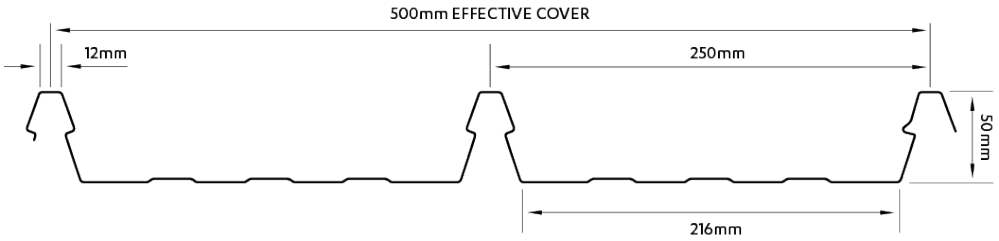
steel&tube
STRONGER TOGETHER

HI RIB

PRODUCT TECHNICAL STATEMENT



Hi Rib is a high tensile wide cover clip fastened trough section or decking profile.

Hi Rib is manufactured from high tensile material, enhancing its performance for both point and wind load. The slightly trapezoidal rib profile enhances resistance to foot traffic damage, and allows for end-lapping where required, while the greater cover gives material and installation efficiency.

DESIGN GUIDELINES

- **Minimum Pitch:** 3°
- **Effective Cover (mm):** 500mm
- **Applications:** Residential, Industrial/Commercial Roofing & Vertical Wall Cladding, Canopies.
- **Available nationwide:** Manufactured in Auckland.
- **Materials:** Specify coating and material based on environmental conditions in accordance with NZS E2/AS1. Available in metallic coated and pre-painted steel in 0.48mm and 0.55mm BMT (base metal thickness), and pre-painted aluminium in 0.90mm BMT. Matching translucent sheeting is available in G.R.P. (fibreglass).
- **Durability:** All material selections must be compatible with prevailing environmental conditions and adjacent materials.

NEW ZEALAND BUILDING CODE COMPLIANCE

The product will, if used in accordance with Steel & Tube's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- Clause B1 Structure: Performance B1.3.3(a), B1.3.3(b), B1.3.3(g), B1.3.3(h)
- Clause B2 Durability: Performance B2.3.1(b), B2.3.1(c)
- Clause C3 Fire affecting areas beyond the fire source: Performance C3.9
- Clause E2 External moisture: Performance E2.3.1, E2.3.2
- Clause G12 Water supplies: Performance G12.3.2
- Clause F2 Hazardous building materials

To comply with the performance clause of NZBC clause E2 roof cladding to be installed in accordance with:

- Acceptable Solution NZS E2/AS1
- NZ Metal Roofing Manufacturers Code of Practice
- Steel & Tube specifications
- Steel & Tube details are available on ***steelandtube.co.nz***

Steel & Tube Hi Rib is not subject to a warning or ban under section 26 of the New Zealand Building Act 2004.

0800 427 663 steelandtube.co.nz

PRODUCT TECHNICAL STATEMENT
NOV 2023

ENVIRONMENTAL PRODUCT DECLARATION

All Steel & Tube roofing and cladding profiles are accredited with Environmental Choice and New Zealand Made when manufactured from COLORSTEEL®.

Refer to **COLORSTEEL® Environmental Product Declaration Brochure**.

COLORSTEEL®

Pre-painted and Resin Coated Steel Products
Licence No. 5717145

MAINTENANCE

Regular maintenance is required to maximise the lifetime of metal roofing and wall cladding products. Areas not exposed to rain washing such as soffits, wall cladding under eaves, undersides of gutters, fascias, sheltered areas such as garage doors will require programmed maintenance.

Refer to **New Zealand Steel Maintenance Recommendations Bulletin & Environmental Categories, Warranty & Product Maintenance Recommendations Brochure**.

When access to the roof is necessary after construction, it is best practice to place foot in the pan of the profile when walking up the roof and follow purlin lines when traversing roofs. If ribs are too close together, so workers cannot place their feet in the pan, their weight must be spread evenly over at least two ribs when walking up the roof.

PERFORMANCE DATA

METAL CLADDING TESTING

Metal Cladding Testing is carried out in accordance to the NZMRM Code of Practice section - Testing and MRM Standards.

MATERIAL	MASS kg/lm
G550 0.48 BMT Steel	2.89
G550 0.55 BMT Steel	3.30
H36 0.90 BMT Aluminium	1.76

RECOMMENDED POINT LOAD LIMIT

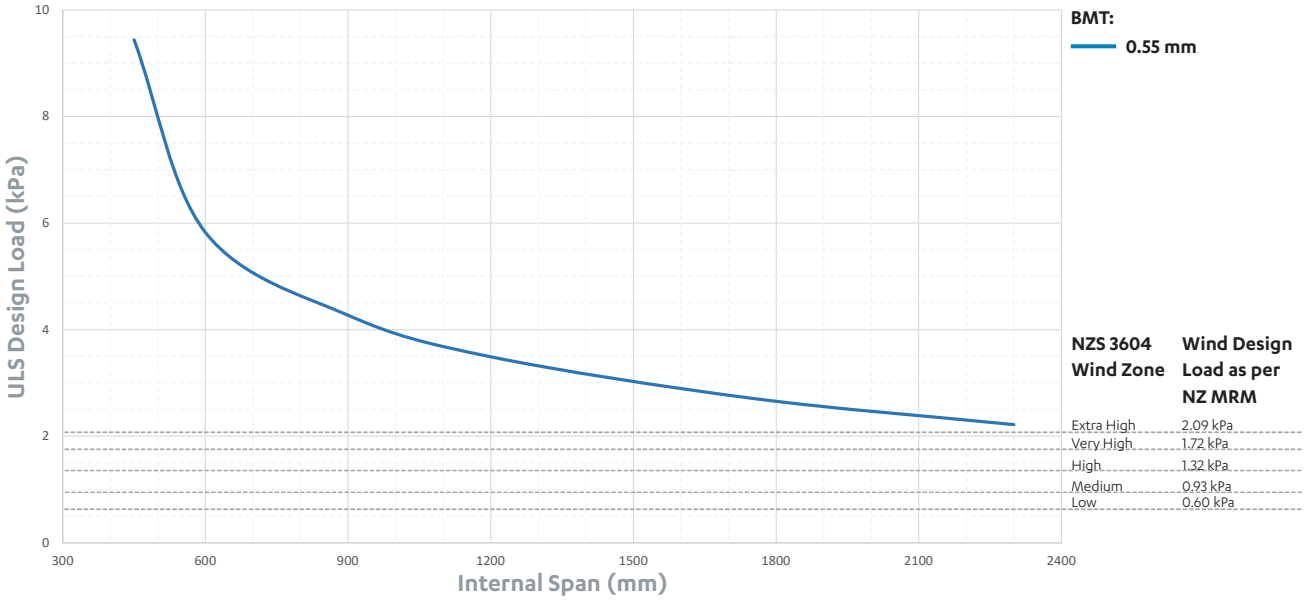
G550 0.48 BMT STEEL POINT LOAD LIMIT		SPAN mm	LOAD kPa
Type A	Unrestricted Access	2100	2.1
Type B	Restricted Access	2300	1.9

G550 0.55 BMT STEEL POINT LOAD LIMIT		SPAN mm	LOAD kPa
Type A	Unrestricted Access	2100	2.35
Type B	Restricted Access	2300	2.22

H36 0.90 BMT ALUMINIUM POINT LOAD LIMIT		SPAN mm	LOAD kPa
Type A	Unrestricted Access	1600	2.4
Type B	Restricted Access		

Refer to section Roof Traffic - NZ Metal Roofing Manufacturers Code of Practice.

G550 0.55 BMT STEEL HI RIB ULTIMATE LIMIT STATE (ULS) WIND LOAD GRAPH



Notes:

- Hi Rib shall be installed in accordance to NZMRM CoP load span data above for the appropriate Wind Zone.
- The graph is for intermediate spans only. As per NZMRM Code of Practice, end spans follows a 2:3 end to internal span ratio for these design loads to be applicable.

SPAN PERFORMANCE DATA

Ultimate Limit State (ULS) kPa

MATERIAL	SPAN mm					
	450	600	900	1200	1750	2300
G550 0.55 BMT Steel	9.44	5.83	4.27	3.49	2.71	2.22

FASTENERS

Typically, fastened with a Zincalume bracket, attached to each support member with two wafer head screws. When specifying Steel & Tube Hi Rib wall cladding and roofing in Aluminium, it is important to specify that the Zincaclume fixing brackets are to be powder coated. When fastening through a non-structural building element such as cavity battens, sarking or thermal breaks, increase the screw length to ensure a minimum of 30 mm penetration into timber structure or three full screw threads engagement through a steel support.

The durability of 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.

STEEL AND ALUMINIUM ROOFING & WALL CLADDING FIXINGS[1]

FRAMING	COMMON CLIP FIXING SIZES	MINIMUM CLIP FIXING
Timber	10g x 45mm wafer head T17	Minimum 10g x 35mm wafer head T17
Steel up to 4.5mm	10g x 16mm wafer head steel SDS	Minimum 10g x 16mm wafer head steel SDS

1 In a Category 5 environment, a Class 5 fixing is recommended.

SPECIFICATIONS

Recommended specifications, including matching Steel & Tube Profiled Natural Lighting are available in the branded sections of Masterspec, SMARTSPEC or from your local Steel & Tube branch or visit ***steelandtube.co.nz***

DESIGN DETAILS

Design details covering many applications are available on ***steelandtube.co.nz*** in .DWG, .PDF and .RVT under each product section.

THERMAL NOISE

All profiled metal roofs and wall cladding will exhibit thermal roof noise at times. Thermal roof noise is caused by the roof expanding or contracting due to temperature fluctuation and darker colours may increase thermal noise, this is covered in the NZMRM Code of Practice.

As stated in the **MBIE document - Guide to tolerances, materials and workmanship in new residential construction 2015**, "Noise from the thermal expansion of the metal roofing is normal and should be expected."

OIL CANNING

Oil canning or undulations in the pan is an architectural feature that may occur in flat areas of metal claddings. However, this feature does not affect the strength or performance of the cladding. Oil canning may occur during its roll-forming process and/or installation stage and during the product's thermal expansion.

IMPORTANT PUBLICATIONS

For your installation to perform to its potential, it is essential that it is designed, installed and maintained in accordance with good trade practice. For further information, please refer to:

- NZS E2/AS1
- BRANZ: Good Profiled Metal Roofing Practice
- MBIE - Guide to tolerances, materials and workmanship in new residential construction 2015
- NZMRM: New Zealand Metal Roofing and Wall Cladding Code of Practice
- NZMRM: Installation Guide – Metal Long Run Roofing and Cladding
- RANZ: How To Guides
- Steel & Tube Roofing Solutions Product Guide
- New Zealand Steel: Installers Guide
- New Zealand Steel: Maintenance Recommendations Bulletin
- New Zealand Steel: Environmental Categories, Warranty & Product Maintenance Recommendations Brochure

INSTALLERS

A list of local installers for your area and contract type is available from your local Steel & Tube branch or visit ***steelandtube.co.nz/installer***

CALL US TODAY

To purchase our products: **0800 427 663**

Sales email: **sales@steelandtube.co.nz**

Technical helpline: **0800 333 247**

Technical email: **roofing@steelandtube.co.nz**

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