

# Zincalume<sup>®</sup>

COATED STEEL

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NEW ZEALAND  
STEEL

# Continuing a tradition of dependability

ZINCALUME® coated steel combines the corrosion protection of aluminium with the sacrificial protection of zinc, giving the advantages of both metals. The resulting alloy coating enhances corrosion resistance, making it ideal for applications like roofing and cladding.

ZINCALUME® is recommended for moderate inland and moderate coastal environments (ISO Category 2&3). Refer to the Environmental Categories & Product Maintenance Recommendations Brochure for detailed information on our warranties.



## Corrosion resistance

ZINCALUME® coated steel has long term, corrosion resistance in many atmospheric conditions.

Test sites from around the world have provided a wealth of information over the past 50 years on the comparative performance of galvanised versus ZINCALUME® coated steel products.

Corrosion rates are determined by exposing samples of ZINCALUME® coated steel and galvanised steel on standard test racks and regularly monitoring the coating performance over a number of years.

Though corrosion rates vary according to the severity of conditions, ZINCALUME® coated steel out-performs galvanised coatings in almost all environments (refer to 'Where not to use ZINCALUME® coated steel' for a list of exemptions).

## Appearance

ZINCALUME® coated steel has a finely spangled silvery matt finish. After exposure the surface finish darkens over time as the resin coating weathers away. This can occur at varying rates due to differences in aspect, degree of shading and the effect of rain rivulets over the ZINCALUME® surface.

This change is a natural one and is visual only. The protective properties of the product are not affected.

## Painting ZINCALUME® coated steel

ZINCALUME® coated steel is readily paintable using good quality primers and water-based acrylic topcoats. Paint manufacturers' instructions should be followed.

Dirt, grease and any loose material must be cleaned off so the surface is clean and dry prior to the first coat being applied.

However, it is important to note the ZINCALUME® coated steel warranty does not cover failure caused by post paint systems. Where a painted roof is desired, New Zealand Steel recommends the use of COLORSTEEL® roofing specified for the environmental category of the building project.

## Where not to use ZINCALUME® coated steel

- Formwork in contact with wet concrete
- Embedded in concrete
- Animal shelters where ammonia levels are constantly high
- Fertiliser storage sheds and containers
- Culverts, or where ZINCALUME® coated steel material is buried in the ground
- Water tanks
- Highly alkaline environments (e.g. cement manufacture)
- Coolroom products.



## Flashings and accessories

Flashings and ridge capping should be manufactured from the same coating system as used for the main roof. Extended ridge caps, soft zinc, or practices such as cutting and notching are recommended.

Where penetration flashings are required, neoprene or silicone rubber, EPDM, aluminium or soft zinc all give excellent performance. Lead is not compatible with ZINCALUME® coated steel and must not be used as it will promote corrosion.

## Marking ZINCALUME® coated steel

Black lead pencils must never be used for marking GALVSTEEL®, ZINCALUME® coated steel or COLORSTEEL® prepainted steel products. The carbon in the pencil promotes corrosion that will etch the surface, leaving a permanent mark.

## Maintenance

All roofing and cladding products are subject to the cumulative effects of weather, dust and other deposits. Normal rain washing will remove most accumulated atmospheric contaminants from roofs. Refer to the Environmental Categories & Product Maintenance Recommendations Brochure for more information.

### UNWASHED AREAS

ZINCALUME® coated steel performs well in most areas not regularly washed by rainwater. However, as with any steel based product, regular washing of areas not naturally rain washed is essential to ensure that a satisfactory life is realised from the product.

### RAINWATER SYSTEMS

Rainwater collected from roofs clad with ZINCALUME® coated 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 from the paint manufacturer.

## Working with ZINCALUME®

ZINCALUME® coated steel and galvanised products have very similar working characteristics. However, there are a few characteristics that you should be aware of:

### PROTECTION AT CUT EDGES

At the cut edge, ZINCALUME® coated steel provides similar protection to galvanised coatings. The zinc/aluminium alloy coating of ZINCALUME® coated steel provides galvanic protection to bare steel exposed at cut edges and by deep scratches.

### PASSIVATION

Surface passivation enhances the protection of the galvanised and ZINCALUME® coated steel product during storage, forming, handling and fixing. It largely eliminates the need for rollforming oils, offers improved wet stack

corrosion resistance and generally makes the product more mark resistant during handling and fixing.

### HANDLING AND STORAGE

Although passivation provides improved protection during storage, care should still be taken. If ZINCALUME® coated steel becomes wet during storage, the product should be immediately separated, wiped with a clean cloth and placed in a position where it can completely air dry.

### FORMING

ZINCALUME® coated steel is suitable for all but the most severe forming operations. With ZINCALUME® coated steel, the passivation system acts as a dry lubricant and in most cases will eliminate the need for additional lubrication in most forming operations. Solvent-based lubricants must not be used.

### JOINING AND SEALING

ZINCALUME® coated steel cannot be soldered. To join ZINCALUME® coated steel use a neutral cure silicone sealant in conjunction with mechanical fasteners such as blind rivets. Care should be exercised in the choice of rivets. Aluminium rivets are recommended. Monel, stainless steel and carbon steel rivets must not be used.

### FASTENERS

Fasteners should be suitable for the environment and comply with the following conditions:

- Stainless steel fasteners should not be used with ZINCALUME® coated steel in any environment
- Lead headed nails must not be used
- Use low carbon (<15%) non-conductive sealing washers.





For more information about  
NEW ZEALAND STEEL  
products call **0800 100 523**  
or visit **colorsteel.co.nz**

**NOTE:** Buyers and users of New Zealand Steel products and services must make their own assessment of the products for their own conditions. All queries regarding product specification, purpose or application should be directed to New Zealand Steel, phone 0800 100 523.

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