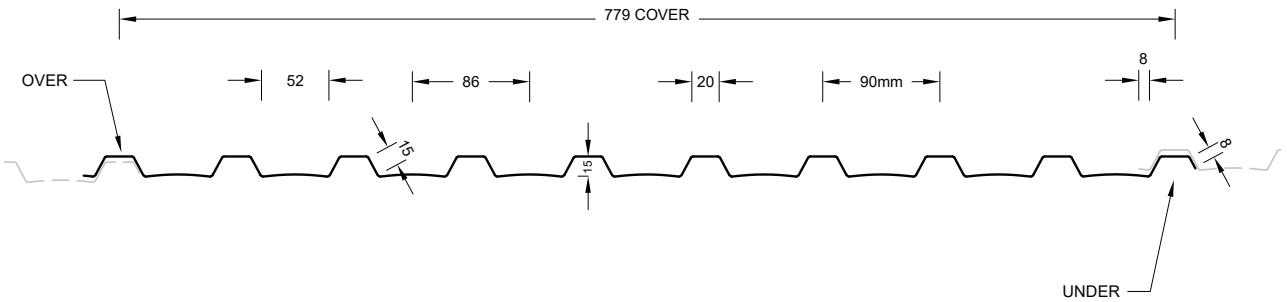
DIMONDCLAD RIB 20®

PRODUCT TECHNICAL STATEMENT



If versatility is what you are after, then Dimondclad® is the perfect cladding solution. Dimodclad's® clean efficient lines well concealed laps are excellent for both exterior and interior cladding. Dimondclad® Rib 20 features wide ribs with narrow pans for defined cladding lines.

SHEET TOLERENCES

Cover: ± 5mm - Sheet length: +10mm, -0mm (steel)
Cover: +10mm,-15mm – Sheet length: +0mm, -15mm (aluminium)

RECOMMENDED PRODUCT/DESIGN USE

- **Minimum Pitch:** Wall Cladding Only
- **Cover (mm):** 779mm
- **Applications:** Residential / Commercial/ Wall Cladding
- **Materials:** Specified coating and material based on environmental conditions in accordance with E2/AS1. Available in metallic coated and pre-painted steel in 0.40mm, 0.55mm, 0.75mm - Aluminium 0.90mm BMT
- **Material Thickness:** Steel 0.40mm, 0.55mm, 0.75mm - Aluminium 0.90mm
- **Colours:** Available in pre-painted ColorCote® ZinaCore™, MagnaFlow™ and MagnaFlow® COLORSTEEL® MAXAM™, Altimate®, UniCote® LUX Refer to www.colorcote.co.nz, www.colorsteel.co.nz, www.unicote.com.au
- **Durability:** All material selections must be compatible with the prevailing environmental conditions and adjacent materials. Areas not naturally exposed to rain will require scheduled maintenance.

ENVIRONMENTAL PRODUCT DECLARATION

Dimond Roofing® has been implementing green building principles across the industry for several years now and has developed a fully realised environmental sustainability pathway to reach our goal of reducing our carbon emissions by 30% by 2030. 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.

Dimond Roofing® profiles are accredited with Eco Choice Aotearoa when manufactured from COLORSTEEL®. All manufacturing sites have been Audited by NZ Steel.

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.

NEW ZEALAND BUILDING CODE COMPLIANCE

When used in accordance with Dimond Roofing installation and maintenance requirements, facilitate with meeting the following provisions of the NZBC:

- **B1 Structure:** Performance clauses B1.3.1, B1.3.2, B1.3.3 (a) (b) (c) (g) (h), B1.3.4 (b) and (d)
- **B2 Durability:** Performance clauses B2.3.1(b) and (c)
- **C3 Fire affecting areas beyond the fire source:** Performance clauses C3.4(a) and C3.9
- **E2 External moisture:** Performance clauses E2.3.1 and E2.3.2
- **F2 Hazardous building materials:** Performance clause F2.3.1

- **G12 Water Supplies:** Performance clauses G12.3.1 and G12.3.2

To comply with the performance clauses of NZBC E2 all cladding to be installed in accordance with:

- Acceptable Solutions NZS E2/AS1 or an Acceptable Alternative Solution
- MZ Metal Roofing Manufacturers Code of Practice
- Dimond Roofing Specification; details available on www.dimond.co.nz

Dimond Roofing is not subject to any warning or ban under section 26 of the Building Act 2004.

MAINTENANCE

In general, NZ metal roofing materials exposed to rain washing can be expected to comply with NZBC B2 without manual washing, or replacement of protective finishes.

Areas not directly exposed to rain, such as soffits, wall cladding under eaves, the undersides of gutters, fascia's, and sheltered areas like garage doors, will require scheduled maintenance.

Refer to ColorCote® Minimum Maintenance Schedule and COLORSTEEL® Maintenance Recommendations Brochure.

MATERIAL CLADDING TESTING AND PREFORMANCE

All cladding testing is carried out in accordance with the NZMRM Code of Practice – Testing and MRM Standards.

Material Options	Steel			Aluminium H36	Duraclad® (GRP)
Thickness (BMT) mm	0.40	0.55	0.75	0.90	N/A
Nominal Weight/lineal metre (kg/m)	3.17	N/A	N/A	2.28	N/A
Drape curved – min. radius (m)	N/A	N/A	N/A	N/A	N/A
(1) Purlin spacings for drape curving (m)	N/A	N/A	N/A	N/A	N/A
(2) Machine crimp curved - min. radius (mm)	N/A	N/A	N/A	N/A	N/A
(3) Unsupported Overhang (mm)	100	N/A	N/A	100	N/A

(1) Recommended maximum purlin spacings at minimum radius
(2) N/A
(3) Based on 1.1kN point load support, but not intended for roof access
N/R – Not recommended
N/A – Not available.

Roll-forming facility location: Hamilton
Crimp curving facility location: N/A
Manufacturing location for DuraClad®: N/A
Sheet lengths: Dimondclad Rib 20® is custom run to order.

Where long sheets are used consideration must be given to:
. Special transportation licences for sheets over 25m
. Site access for special lifting equipment
. Fixing techniques to accommodate thermal expansion.

WALL LOAD SPAN TABLES

DIMONDCLAD RIB20 – LOADSPAN TABLE	
	Wall
0.40mm End Span	400
0.40mm Internal Span	600
SLS Design Load (KPa)	**3**
0.90mm Alu End Span	400
0.90mm Alu Internal Span	600
Serviceability	**3**

Notes:
The span capacity of Dimondclad Rib 20 is determined by the serviceability requirement for acceptable appearance and should not exceed 600mm. The Dimondclad Rib 20 profile is not intended for use as roofing product and must not be used in situations where foot traffic point loads can be applied.

FASTENERS

The durability of the fasteners should equal or exceed that of the material being fastened, and the fastener metal or coating must be compatible with the cladding material if in contact. Refer to NZS E2/AS1 table 20 for compatibility requirements.

The minimum embedment of 30mm is the requirement for screws fixing into timber and minimum of three threads to pass through steel. When fastening through cavity battens, thermal break materials etc ensure the length of the screw is increased to accommodate the extra material.

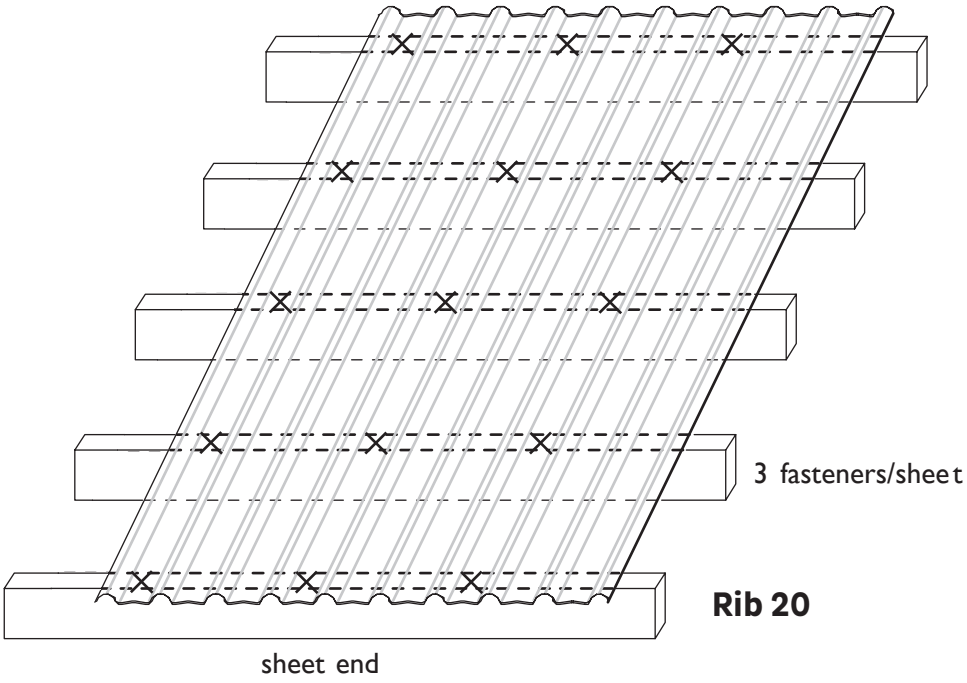
Common Fastener Lengths* – Roof Cladding - Crest Fixed			
Cladding Material	Timber Purlins (mm)	Steel Purlins/Girts up to 2.5mm (minimum 3 threads) (mm)	(1,2) Load Spreading Washers (LSW) (When required)
Steel	N/A	N/A	N/A
Aluminium	N/A	N/A	N/A

*Class 5 fasteners are recommended with steel-based material
(1) – When using LSW increase fastener length by 10mm
(2) - When using LSW pre-drill a 10mm oversized hole to accommodate the EPDM washer

Common Fastener Lengths* – Wall Cladding – Pan Fixed		
Cladding Material	Timber Dwangs/Nogs (mm)	Steel Girts up to 2.5mm (mm)
Steel Direct fix	TT 12g x 40 with neo washer	ST 12g x 20 with neo washer
Steel On 20mm (nom.) Cavity Batten	TT 12g x 55 with neo washer	ST 12g x 35 with neo washer
Aluminium Direct fix	TT 14g x 35 Alutite with neo washer	**ST 12g x 25 304 stainless steel with neo washer
Aluminium On 20mm (nom.) Cavity Batten	TT 14g x 55 Alutite with neo washer	**ST 14g x 50 304 stainless steel with neo washer

*Class 5 fasteners are recommended with steel-based material
**Stainless steel fasteners require to be separated from aluminium

DIMONDCLAD RIB 20® FASTENER LAYOUT OPTIONS



DESIGN DETAILS

Design details covering residential & commercial roof & wall claddings are available at www.dimond.co.nz in PDF, DWG & RVT files under each product section.

PUBLICATIONS

To achieve the product's full potential, it must be designed, installed, and maintained in accordance with Good Trade Practice. For more information, please refer to:

NZS E2/AS1: www.building.govt.nz

NZMRM: New Zealand Metal Roofing and Wall Cladding Code of Practice – www.metalroofing.org.nz

NZMRM: Installation Guide – Metal Longrun Roofing and Cladding - www.metalroofing.org.nz

RANZ: How to Guides - www.ranz.co.nz

Pacific Coil Coaters: Choose the Right Roof www.colorcote.co.nz

Pacific Coil Coaters: Maintenance Schedule www.colorcote.co.nz

Pacific Coil Coaters: Environmental Product Declaration www.colorcote.co.nz

New Zealand Steel: Environmental Categories, Warranty & Product Maintenance Recommendations Brochure www.colorsteel.co.nz

New Zealand Steel: Maintenance Recommendations Bulletin - www.colorsteel.co.nz

New Zealand Steel: Installers Guide www.colorsteel.co.nz

UniCote LUX: Performance - www.unicote.com.au

UniCote LUX: Technical & Warranty – www.unicote.com.au

BRANZ: Good Profiled Metal Roofing and Wall Cladding - www.branz.co.nz

MBIE: Guide to tolerances, materials and workmanship in new residential construction 2015 - www.mbie.govt.nz

THERMAL NOISE

All profiled metal roofs and wall cladding can produce thermal noise from time to time. This occurs as the roof expands and contracts due to temperature changes, with darker colours potentially increasing the noise. The NZMRM Code of Practice addresses this issue.

According to the MBIE's 2015 "Guide to Tolerances, Materials, and Workmanship in New Residential Construction," noise from metal roofing's thermal expansion is considered normal and should be expected.

OIL CANNING

Differential thermal movement between wide, flat surfaces and ribs or corners within a metal sheet can create a visual effect known as oil canning. This refers to the visible waviness or undulations in the flat sections of metal cladding, roofing, or walling. Oil canning is an inherent architectural characteristic of flat metal surfaces and is not indicative of any performance issues with the product.

It may occur during the forming and installation processes, as well as throughout the roof's lifecycle due to thermal expansion. The visibility of oil canning can vary depending on lighting conditions, sun angles, and the gloss level of the coating.

For more details, please refer to Section 12.4 of the New Zealand Metal Roof and Wall Cladding Code of Practice.

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Place of Manufacture: Aotearoa New Zealand

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dimond.co.nz

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