

COLORCOTE[®]

TECHNICAL

INFORMATION



COLORCOTE[®]

PRE-PAINTED METAL PRODUCTS



Technical Information

ColorCote® ZM8™

Conforms to AS/NZS2728: 2007

Product Type 3 (Table 1.1)

Suitable for ISO9223

Atmospheric Classifications C1- C3

Description:

A high durability product with improved cut edge performance designed to give excellent colour retention and high formability at moderate cost.

ColorCote® ZMX™

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, improved cut edge performance, outstanding gloss and colour retention, and premium weatherability.



ColorCote® ZM8™ Specification

Substrate:

Hot dipped aluminium/zinc/magnesium alloy coated steel coil.

Pretreatment:

Corrosion resistant chromate conversion coating.

Primer:

Flexible corrosion resistant chromated primer. Nominal film thickness $5\mu \pm 1\mu$ on the top side and $5\mu \pm 1\mu$ on the reverse.

Finish Coat:

Flexible exterior acrylic, polyester or modified polyester coating. Nominal film thickness $18\mu \pm 1\mu$.

Note: the finish coat can be applied to one or both sides of the sheet in the same or different colours. Colours outside the standard range may be available depending on colour and quantity.

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.



ColorCote® ZMX™ Specification

Substrate:

Hot dipped aluminium/zinc/magnesium alloy coated steel coil.

Pretreatment:

Corrosion resistant chromate conversion coating.

Primer:

High build, flexible corrosion resistant chromated primer on both sides. Nominal film thickness $16\mu \pm 1\mu$ 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® ZMX™ is a PVF2 (polyvinyl difluoride) paint system containing at least 70% PVF2 resin in the dry paint film.

Note: the finish coat can be applied to one or both sides of the sheet in the same or different colours. Colours outside the standard range may be available depending on colour and quantity.

Backing Coat:

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

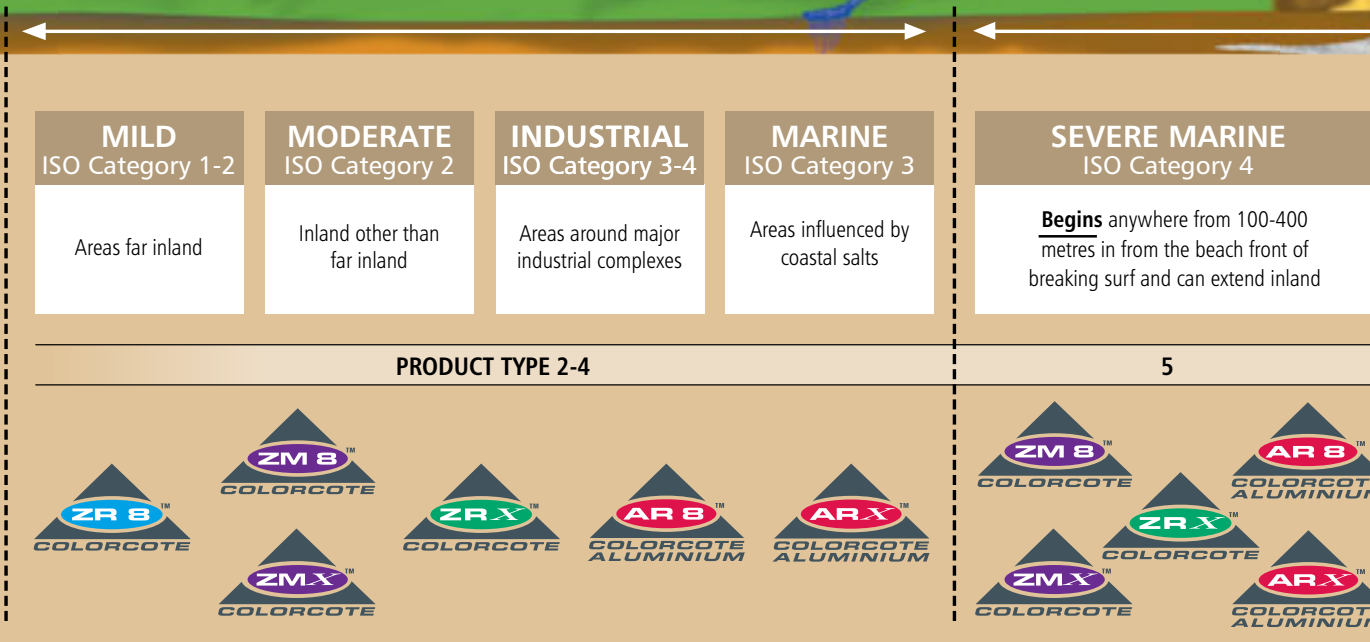
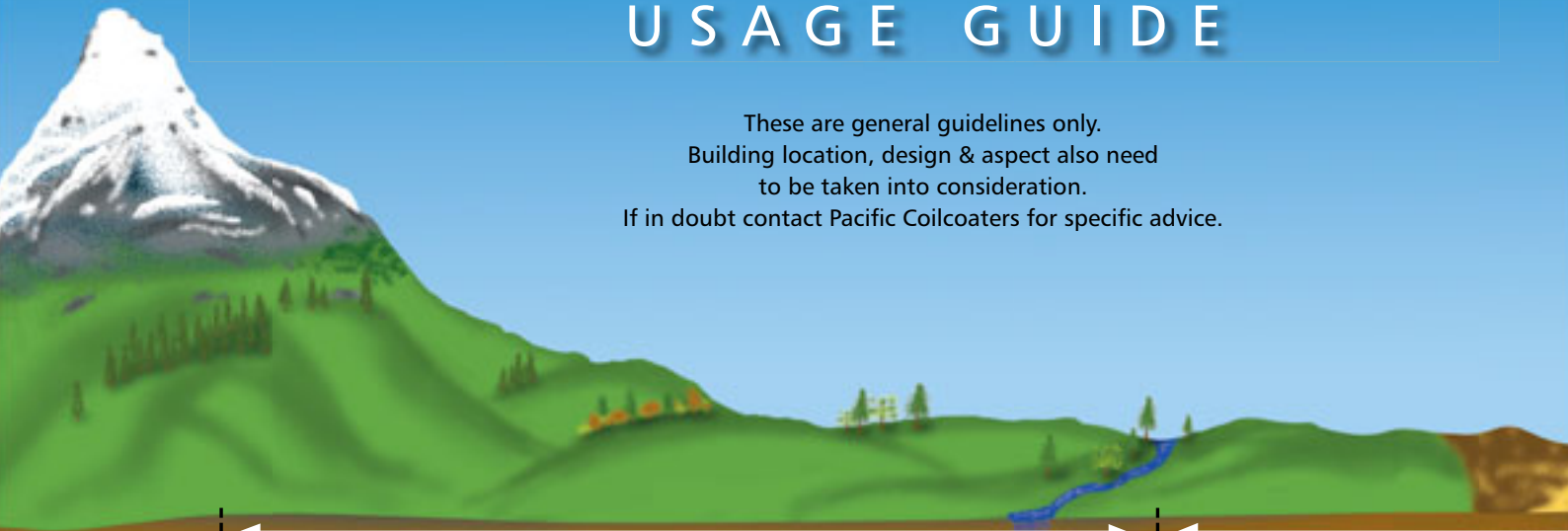
Gloss:

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

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.



Performance

Outdoor Durability:

ColorCote® ZM8™ and ZMX™, 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® ZM8™ colours

in moderate (C2) environments after 10 years of service are given in warranty documentation. 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.

Maximum colour change levels of ColorCote® ZMX™ colours in normal environments after 15 and 20 years of service are given in warranty documentation. Colour change is measured



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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

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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.

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.

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:

ZM8™ and ZMX™ have 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

ZM8™ has very good colour and gloss retention and is suitable for roofing, cladding, and rainwater goods. ZM8™ is ideal for animal shelters, flashings, interior uses, and exterior environments where corrosion levels are moderate. It is also suitable for fencing applications.

ZMX™ has outstanding colour and gloss retention and is suitable for roofing, cladding, and rainwater goods. ColorCote® ZMX™ 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® ZMX™ can be substituted as a premium alternative to ColorCote® ZM8™.

For information concerning product use in areas not covered by ColorCote® ZM8™ or ZMX™ 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® ZM8™ AND ZMX™ ARE NOT SUITABLE FOR USE IN THE FOLLOWING SITUATIONS:

- a) **Water tanks** or areas where a constantly wet environment is maintained
- b) **In contact with constantly running water.**
- c) **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® ZM8™ and ZMX™
- c) **Do not use** non-galvanised steel, copper, brass, lead, stainless steel or monel metal in direct contact with ColorCote® ZM8™ and ZMX™
- d) **Do not use** lead flashings in contact with ColorCote® ZM8™ and ZMX™ products. Soft edge aluminium or notching of flashings are the best solutions
- e) **Do not use** tanalised timber in direct contact with ColorCote® ZM8™ and ZMX™ 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® ZM8™ or ZMX™ product.

Class 4 coated screws will give the best service life with ColorCote® ZM8™ and ZMX™ products. Galvanised nails with prepainted ZM8™ washers can be used on ZM8™.

Do not use stainless steel or monel fasteners on ColorCote® ZM8™ and ZMX™ products.

Do not use galvanised nails on ColorCote® ZMX™ products.

In all cases ensure the fasteners are installed correctly with the ColorCote® ZM8™ and ZMX™ 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® products.

Cut Edge Sealing

Coil-on is not required for ZM8™ and ZMX™.

Minimum Maintenance

The service life is extended by regular washing. A mechanical wash every 6 months is recommended, more often if contaminants build up. At these times inspect for damage and failing fasteners, and repair these.

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. Contaminates 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.



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