

Alumi Gard™

Marine grade aluminium alloy for all roofing and cladding environments, especially 'Very severe'.

colorcote.co.nz

Our premium substrate will literally float your boat

ColorCote® AlumiGard™ is our premium roofing and cladding product with the highest durability, formability and outstanding gloss and colour retention. Only AlumiGard with its superior corrosion resistance is designed for all applications, even very severe environmental conditions, because it's made from the same marine grade aluminium alloy used to build boats.

Choose the right ColorCote roof and it will always last longer.



Leading
New Zealand
innovation in
pre-painted steel
and aluminium



Manufactured
and marketed in
New Zealand for
more than
40 years

AlumiGard™

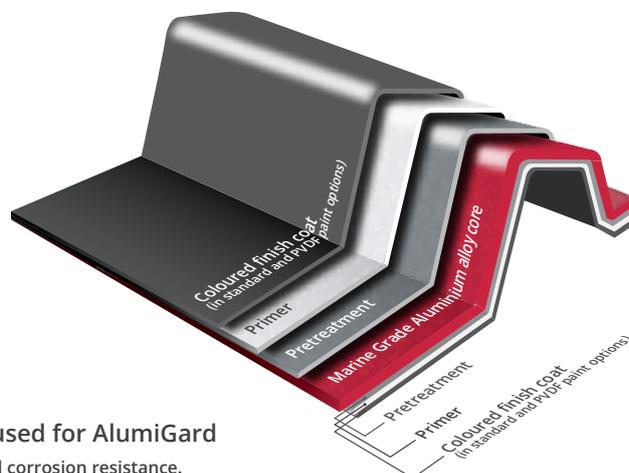
Previously known as AR8™, AlumiGard is made from marine grade aluminium alloy. That's why we can confidently recommend this substrate to give superior protection in the most extreme environments.

Technical

ColorCote AlumiGard
 Conforms to AS/NZS2728:2013
 Suitable for ISO9223
 Atmospheric Classifications C1 – C5I and C5M

Substrate

Aluminium alloy type 5005 or 5052 marine grade, H34 or H36 temper.



Chemical composition or aluminium alloys typically used for AlumiGard

Note: Higher chrome and magnesium levels increase tensile strength and corrosion resistance.

Chemical composition		Si	Fe	Cu	Mn	Mg	Cr	Zn	Other	AL
Alloy	5005	0.30%	0.70%	0.20%	0.20%	0.5-1.1%	0.10%	0.25%	0.15%	Remainder
	5052	0.25%	0.40%	0.10%	0.10%	2.2-2.8%	0.15-0.35%	0.10%	0.15%	Remainder

Pre-treatment

Corrosion resistant chromate conversion coating.

Primer

High build, flexible corrosion resistant chromated primer on both sides. Nominal film thickness $7\mu \pm 1\mu$ 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 $18\mu \pm 2\mu$.

Backing Coat

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

Gloss

Typical gloss levels are $25 \pm 5\%$ measured in accordance with ASTM D523-14 (60 degrees). A range of our colours can also be supplied in a low gloss version if required.

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 ColorCote.

Need an extra durable finish?

AlumiGard X (previously known as ARX) uses exactly the same aluminium substrate but comes with a more protective paint system designed for use in chemical, industrial or geothermal environments.

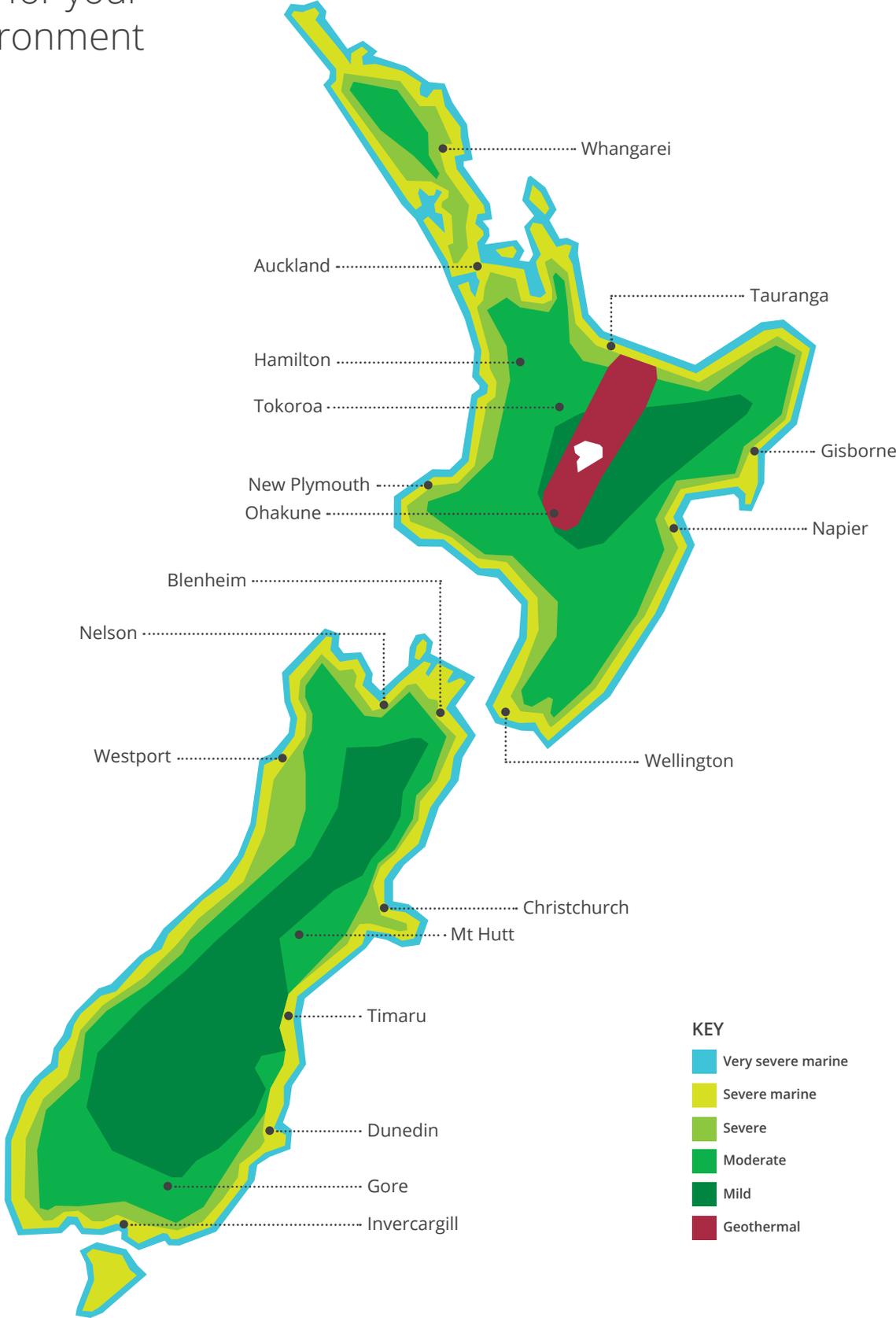
Technical

ColorCote AlumiGard X
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Finish Coat

70% PVDF system (Polyvinylidene Fluoride). Nominal film thickness $20\mu \pm 2\mu$. The exterior coat of ColorCote AlumiGard X is a PVDF paint system containing at least 70% PVDF resin in the dry paint film.

Choose the right roof for your environment



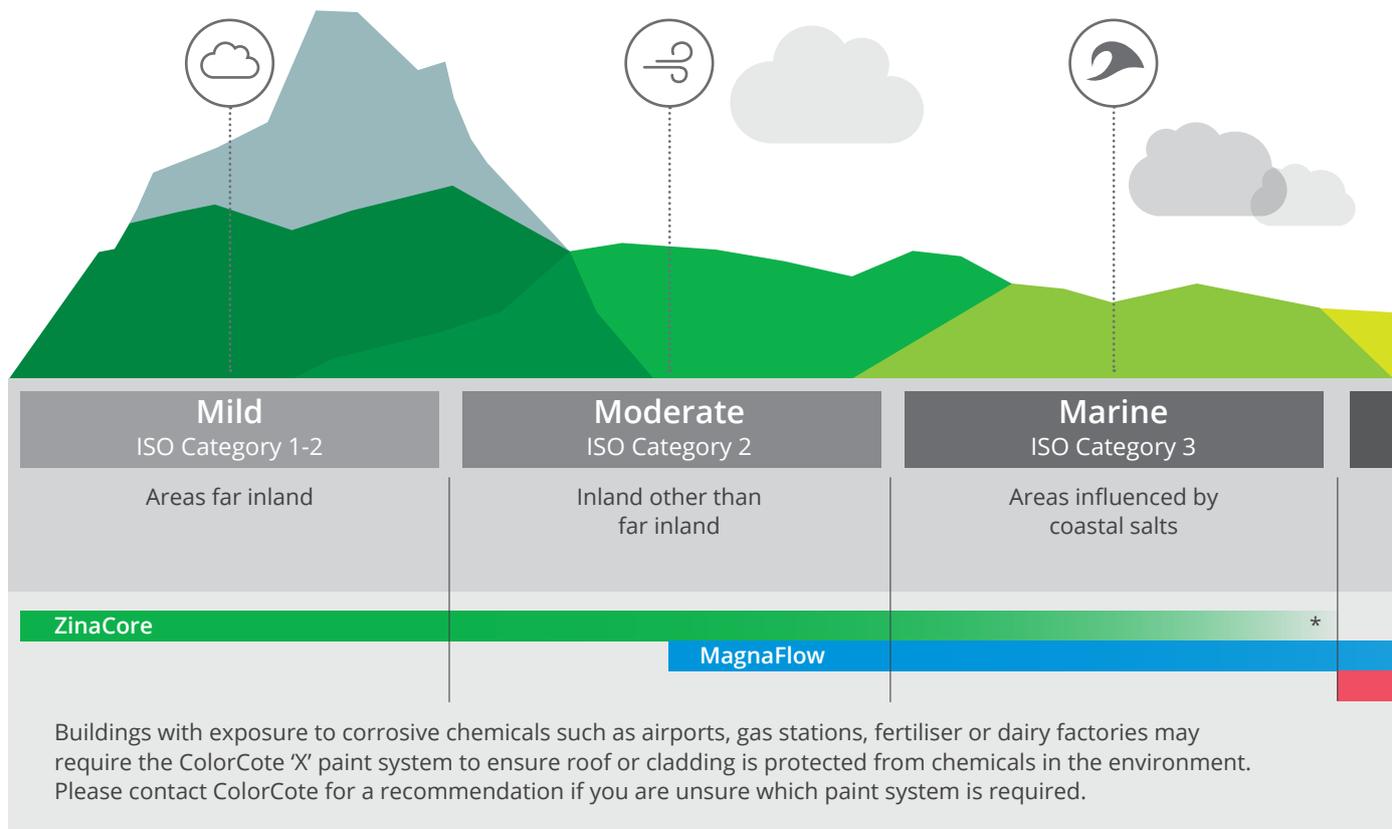
KEY

Very severe marine
Severe marine
Severe
Moderate
Mild
Geothermal

Representative of NZ environmental classification borders only. Contact ColorCote via the warranty enquiry form online or by using the free ColorCote app to determine the environmental classification, recommended product and warranty information for your specific roof or cladding project.

Atmospheric environments

Usage guide



AlumiGard performance testing



Scratch resistance

Good scratch resistance. Testing includes needle scratch test – no marking of paint surface when a needle with a 2kg weight attached is drawn across. ASTM D5178-13.



Impact resistance

AS/NZS2728:2013 Table 2.2 and Appendix E. No loss of paint adhesion after a test piece is struck on the reverse side with a specified force, in line with the test methodology described in Appendix E.



Bend test

AS/NZS2728:2013 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°C. Continuous service at higher temperatures may cause some colour change and damage to the paint film.

Tested under New Zealand's most demanding environmental conditions.

Results from lab tests are backed up with ongoing testing in New Zealand environmental conditions. Test sites are in Penrose, Auckland and Muriwai Beach, northwest of Auckland, providing real world testing in demanding industrial & marine environments.



Salt spray

Meets the requirements of AS/NZS2728:2013 Sections 2.8 and 2.10



Humidity resistance

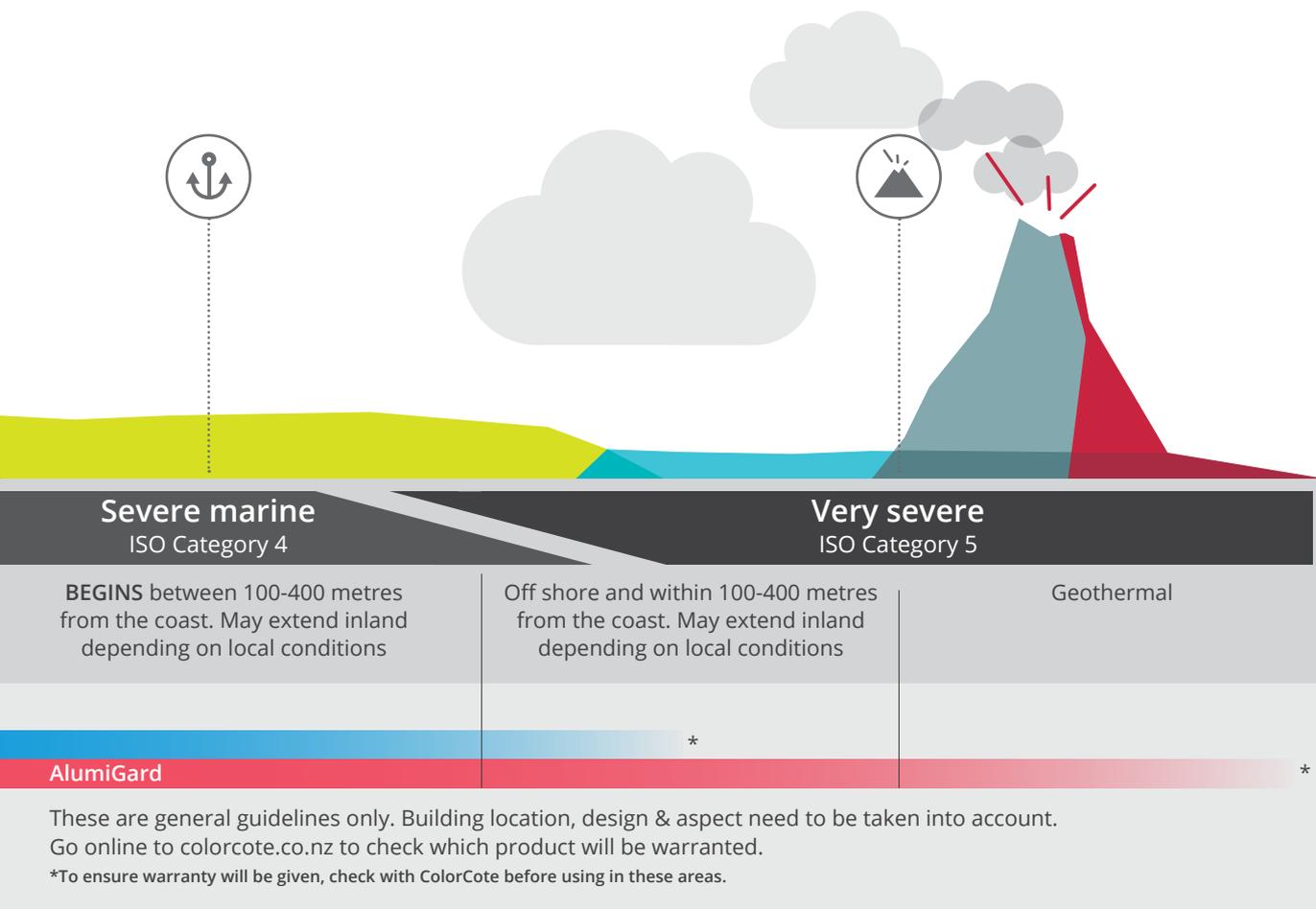
Meets the requirements of AS/NZS2728:2013 Sections 2.8 and 2.9



QUV resistance (durability of coating system)

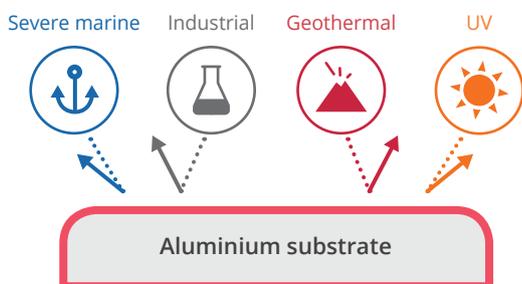
Meets the requirements of AS/NZS2728:2013 Section 2.8 and Table 2.4

Note: Tests are conducted on a flat panel.



Ultimate Corrosion Protection

AlumiGard is suitable for all roofing and cladding applications, even in very severe marine and geothermal areas where there is a high risk of deterioration from corrosive elements. This is due to aluminium's ability to 'self-pacify', or spontaneously form a thin and impermeable oxide layer which prevents further oxidation.



The outer layer is an acrylic or polyester top coat baked on a polyester primer, resisting UV damage for outstanding colour and gloss retention. While the purchase and installation costs of AlumiGard are higher, its durability may be twice that of steel, giving you decades of worry-free protection in the harshest environments.

Warranty terms

Depending on the environment, Pacific Coilcoaters offers warranties of differing lengths on AlumiGard for residential buildings.

		Environment (ISO CAT)		
		1-3	4	5
Roofing	Paint	18 yrs	15 yrs	15 yrs
	Perforation	30 yrs	30 yrs	25 yrs
Wall cladding	Paint	15 yrs	15 yrs	15 yrs
	Perforation	25 yrs	20 yrs	20 yrs
Guttering & Downpipes	Paint	10 yrs	10 yrs	10 yrs
	Perforation	12 yrs	12 yrs	10 yrs
Fascia	Paint	10 yrs	10 yrs	10 yrs
	Perforation	15 yrs	15 yrs	15 yrs

Refer to specific warranty information for full terms and conditions, including exclusions and minimum maintenance requirements. Buildings close to industrial areas which are exposed to corrosive chemicals may require AlumiGard X (for added protection via PVDF paint). Visit colorcote.co.nz and complete the warranty enquiry form.

Performance

ColorCote AlumiGard or AlumiGard X pre-painted aluminium products are excellent solutions for roofing and cladding in all environments, particularly Very Severe.

Outdoor durability

ColorCote AlumiGard and AlumiGard X, 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 the date of installation.

Colour change during service will depend on the colour chosen, aspect, design of the structure and the environment.

Some chalking may occur. A maximum rating of 2 is expected after 20 years exposure, when measured in accordance with AS/NZS1580.481.1.11:1998.

Scale is between 0 and 5 with a lower number indicating less chalking.

The above are subject to minimum maintenance requirements.

Design information

Thermal movement

When using AlumiGard and AlumiGard X aluminium, only thermal movement along the sheet length need be considered, as thermal movement across the sheet is accommodated by the profile shape. Installation should allow for the amount of thermal movement likely to occur over the determined roof temperature change.

When pre-painted AlumiGard and AlumiGard X roofing and cladding is fixed to a steel structure, both the structure and the AlumiGard/AlumiGard X expand and contract under the same thermal influence.

Although aluminium has twice the coefficient of expansion as steel (0.024mm/m per °C) the effect of this is often overestimated.

Note: As an approximation, pre-painted aluminium expands 1.2mm/m over a 50°C temperature change.

The temperature extremes of any metal roof will depend on a number of factors, especially the surface colour. The use of light colours will help reduce the thermal absorption of the paint coating and the subsequent thermal expansion.

Contact your roofing manufacturer about thermal movement and maximum lengths as well as fastening or fixing options.

Recommended end uses

AlumiGard and AlumiGard X have outstanding colour and gloss retention and are suitable for roofing, cladding, and rainwater goods. ColorCote AlumiGard and AlumiGard X are ideal for interior uses, and for exterior applications such as 'severe marine' and industrial sites where there is a very high risk of deterioration from corrosive elements in the environment. These include salt-laden, geothermal and heavy industrial environments. ColorCote AlumiGard and AlumiGard X can be substituted as a premium alternative to ColorCote ZinaCore, ZinaCore X, MagnaFlow and MagnaFlow X.

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.



Installation

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

Corrosion resistance

In very aggressive environments ColorCote AlumiGard and AlumiGard X will give superior protection from environmental effects. Care should be taken to avoid galvanic attack when AlumiGard or AlumiGard X is used in conjunction with certain other materials. Flashings should be AlumiGard or AlumiGard X and fastenings should be aluminium or austenitic stainless steel.



Important

Care must be taken when using ColorCote AlumiGard and AlumiGard X pre-painted aluminium products with the following:

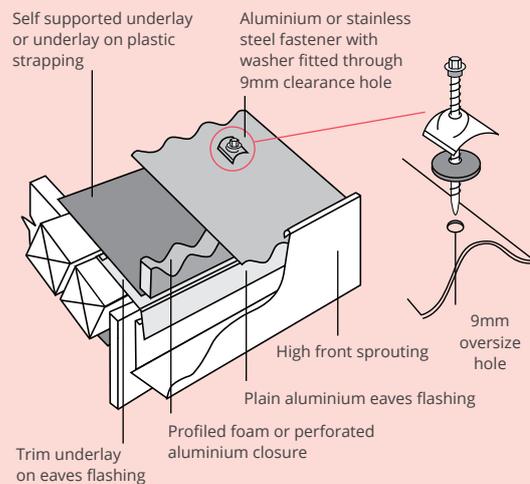
- **Steel.** If AlumiGard or AlumiGard X is in contact with unpainted steel, the two surfaces must be isolated by an inert membrane.
- **Cement.** Wet cement can have a corrosive effect on AlumiGard and AlumiGard X, so care should be taken to avoid cement splashes on the material. If this does occur it should be cleaned off immediately.
- **Concrete and plaster.** The structural properties of AlumiGard and AlumiGard X are not significantly affected by contact with these materials. However, there may be some discolouration especially in wet conditions. Therefore, the AlumiGard or AlumiGard X material should be protected by an inert membrane at the points of contact.
- **Wood.** Unseasoned wood and certain timbers may contain acids or chemicals which can cause galvanic corrosion. In mild atmospheres it is enough to seal the timber surface with an inert membrane at the points of contact with the AlumiGard or AlumiGard X. In severe and very severe conditions the two surfaces must be fully isolated by a gasket or rubber, neoprene or similar material.

Fastenings

Aluminium or 304 stainless steel screws will give the best service life with AlumiGard.

Oversized holes with profiled metal washers must be used to prevent crevice corrosion. They are also required for expansion and contraction. In very severe environments, isolate the stainless steel fasteners from the aluminium substrate using profiled washers and/or grommets to prevent corrosion. In all cases ensure the fasteners are installed correctly.

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



- **Copper and brass.** In no circumstances should AlumiGard or AlumiGard X be used in contact with brass, copper, or copper alloys as AlumiGard or AlumiGard X will corrode very quickly. If water runs off brass or copper onto AlumiGard or AlumiGard X, rapid corrosion can occur.

Underlay requirements

Safety mesh and some kinds of wire netting can be damaging to aluminium roof cladding, as salt-laden air can corrode galvanised underlay support and allow corrosion to occur at the netting contact points. To avoid this, cladding should be separated from the underlay by a high density polystyrene batten or alternative inert underlay support. For further details, refer to the MRM Code of Practice.

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:

- **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.
- **Well ventilated storage is essential.** Always store metal products under cover in clean, well-ventilated buildings.
- **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 the 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.**

Handling and rollforming

ColorCote does not recommend rollforming lubricants as they will affect performance of pre-painted metal and will lead to staining and uneven, premature fading.

Storage of coil

Do not allow coils to get wet, as rain and condensation cause coating deterioration. Rollforming performance may be affected if coils are stored for more than 12 months.

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 metal particles which should be swept and washed from the roof regularly, **Refer to the MRM Code of Practice for further information.**

Sealing and 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 AlumiGard or AlumiGard X products.**

Cut edge sealing

Coil-on is not required for ColorCote AlumiGard and AlumiGard X.

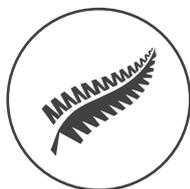
Minimum maintenance

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

Unwashed areas

The underside of eaves, sheltered roofs or wall cladding etc are not washed by rainfall, and are excluded by warranty. ColorCote recommends the exclusion of unwashed areas by design wherever possible.

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



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