

## PRODUCT DESCRIPTION

Solar-Rib® is the only roofing profile that is specifically designed to use Photo-Voltaic Laminate (PVL) solar panel technology to generate electric power. An attractive profile offering elegant looks, Solar-Rib® can be installed without the PVL, with the laminate being added onto the profile at later time if desired. Solar-Rib® represents a progressive product, paying for itself over time, and is an ideal way to combat increasing energy prices by taking advantage of nature's most renewable source of energy – the sun.

\*\*The laminates are 348mm wide and available in 5.910mm and 2.585mm lengths. Lead time for the supply of laminates is 16 weeks

## DESIGN GUIDELINES

### Recommend use when:

- Roof pitch is 3° and above
- Max purlin spacing does not exceed wind uplift load from the Solar-Rib® load span charts
- Specify coating on steel to match the environment
- Can be used as wall cladding vertically or horizontally
- Specify fixing type and length to be used with the correct purlin material
- Ensure there is an allowance for thermal expansion
- Can be used for wall cladding when install on top of a ventilated cavity batten
- Rainwater run-off over laminates is potable and safe to collect

## BUILDING CODE COMPLIANCE

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code for a period of 15 years:

- Clause B2 Durability B2.3.1
- Clause C3 Fire affecting areas beyond the fire source: Buildings C3.3
- Clause E2 External moisture E2.3.1, E2.3.2
- Clause F2 Hazardous building materials: Performance F2.3.1

### Photo-Voltaic Laminate certification:

- UL 1703
- IEC 61646
- IEC 61730

Photo-Voltaic Laminates are sourced from a world leading supplier in the United States of America.

## EVIDENCE MEETS NZBC

Test information available from Pacific Coilcoaters and New Zealand Steel, and past history of use of long run metal roofing and cladding products in New Zealand indicate that, provided the product use and maintenance is in line with guidelines contained in the current literature reference, Dimond® Roofing long run metal roofing and wall cladding systems can be expected to meet the performance criteria in clause B2, C3, E2 and F2 of the New Zealand Building Code, for a period of not less than 15 years.

## SUPPORTING EVIDENCE

The product has and can make available the following additional evidence to support the above statements:



NZ Metal Roofing Manufacturers Association Inc. (NZMRM)  
[Code of Practice](#)



## ENVIRONMENTAL

Manufactured from coated steel produced by New Zealand Steel at Glenbrook from Ironsand mined off North Island's West coast and Zinalume® coated.

COLOURSTEEL® is factory painted at New Zealand Steel, Glenbrook or if its ColorCote® its painted at Pacific Coilcoaters Penrose. ColorCote® MagnaFlow™ base coated steel and coating is imported from Asia, but painted at Pacific Coilcoaters in Penrose. Both NZ sites operate within strict environmental controls and recycle cleaning and washing water and control that is exhausted into the environment.

Dimond® Roofing recycle all steel scrap waste and offcuts which can then be remelted down and reused in other steel based products.

At the end of its useful life as a roofing profile can be recycled back by remelted down.

Aluminium is imported from overseas and painted at New Zealand at Pacific Coilcoaters.

## COATINGS & CLASSES

Manufactured using different paint coatings available from New Zealand Steel or Pacific Coilcoaters depending on the durability required for the environment the roof or wall will be installed in, in accordance with AS/NZS 2728. As a guide for areas 1m to 50m of breaking surf, use ColorCote® AlumiGard™ or plain unpainted aluminium. Sites within 50m to 100m of breaking surf COLOURSTEEL® MAXX® can be used, then at 100 m (Category 4) ColorCote® MagnaFlow™ (ZM8) can be used, beyond 200m (Category 3) then ColorCote® ZinaCore™ (ZR8) or COLOURSTEEL® ENDURA®, and beyond can use Zinalume®.

Refer to environmental literature available from Pacific Coilcoaters or New Zealand Steel or contact Dimond® Roofing on 0800 766 377.

## SPANS

Product	Material	Thickness BMT (mm)	Roofing Max. Span End Span (m)*	Roofing Max. Span Internal (m)*	Walls Max. Span End Span (m)	Walls Max. Span Internal (m)
Solar-Rib® (min. pitch 3°)	Steel (G550)	0.55	1.30	1.90 #	1.70	2.60 #
	Aluminium (H36)	0.90	0.80	1.20	1.30	1.90 #

Spans for roofing where the serviceability wind uplift load does not exceed 1.5kPa or under foot traffic is suitable for a restricted access roof  
Spans for walls are limited by an acceptable appearance or serviceability wind uplift of 2.0kPa

\*Restricted Access Roofing

# Side stitching required

For more information, please refer to Dimond Roofing's website <https://www.dimond.co.nz/products/solar-rib>

## FIXINGS

Purlin Material	Screw Fastener			
	Roofing Rib		Wall Cladding (Pan fixed)	
	Screw length* (mm)	Designation (mm)	Screw length* (mm) Over a vented cavity	Designation Over a vented cavity (mm)
Timber with steel based sheet	100	Type 17 Class 4 - 14g x 100 Timber tek with bonded washer or 12mm clearance hole and 36mm EPDM and load spreading washer	50	Type 17 Class 4 12g x 50 Timber tek
Timber with aluminium based sheet	100	Type 17 - 14g x 100 Timber tek 304 Stainless Steel with 12mm clearance hole and 36mm EPDM and load spreading washer	50	Type 17 grade 304 Stainless Steel 12g x 50 with 10mm clearance hole and Aluminium 19 dia bonded washer
Steel	90	Type 17 Class 4 - 14g x 90 Steel tek with 12mm clearance hole and 36mm EPDM and load spreading washer	55	Class 4 12g x 55 Steel tek

\*If sarking, cavity batten or insulation is used over the purlins the screw length will need to be increased by at least the sarking, insulation or cavity batten thickness.

The Limited State Load/Span Capacity Chart is based on 2 screw fasteners/sheet/purlin with and the using of load spreading washers. Spans may require the specification and use of a side lap stitching screws.

Materials	Thickness (mm)	Maximum Side Lap Fastener Spacing's (mm)
Steel	0.55	1900 (@ 950) 2300 (@ 1150) 2600 (@ 850)
Aluminium	0.90	1900 (@ 950)

Our recommended side-lap fasteners for stitching sheets together are:

### Metal Sheeting

Tek screws 10g - 16 x 16mm	Hex head	Tek screws
Type 17 screws 10g - 12 x 20mm	Hex head	Type 17 screws

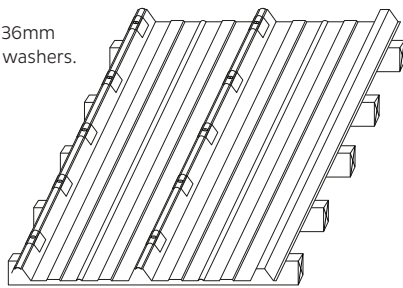
## INSTALLATION REQUIREMENTS

### Dimond Solar-Rib® Fastener Layout Options

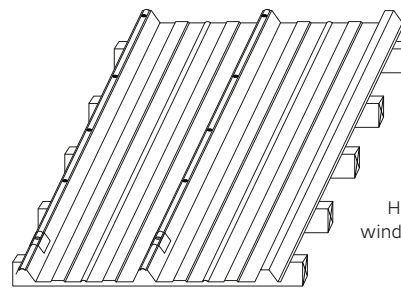
2 fasteners per sheet with 36mm EPDMs and load spreading washers.

Drill 12mm holes to accommodate the EPDM.

High wind zones and above, and all wind zones for sheets longer than 7m.



Sheet end



Sheet end

2 fasteners per sheet with 36mm EPDMs and load spreading washers.

Drill 12mm holes to accommodate the EPDM.

High wind zones and above, and all wind zones for sheets longer than 7m.

Can be directly installed over plastic cavibat battens

For more information, please refer to Dimond® Roofing website

## SPECIAL CONDITIONS

Manufactured in Invercargill and Hamilton.