



PRODUCT GUIDE

# ROOFING SOLUTIONS

ROOFING, CLADDING AND RAINWATER SYSTEMS





# TECHNICAL DETAILS

## MATERIALS

All our products are available in a wide range of materials and finishes. The following are some of the options:

### Metallic Coated:

Galvanised Steel, Zinc/Aluminium coated steel.

### Pre-Painted Steel:

COLORSTEEL® ENDURA®, COLORSTEEL® MAXX®, ColorCote® ZinaCore™ and ColorCote® MagnaFlow™.

### Pre-Painted Aluminium:

ColorCote® AlumiGard™.

### Other:

Aluminium plain or mill finished, stainless steel, pure copper or solid zinc, all subject to profile choice and material availability.

## MINIMUM PITCH

To comply with E2/AS1 the recommended minimum pitch for roofing is:

CUSTOM ORB	SIX RIB	ALL OTHER ROOFING PROFILES
8°	4°	3°

## STORAGE

Products are despatched from the factory in top condition, however the material can be damaged before installation by incorrect storage practices. Premature deterioration due to incorrect storage may be avoided if these simple guidelines are followed:

- On arrival, ensure sheets are dry. If wet, open the pack and separate the sheets to allow them to dry. Store packs of the product off the ground in a sheltered position providing some fall to allow water to run off. Protect packs with a loose fitting waterproof cover, allowing air to circulate.
- Contact with wet cement should be avoided at all times.

## INSTALLATION

The installation of metal roofing products is a specialised field requiring knowledge and experience of numerous issues with regard to trade practice and material compatibility.

- Poor handling prior to or during installation can cause damage which may affect the appearance and ultimate performance of the product. Don't handle sheets roughly or carelessly or drag or slide sheets over each other or rough surfaces, as damage to the coating may occur. Equipment used to handle the sheets should be clean and free of dirt and grit.
- Soft-soled shoes should be worn whenever walking on the product to prevent damage to the coating; traffic up the roof should be in the pans of the profile and across the roof should be on the purlin line.
- Prior to installation, ensure that the tops of the purlins or girts are all in the same plane; if packing or easing is necessary ensure this is not to the detriment of the connection between the fastener and the structure.
- Sheets should be lapped away from the line of sight wherever possible to enhance aesthetic appeal and all sheets should be stop ended at the top, and lipped at the bottom on pitches below 8°.
- Ensure that the anti-capillary edge is fitted as the external overlap and is visible from the top side.
- The use of touch-up paints is not recommended; if a pre-painted sheet is excessively damaged by scratching, it should be replaced. Accessories should be colour-matched prior to installation.
- Regularly clean up the area by sweeping swarf, offcuts, rivet shanks and loose fasteners with a soft-bristled broom. Collect and remove all debris daily as unsightly staining from swarf and other unprotected steel items can occur overnight.
- The strippable film applied to some prepainted products must be removed within two weeks of installation, or earlier if storage is in direct sunlight.
- Recommended references are the NZMRM *Profiled Metal Roofing Code of Practice* and *Acceptable Solutions E2/AS1*.

## DESIGN FOR DURABILITY

Steel & Tube roofing and cladding solutions are available on our website, providing design and installation details for residential and commercial applications.

**Contact your local branch or the Technical Helpline on 0800 333 247 for specific advice.**

With correct product selection, installation and maintenance, your Steel & Tube roof will remain attractive and weatherproof for many years. Unfavourable design practices will detrimentally affect the performance of your roof and should be avoided. If any of the following situations are evident in your design, you should contact your Steel & Tube representative for advice.

- Areas of roofing, cladding and rainwater systems unwashed by rainfall will accumulate atmospheric debris which can become corrosive when damp. These areas will require maintenance depending on the product used and the environment. Refer to the Maintenance section of this publication.

- Do not discharge water runoff from inert materials such as ZINCALUME steel, pre-painted roofing, tiles or clear sheeting onto unpainted galvanised roofing and gutters, as the corrosive salts formed in this situation are unstable and can lead to premature corrosion.
- Where two different metals are in contact, one metal will tend to sacrifice itself to protect the other. A similar effect can occur with water flowing over dissimilar metals. In particular, avoid runoff from copper or brass onto ZINCALUME steel roofing, and avoid contact with, or runoff from unpainted lead onto ZINCALUME steel.
- Fasteners should be compatible with the roofing material chosen and have durability not less than the material being fastened. Stainless steel or aluminium fasteners should be used with pre-painted aluminium roofs in accordance with the specific manufacturers recommendations.
- Wall cladding should terminate at least 50mm above ground level. Lower edges of sheets must be kept clear of vegetation and debris.

## WARRANTIES & ENVIRONMENTS

### WARRANTYPLUS

Steel & Tube offer exclusively to our customers, the unparalleled peace of mind afforded by **WarrantyPlus**.

**WarrantyPlus** covers an extended range of criteria, is supported back to back by our suppliers, includes site-specific maintenance requirements and is transferable to subsequent owners.

**WarrantyPlus** for pre-painted products in residential roofing applications is available for up to 30 years against perforation as a result of corrosion and up to 18 years against flaking, peeling and excessive fade of the coating, depending on the environment and coating system.

**WarrantyPlus** guarantees that your roof will be a suitable surface for the collection of rain water for drinking.

**Non-residential warranties are for a maximum of 15 years duration.**

Refer to your nearest Steel & Tube representative and *New Zealand Steel's Environmental Categories Warranty & Product Maintenance Recommendations – Steel Roofing and Cladding* for additional information on warranties.

### ENVIRONMENTS

The following guide is an indication of product recommendations for residential roofing, rainwater systems and walling. Wall cladding and rainwater systems are often less effectively rain washed than roofing, so selecting a suitably durable material is important.

Your nearest Steel & Tube representative will be happy to give you specialist advice for your area.

Marine environmental category is better expressed by way of defining characteristics rather than distance from water, typical zones are given for additional guidance only.

## CHOOSING THE RIGHT PRODUCT

CATEGORY	CHARACTERISED BY	TYPICAL ZONES	SUGGESTED MATERIAL	
			ROOFING AND RAINWATER SYSTEMS	WALL CLADDING
VERY SEVERE MARINE	<ul style="list-style-type: none"> <li>• Heavy salt deposits</li> <li>• Almost constant smell of salt spray in air</li> </ul>	Within 25 metres from breaking surf on East Coast and 50 metres from breaking surf on West Coast	ColorCote AlumiGard	ColorCote AlumiGard
		Within 25-100 metres from breaking surf on East Coast, 50-200 metres from breaking surf on West Coast	COLORSTEEL MAXX	Colorcote AlumiGard
SEVERE MARINE	<ul style="list-style-type: none"> <li>• Light salt deposits</li> <li>• Frequent smell of salt in the air</li> </ul>	Commencing from Very Severe zone up to 500 metres or more inland from breaking surf; or in the immediate vicinity of calm salt water such as harbour foreshores	COLORSTEEL MAXX or COLORSTEEL ENDURA	COLORSTEEL MAXX
MODERATE MARINE	<ul style="list-style-type: none"> <li>• Little or no salt deposits</li> <li>• Occasional smell of salt in the air</li> </ul>	500 metres to 1km from breaking surf; or in the immediate vicinity of calm salt water such as estuaries	COLORSTEEL ENDURA or ZINCALUME	COLORSTEEL ENDURA
MODERATE INLAND	<ul style="list-style-type: none"> <li>• No obvious marine influences</li> </ul>	More than 1000 metres from salt water	COLORSTEEL ENDURA or ZINCALUME	COLORSTEEL ENDURA or ZINCALUME

**Please Note: Industrial and Geothermal areas are subject to individual assessment. The above terms are subject to correct design, storage, installation and maintenance provisions. Marine environments may be extended inland by prevailing winds and local conditions. Contact your local Steel & Tube branch to discuss on 0800 427 663.**

## MAINTENANCE

Few products are absolutely maintenance-free and all Steel & Tube profiles are subject to the cumulative effects of weather, dust and other airborne deposits, some of which are extremely aggressive. WARRANTIES & ENVIRONMENTS on Page 9 will assist in identifying the category into which the site fits. In order to ensure the maximum service life from the chosen coating system, the property owner should note the following maintenance advice:

- Soft-soled shoes should be worn whenever walking on roofing to prevent damage to the coating; walk only in the pans of the profile, and on the purlin line whenever possible.
- Normal rainwashing will remove most accumulated atmospheric debris, but manual washing is required for areas which do not receive adequate rainwashing. These areas, such as wall cladding under eaves, or sheltered areas where

overlapping of roof areas occurs due to the design, are known as unwashed areas.

- Other high risk areas that require manual washing include around flues and extractor vents, under television aerials and trees and sites prone to mould, lichen, bird droppings or debris.
- Spoutings and gutters must be regularly inspected to remove debris, which may cause ponding.
- Surfaces may be washed with water and a soft-bristled brush, or for larger areas waterblasting at pressures up to 20 MPa may be more appropriate.
- The following table shows maintenance requirements for roofing products relative to the environment in which the building is located.

**THESE RECOMMENDATIONS ARE DEPENDANT ON SELECTION OF THE APPROPRIATE ROOFING MATERIAL FOR THE PREVAILING ENVIRONMENT.**

MATERIAL	ENVIRONMENT	MAINTENANCE REQUIREMENT			
		ROOF	WALLS	RAINWATER SYSTEMS	UNWASHED AND HIGH RISK AREAS
PRE-PAINTED STEEL	Very severe	Rainwashing Only	Wash every 3 months	Wash monthly	Wash monthly
	Severe	Rainwashing Only	Wash every 6 months	Wash every 3 months	Wash every 3 months
	Moderate	Rainwashing Only	Wash every 12 months	Wash every 6 months	Wash every 3 months
ZINCALUME	Moderate	Rainwashing Only	Wash every 6 months	Wash every 3 months	Wash every 3 months

## OVERPAINTING

- Galvanised or ZINCALUME products can be overpainted immediately or after weathering. Use primer and top coat from a reputable paint manufacturer suitable for galvanised steel.
- Do not use calcium plumbate primers if rain water is to be collected for drinking purposes.
- Pre-painted roofing is best left weathered for at least twelve months prior to overpainting, unless special steps are taken to improve adhesion.

## DRINKING WATER

- Pre-painted and metallic coated products are suitable for the collection of drinking water.
- On new installations the first 25mm of rainfall should be discarded to avoid contamination from any manufacturing or installation residue.
- Some post-painted systems are unsuitable for the collection of drinking water. Check with the paint supplier for compatibility.

**BIM-spec™** is a one stop portal for all Steel & Tube's specification and technical content. It provides access to a large library of 2D and 3D CAD content and building information models (BIM) across a wide range of Steel & Tube product categories. This includes manufacturer-specific and generic libraries suitable for all specifiers, consulting and fabrication engineers and specialist consultants/contractors.

The BIM-spec portal can be accessed through our website [www.steelandtube.co.nz](http://www.steelandtube.co.nz)



### Trademark Note:

COLORSTEEL, COLORSTEEL ENDURA and COLORSTEEL MAXX are registered trademarks of New Zealand Steel Limited.

ColorCote is a registered trademark of Fletcher Steel Ltd.

ZinaCore, MagnaFlow and AlumiGard are trademarks of Fletcher Steel Ltd.

CUSTOM ORB and ZINCALUME are registered trademarks of BlueScope Steel Limited.

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The ST963 profile is a registered patent - New Zealand Patent Number: 605058.

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