



PRODUCT DESCRIPTION

Dimondek® 400 adds architectural interest to your roof, with its broad angular ribs and wide pans it brings modern styling to your roof. The concealed fix system provides a strong clean finish with no visible fixings. Ideally suited for modern contemporary homes, Dimondek® 400 is the ultimate bold statement in roofs. Dimondek® 400 can be rolled onsite, meaning longer lengths with no steps in the roof, giving greater design capability.

DESIGN GUIDELINES

Recommend use when:

- Roof pitch is 3° and above
- Max purlin spacing does not exceed wind uplift load from the DD400 load span charts without wind clamps
- Specify coating on steel to match the environment
- Can be used as vertical wall cladding
- Specify fixing type and length to be used with the correct purlin material
- Specify clip fixing allowing thermal expansion movement on sheet lengths up to 100m
- Can be installed on top of cavibat ventilation batten

BUILDING CODE COMPLIANCE

The product will, if used in accordance with the Dimond 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 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](#)



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)
DD400 (min. pitch 3°)	Steel (G300)	0.55	0.90	1.30	0.60	0.90
		0.75	1.30	1.90	0.80	1.20
	Aluminium (H36)	0.90	0.90	1.30	0.60	0.90
	Copper ¹ / ₂ hard	0.55	0.90	1.40	0.70	1.00

Spans for roofing where the ultimate wind uplift load does not exceed 1.5 kPa.

Spans for walls are limited by an acceptable appearance or an ultimate wind uplift load of 2kPa.

*Restricted Access Roofing

*For more information, please refer to Dimond Roofing website <http://www.dimond.co.nz/products/dimondek-400>

FIXINGS

Steel Dimondek[®] 400 uses a galvanised steel clip fastened to either timber or steel purlins as below.

Aluminium Dimondek[®] 400 uses a nylon coated galvanised steel clip with the same fixings below.

Purlin Material	Clip Fastener
Timber	10g x 45mm timbertite wafer head screw or M4 x 75mm T17 pan head
Steel	10g x 16mm wafer head screw

*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 every rib being clip fastened to every purlin.

Wind clamps can be installed. Refer to special conditions.

INSTALLATION REQUIREMENTS

One galvanised clip as shown above, each sheet is used on every purlin. One end is hooked over the underlap of the previously laid sheet, and the next sheet is laid over the clip and when the sheet is pushed down the middle rib engages with the clip, while the overlap edge engages with the previously laid sheet underlap and other end of the clip.



SPECIAL CONDITIONS

Manufactured in Auckland, Hamilton, Wellington and Christchurch.

Also a mobile machine is available for large orders nationwide where the sheet length exceeds 25m long and can be run on site.

Wind clamps: Where the ultimate wind uplift load exceeds 2.0 kPa, Dimond aluminium wind clamps can be pushed over the middle rib over the clip to double the wind uplift load to 4.0 kPa. Used with both steel and aluminium sheets.