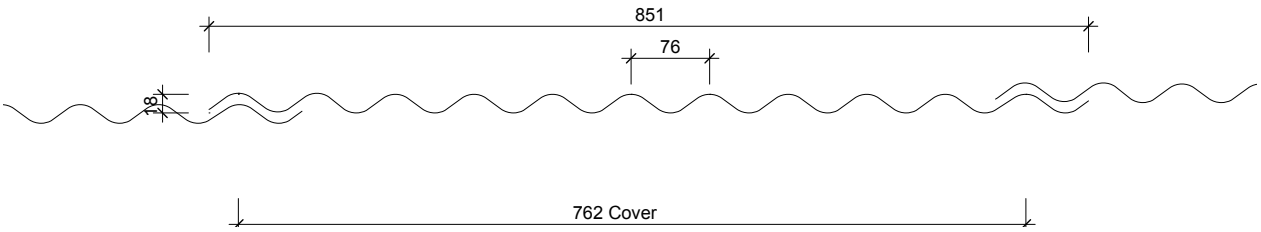
Dimond Roofing®

CORRUGATE
PRODUCT TECHNICAL STATEMENT



PRODUCT DESCRIPTION

Corrugate is a traditional favorite with Kiwis because of its truly classic look that is great on all different styles of building. Used for both roofing and cladding, you'll never go wrong with classic Corrugate.

DESIGN GUIDELINES

Recommend use when:

- Roof pitch is 8° and above
- As a wall cladding
- Max purlin spacing does not exceed wind uplift load from the Corrugate load span charts
- Specify coating on steel to match the environment
- Specify fixing type and length to be used with the correct purlin material
- Ensure there is an allowance for thermal expansion on sheet lengths above 20m
- Can be installed on top of cavibat ventilation batten

BUILDING CODE COMPLIANCE

The product will, if used in accordance with the Dimond® Roofing installation and maintenance requirements, assist with meeting the following provisions of the building code for a period of 15 years:

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

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 the guidelines contained in the current literature referenced, Dimond® Roofing long run metal roofing & 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

ColorCote® The right roof always lasts longer

COLORSTEEL® NEW ZEALAND'S FAVOURITE ROOF

For more detail please contact:
Technical Assistance Team on 0800 ROOFSPEC (766 377)

Date of issue: October 2021
V04.00.1121

ENVIRONMENTAL

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

Additionally, Aluminium is imported from overseas and painted at New Zealand at Pacific Coilcoaters, Duraclad® is manufactured in Auckland under tight environmental controls.

Dimond Roofing has met the criteria for "Level A" certification for the Global GreenTag™ GreenRate™ ecolabel and as part of Dimond's Toitū carbonreduce® accreditation, essential Scope 1 & 2 emissions, are being measured as well as voluntarily measuring Scope 3 emissions.

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

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 Zincalume.®

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

Duraclad® is recommended for use in special areas such as fertiliser works or very severe marine.

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)
Corrugate (min. pitch 8°)	Steel (G550)	0.40	0.80	1.20	1.00	1.50
		0.55	1.00	1.50	1.20	1.90
	Aluminium (H36)	0.70	0.50	0.80	0.80	1.20
		0.90	0.80	1.20	1.20	1.80
	Duraclad® (GRP)	1.70	0.60	0.90	0.90	1.40

GRP = Glass reinforced plastic.
Spans for roofing where the maximum serviceability wind uplift load does not exceed 1.5 kPa or under foot traffic is suitable for restricted access roof.
Spans for walls are limited by an acceptable appearance or a serviceability wind uplift load of 1.0kPa.
*For more information, please refer to Dimond Roofing website http://www.dimond.co.nz/products/corrugate

FIXINGS

Purlin or frame material	Roof - rib fixed		Wall - pan fixed		
	Steel based sheet	Aluminium based sheet	Steel based sheet		Aluminium based sheet
Timber	T17 x 12 – 11 x 50 M6 x 50 HG-Z4 Roofzip	14g x 55mm Alutite with a 8mm dia. Clearance hole, alum. Profiled washer & 36mm dia EPDM seal	Non cavity	M6 x 50mm HG - Z4 Roofzip	12g x 35mm Alutite
			Cavity	M6 x 50mm HG - Z4 Roofzip	14g x 55mm Alutite
Steel up to 1.5mm thick	M6 x 50 HG-Z4 Roofzip or Tek 12g – 14 x 35 Class 4	Stainless steel grade 304 14g x 50mm with a 8mm dia clearance hole, alum. Profiled washer & 36mm dia EPDM seal	Non cavity	Tek 12g - 14 x 20 Class 4	Stainless steel grade 304 14g x 20mm with a 15mm dia bonded washer, through an 8mm dia. Clearance hole
			Cavity	Tek 12g - 14 x 35 Class 4	Stainless steel grade 304 14g x 50mm with a 15mm dia bonded washer, through an 8mm dia. Clearance hole
Steel 1.5mm to 4.5mm thick	Tek 12g - 14 x 35 Class 4	Stainless steel grade 304 14g x 50mm with a 8mm dia clearance hole, alum. Profiled washer & 36mm dia EPDM seal	Non cavity	Tek 12g - 14 x 20 Class 4	Stainless steel grade 304 14g x 20mm with a 15mm dia bonded washer, through an 8mm dia. Clearance hole
			Cavity	Tek 12g - 14 x 35 Class 4	Stainless steel grade 304 14g x 50mm with a 15mm dia bonded washer, through an 8mm dia. Clearance hole

*If sarking, cavity batten or insulation is used over the purlins or for wall cladding fixed through a cavity batten, into the stud, the screw length will need to be increased by a least the sarking, insulation or cavity batten thickness.

The Limit State Load/Span Capacity Chart is based on 5 screw fasteners/sheet/purlin with the use of load spreading washers (except for Duraclad® material, which must be fitted with profiled metal washers and 36mm EPDM seals).

Long spans may require the specification and use of side lap stitching screws.

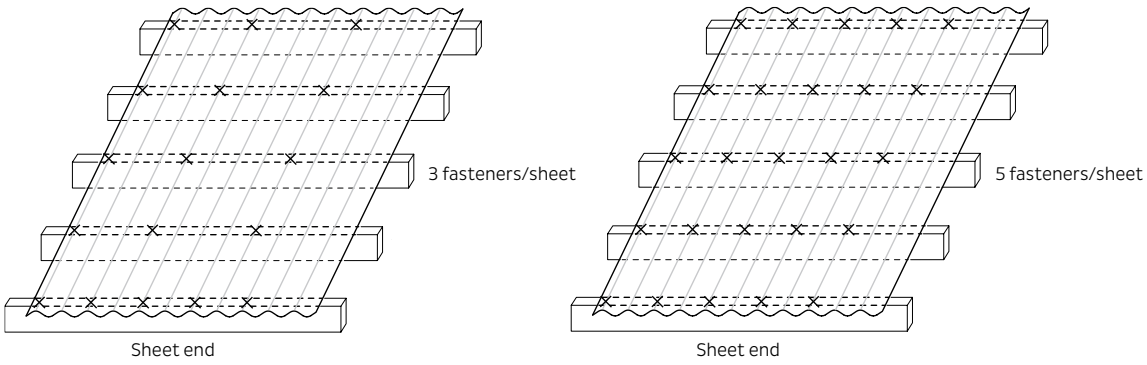
We recommended side-lap fasteners for stitching sheets together are:

Metal Sheeting

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

INSTALLATION REQUIREMENTS

Dimond Corrugate Fastener Layout Options



Can be installed over vented plastic cavibat battens.

For more information, please refer to Dimond® Roofing website:
http://www.dimond.co.nz/products/corrugate

SPECIAL CONDITIONS

Manufactured in Whangarei, Auckland, Hamilton, Wellington, Christchurch, Dunedin, Invercargill.