

Incompatible Materials



Consider Compatibility & Combat Corrosion

To prevent accelerated corrosion when using two separate metallic materials alongside each other, follow this simple guide. It outlines industry best practice in terms of appropriate coating applications, flashings, capping and, in the case of materials such as lead and copper, where certain COLORSTEEL® products may be incompatible in the presence of moisture or when water flows from one onto another.

Compatibility counts. Consider it at the start of your building project.

RECOMMENDATION

Flashings and ridge capping should be manufactured from the same coating system used for the main roof area to ensure equal durability.

For COLORSTEEL® products, extended ridge caps, soft edge or practices such as cutting and notching are recommended.

Where penetration flashings are required, neoprene, silicone rubber, EPDM, aluminium or soft zinc all offer excellent performance.

COMPATIBILITY

When two different metals are in contact and moisture is present, one metal may suffer accelerated corrosion, while the less reactive metal remains protected. This is known as galvanic or bi-metallic corrosion. A similar problem can also occur with water flowing over dissimilar metals.

COPPER AND BRASS

Copper and brass are not compatible with COLORSTEEL® products. Particularly when in contact with water or where water can flow from copper/brass onto COLORSTEEL® products. All care must be taken to prevent the overflow of water from copper or brass on to roofing and guttering material. When using copper gutters, consideration must be made for potential splash back onto the long run roofing material.

LEAD

Lead is not compatible with COLORSTEEL® products. Corrosion will occur from contact between water run-off from lead to COLORSTEEL® products.

If lead is used with COLORSTEEL® products, a suitable barrier paint system must be applied to both surfaces of the lead to ensure that there is no metal contact or indirect contact through water run-off.

Consideration must be given to the choice and maintenance of the barrier material or coating system. It is very important to ensure that it continues its insulation function for the expected life of COLORSTEEL® products. In most cases, the expected durability of the products will far exceed that of the barrier system, unless regular maintenance of the barrier system is carried out.

For transverse flashings, the use of a notched flashing, or a malleable flashing of soft aluminium or perforated aluminium is recommended.

STAINLESS STEEL

Stainless steel is not compatible with COLORSTEEL® products in wet contact. Water run-off from stainless steel onto COLORSTEEL® products is acceptable.

Compatibility of materials in contact

CLADDING MATERIAL	WET CONTACT WITH:	
MAXAM™ & ALTIMATE®	Bare Aluminium	✓
	Bare Galvanised	✓
	Bare Zincalume	✓
	Copper / Brass	✗
	Stainless steel	✗
	Plastic / Glass	✓
	Concrete	✗
	Timber	✗
	Butyl Rubber	✗

Compatibility of materials subject to run-off

CLADDING MATERIAL	RUN-OFF FROM:	
MAXAM™ & ALTIMATE®	Bare Aluminium	✓
	Bare Galvanised	✓
	Bare Zincalume	✓
	Copper / Brass	✗
	Stainless steel	✓
	Plastic / Glass	✓
	Concrete	●
	Untreated Timber	✓
	Treated Timber	●
	Butyl Rubber	✓

KEY: ✓ Ok | ✗ Not ok | ● Avoid where possible



RUN-OFF FROM INERT MATERIALS

The zinc coating on galvanised steel products develops a protective surface film as a result of natural weathering. Rainwater and condensation dissolves small amounts of minerals and salts from the zinc surface. These minerals and salts promote and maintain the protective film and enhance the corrosion resistance of downstream galvanised steel products (eg: lean-to roofs, gutters and valleys). However when rainwater flows over, or is collected from roofing materials which do not promote this protective film (Inert Materials), accelerated corrosion of unpainted galvanised steel roofs and gutters can occur. Some examples of inert materials are COLORSTEEL®, ZINCALUME® steel, glass, fibreglass, glazed tiles, PVC, acrylic, stainless steel and aluminium.

To achieve maximum life from your rainwater goods we recommend that they are manufactured from COLORSTEEL® products.

Unpainted galvanised steel should not be used for roofing or rainwater goods, including valleys and gutters, to collect water run-off from COLORSTEEL® products or any other inert material.

Our line on lead

It's common practice to use lead as a flashing material on concrete tile roofs.

However, New Zealand Steel does not recommend the use of lead with COLORSTEEL® products.

Guidelines for rainwater goods

The following guidelines apply only to the use of lead flashings on concrete tile roofs where COLORSTEEL® rainwater goods are used.

To be clear, these guidelines DO NOT APPLY to the use of lead flashings with COLORSTEEL® roofing profiles.

1. In moderate and severe environments COLORSTEEL® Maxam™ rainwater goods may be used on concrete tile roofs where primed or painted lead flashings are in use. The paint system must be maintained in a sound condition.
2. Where COLORSTEEL® products have been used for rainwater goods in conjunction with painted or unpainted lead, and corrosion has occurred due to that lead, New Zealand Steel will not accept responsibility for a claim.



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