the cut edge performance of ZRX™.

## Unwashed Areas

These are typically those areas that are not washed by natural rainfall, such as the underside of eaves, sheltered roofs or wall cladding, etc. These areas are excluded from warranty. Pacific Coilcoaters recommends the exclusion of unwashed areas by design wherever possible.

In cases where this is not possible, then a regular washing programme should be put in place. Airborne contaminants should be removed by mechanical washing with water and a soft bristle brush at least every six months, or more frequently if contaminant build-up keeps occurring.



**COLORCOTE**<sup>®</sup>  
PRE-PAINTED METAL PRODUCTS



968 Great South Road, PO Box 12 046, Penrose, Auckland.

Telephone: +64 9 579 9199 Facsimile: +64 9 579 7515

© Copyright PCC 2009

**[www.colorcote.co.nz](http://www.colorcote.co.nz)**

COLORCOTE<sup>®</sup>, ZR8<sup>™</sup>, ZRX<sup>™</sup>, ZM8<sup>™</sup>, ZMX<sup>™</sup>, AR8<sup>™</sup> and ARX<sup>™</sup> are Registered Trade Marks of Fletcher Steel Ltd.  
Pacific Coilcoaters is a trading division of Fletcher Steel Limited a Fletcher Building Limited Business.

October 2009