

# MULTIRIB™

Roofing  
Industries

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Practical commercial roofing & cladding solutions – innovative products

[www.roof.co.nz](http://www.roof.co.nz)





## Wind Load Span Design Graph

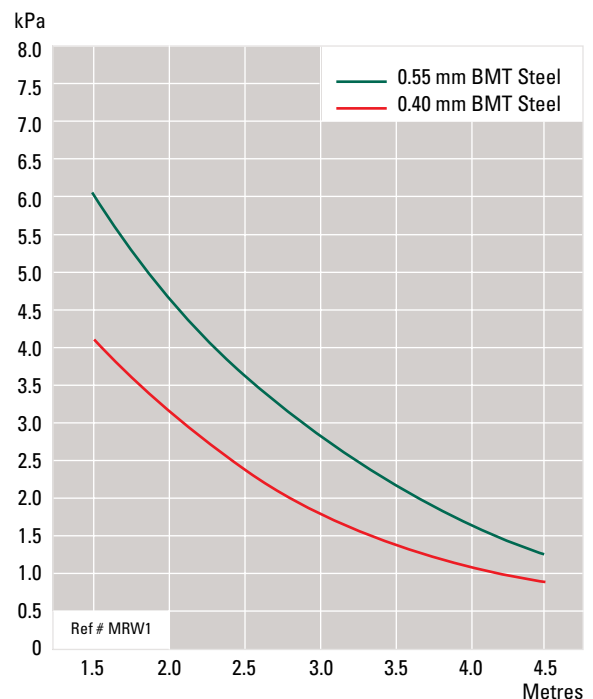
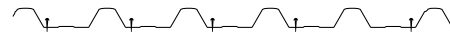
### Multirib™ G550 Steel

#### Wall Cladding Application

Primary Fixing Method:

(Also refer to further content on the rear page)

Fixed every pan with approved 12 gauge screws and neos.



- Intermediate span in metres.
- End spans to be a maximum of 2/3 of this span.
- Type 3 Classification.

Other fixing patterns may be used, however these will alter the design load.



Loadings referred to in Roofing Industries graphs are the result of testing to a serviceability limit state which is more conservative than an ultimate limit state as quoted by some manufacturers.

Our Design Graphs are presented in a form to allow the designer to select suitable products and maximum purlin spacings.

It is first necessary for the designer to calculate the design wind load for the roofing and cladding in accordance with generally acceptable practice, by reference to AS/NZS 1170: 2002, and/or NZS 3604: 1999 as appropriate. For a fuller explanation of this refer to the NZ Metal Roof and Wall Cladding Code of Practice.

For most roof installations the purlin spacings will be limited by the trafficable limitations of the profile. However for roofs that are not able to be walked on and for wall cladding applications, these limitations may be exceeded providing the design wind loading criteria is met. However this should be done with caution as it may require considerable extra secondary fasteners within the laps.

The designer should always take into account in areas of heavy roof traffic, or where the roofing supports such items as air conditioning units, purlin spacing should be reduced accordingly.

Reference should be made to the notes in the graphs.

It is our recommendation that for commercial and industrial roofing applications that .55 mm BMT is used as it has more resilience to damage particularly by other trades.

Refer to [www.roof.co.nz](http://www.roof.co.nz) for further details and other substrates. Tested in accordance with the NZMRM test procedure. Note: Wind & Concentrated Load Span Design Graphs are based on information derived from extensive testing of Multirib™ on the  Test rig, utilising variations in fasteners, fixings and patterns covering both roofing and cladding applications. Classification Type is from the NZ Metal Roof and Wall Cladding Code of Practice.



## Wind & Concentrated Load Span Design Graph

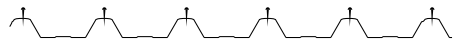
### Multirib™ G550 Steel .40 mm BMT

#### Roofing Application

Primary Fixing Method(s):

(Also refer to further content on the rear page)

- A** Fixed every purlin on every rib with approved screws and neos, load spreading profiled metal washers and EPDM washers.



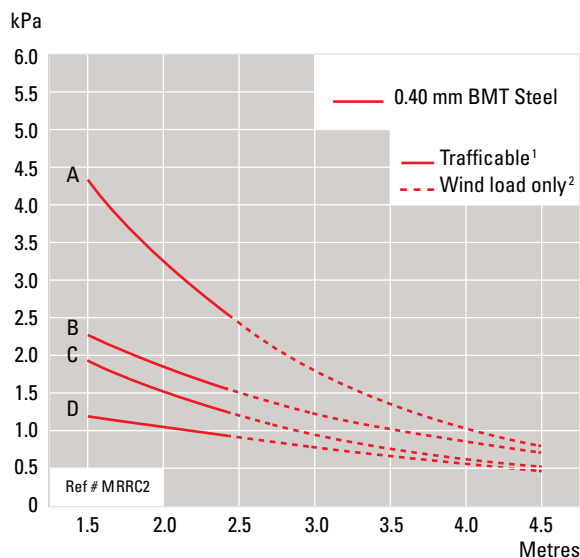
- B** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos, load spreading profiled metal washers and EPDM washers. End purlins to be fixed every rib.



- C** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos and alloy embossed washers. End purlins to be fixed every rib.



- D** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos without washers. End purlins to be fixed every rib.



- Intermediate span in metres.
- End spans to be a maximum of 2/3 of this span.

- 1 The solid line represents where walking is permitted within 300 mm of the purlin line or in the pan of the profile.

Therefore for a normal roof, and providing wind load requirements are met, purlin spans are limited to:

Maximum Spans	0.40 mm BMT
Intermediate	2.4 metres
End	1.6 metres
Type 2B "Restricted Access" Classification	

- 2 The broken line represents untrafficable roof areas and is wind loading only and has a Type 3 Classification.

In areas of heavy roof traffic, or where the roofing supports such items as air conditioning units, purlin spacing should be reduced accordingly.

For Type A "Unrestricted Access" Classification refer to Roofing Industries.

Other fixing patterns may be used, however these will alter the design load for wind only.

Refer to [www.roof.co.nz](http://www.roof.co.nz) for further details and other substrates. Tested in accordance with the NZMRM test procedure. Note: Wind & Concentrated Load Span Design Graphs are based on information derived from extensive testing of Multirib™ on the [MRM](http://www.mrm.co.nz) Test rig, utilising variations in fasteners, fixings and patterns covering both roofing and cladding applications. Classification Type is from the NZ Metal Roof and Wall Cladding Code of Practice.



## Wind & Concentrated Load Span Design Graph

### Multirib™ G550 Steel .55 mm BMT

#### Roofing Application

Primary Fixing Method(s):

(Also refer to further content on the rear page)

- A** Fixed every purlin on every rib with approved screws and neos, load spreading profiled metal washers and EPDM washers.



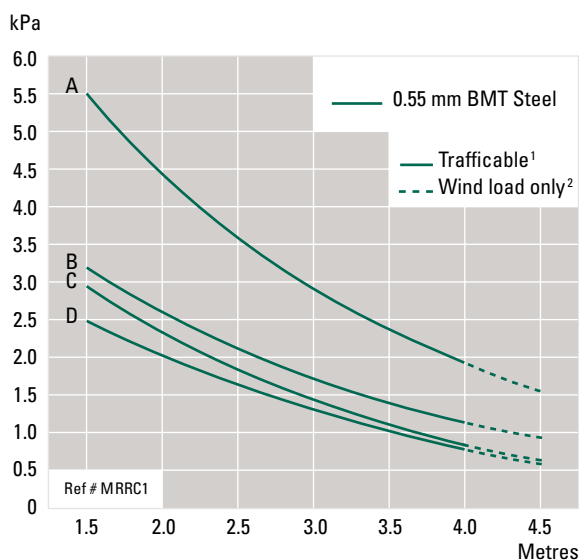
- B** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos, load spreading profiled metal washers and EPDM washers. End purlins to be fixed every rib.



- C** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos and alloy embossed washers. End purlins to be fixed every rib.



- D** Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos without washers. End purlins to be fixed every rib.



- Intermediate span in metres.
- End spans to be a maximum of 2/3 of this span.

1 The solid line represents where walking is permitted within 300 mm of the purlin line or in the pan of the profile. Therefore for a normal roof, and providing wind load requirements are met, purlin spans are limited to:

Maximum Spans	0.55 mm BMT
Intermediate	4.0 metres
End	2.7 metres
Type 2B "Restricted Access" Classification	

2 The broken line represents untrafficable roof areas and is wind loading only and has a Type 3 Classification.

In areas of heavy roof traffic, or where the roofing supports such items as air conditioning units, purlin spacing should be reduced accordingly.

For Type A "Unrestricted Access" Classification, refer to Roofing Industries.

Other fixing patterns may be used, however these will alter the design load for wind only.

Refer to [www.roof.co.nz](http://www.roof.co.nz) for further details and other substrates. Tested in accordance with the NZMRM test procedure. Note: Wind & Concentrated Load Span Design Graphs are based on information derived from extensive testing of Multirib™ on the [MSA](http://www.msa.co.nz) Test rig, utilising variations in fasteners, fixings and patterns covering both roofing and cladding applications. Classification Type is from the NZ Metal Roof and Wall Cladding Code of Practice.

# MULTIRIB™

## Roof Pitch

The minimum pitch for Multirib™ is 3° (1 in 20).

## Materials

- ▶ Zinalume® Steel: .40 mm BMT or .55 mm BMT, AZ150 (150gm/m<sup>2</sup>) G550 Mpa Yield Stress
- ▶ Galvanised Steel: .40 mm BMT or .55 mm BMT, Z450 (450gm/m<sup>2</sup>) G550 Mpa Yield Stress
- ▶ Pre-painted **COLORCOTE®** or **COLORSTEEL** over Zinalume® .40 mm BMT or .55 mm BMT, AZ150 (150gm/m<sup>2</sup>), G550 Mpa Yield Stress
- ▶ Prepainted **COLORCOTE®** or **COLORSTEEL** Galvanised Steel: .40 mm BMT or .55 mm BMT ZM275 (275gm/m<sup>2</sup>) G550 Mpa Yield Stress

For information on Aluminium, Stainless Steel and Copper Multirib™, contact Roofing Industries Limited.

## Durability

Selection of the correct grade of material and appropriate surface coating is imperative to ensure Multirib™ will perform satisfactorily in the environment it is to be installed, and meets the requirements of The NZ Building Code. Environmental Categories and Surface Coating literature is available from our website [www.roof.co.nz](http://www.roof.co.nz).

## Accessories

A full range of matching accessories is available, including Ridging, Flashings, Underlays, Insulation, Fasteners, Rotary Roof Ventilators and Rainwater Systems.

## Underlay

Underlay as per the project specification is to be used.

## Translucent roofing

Multirib™ is available as glass reinforced translucent roof and wall lighting.

## Fixings and Fasteners

All fixings and fasteners are to be of an approved type, compatible with all materials, the environment and meeting the requirements of the NZ Building Code. Installation is to be in accordance with the NZ Metal Roof and Wall Cladding Code of Practice or manufacturer's instructions.

## Roof application

Using the appropriate fixing method from the Wind & Concentrated Load Span Design Graphs.

- ▶ From the ridge down for dark coloured roof sheets up to and including 8 metres, and for light coloured and Zinalume® roof sheets up to and including 12 metres, solid fix.
- ▶ For sheet lengths in excess of the above, oversize holes should be used for the remainder of the sheet and approved load spreading profiled or alloy embossed washers used for the entire sheet.

Fix every crest to: Ridge, Hip, Valley, Gutter and Periphery areas

## Standard Primary Fixings are:

**For Timber** Purlins use 14 x 75 Timbertite® Class 4 Screws with neos and with (or in some cases without) appropriate washers as above.

**For Steel** Purlins use 12 x 65 Steeltite® Class 4 Screws with neos and with (or in some cases without) appropriate washers as above.

## Walling application

Fix in the pan adjacent to every rib using 12 gauge class 4 Steeltites®

(generally 12 x 20) or Timbertites® and neos as appropriate, ensuring that when the fastener is into timber it is of sufficient length to penetrate the framing by 30 mm. The pan fixing at the lap is to be adjacent to the rib in both pans.

Note: These recommendations are suitable for steel based materials, for other materials refer to our website [www.roof.co.nz](http://www.roof.co.nz). Other fixing methods may be applicable in some circumstances.

## Curving

Minimum pitch of drape-curved roofing is primarily governed by the overall appearance of the sheeting after installation. A tight radius may lead to distortion, and Roofing Industries should be consulted for Purlin spacing and minimum radius during the design phase.

Guide to minimum radius (m)

	.55 mm BMT	0.90 mm	2400g/m <sup>2</sup> (1.5 mm)
Zinalume®	85		
Galvanised	85		
H36 5052 Aluminium		85	
Translucent GRP Natural Lighting			14

NOTE: .40 mm BMT Steel substrate and 0.70 mm Aluminium substrate are not recommended for drape curving.

## Ordering

Roofing Industries staff can provide technical assistance to ensure accurate ordering of roofing and accessories thereby avoiding costly errors. Multirib™ is delivered cut to length subject to transport restrictions.

## Handling and storage

- ▶ On delivery, visually inspect sheets for damage.
- ▶ Store Multirib™ and accessories on evenly spaced and supportive dunnage, clear of the ground and under cover. If packs become wet and the

product not used immediately, separate the sheets to allow air circulation and drying.

- ▶ Do not drag sheets across each other.
- ▶ Long lengths of roofing should be lifted onto the roof using an approved load spreading beam.
- ▶ If protected with strippable plastic film, keep under cover and remove as the product is being installed.

## Installation

Prior to commencing the project, refer to Roofing Industries technical literature and website [www.roof.co.nz](http://www.roof.co.nz). Failure to install Multirib™ and accessories to industry requirements will void any warranty.

## Maintenance

Regular maintenance will extend the life of the roof and accessories. Industry maintenance guide(s) are available from Roofing Industries and should be consulted in order that warranty conditions are fulfilled.

## Warranties

Warranties meet the statutory requirements of the NZ Building Code, are available on request and reflect our New Zealand owned and operated company, test facilities and local climatic conditions. Sample warranties are available at website [www.roof.co.nz](http://www.roof.co.nz).

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