Wind & Concentrated Load Span Design Graph

Multirib® G550 Steel .55 mm BMT

Roofing Application

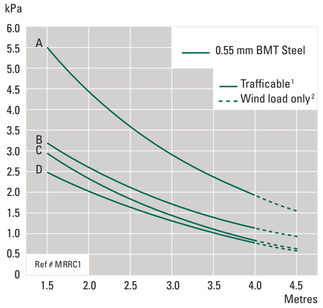
Primary Fixing Method(s):
(Also refer to further content on the rear page)

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 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 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° (Approximately 1 in 20). For combined sheet runs in excess of 40 metres, contact Roofing Industries

Materials

- Zincalume® Steel: .40 mm BMT or .55 mm BMT, AZ150 (150gm/m²) G550 Mpa Yield Stress
- Galvanised Steel: .40 mm BMT or .55 mm BMT, Z450 (450gm/m²) G550 Mpa Yield Stress
- Pre-painted COLORCOTE® or COLORSTEEL over Zincalume® .40 mm BMT or .55 mm BMT, AZ150 (150gm/m²), G550 Mpa Yield Stress
- Prepainted COLORCOTE® or COLORSTEEL over Galvanised Steel: .40 mm BMT or .55 mm BMT ZM275 (275gm/m²) 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® performs satisfactorily in the environment it is to be installed, meeting the requirements of The NZ Building Code. Environmental Categories Literature is available on request.

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 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 Zincalume® 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. Where an 18 metre length sheet is exceeded, oversize holes are to be 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, or 14 x 100 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.
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/m² (1.5 mm)
Zincalume®	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. 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.

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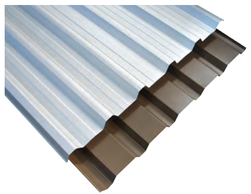
JUNE 2011

MULTIRIB®



Description

Multirib® is a medium height, long run roofing and cladding profile designed primarily for industrial and commercial applications. Multirib® is also suited for roofing applications on low pitch residential projects.

Multirib® provides numerous benefits to the architect, including clean lines and innovative design features offering superior strength and spanning capability over similar profiles. Installed as roofing and cladding on many of New Zealand's larger scale projects, Multirib® exhibits equally impressive aesthetics when used in a traditional profile shape, or alternatively, as "reverse run" as an option for wall cladding ensuring the building designer only has to concern themselves with one roof and cladding profile.

Features

- Convex ribs provide strength and water run-off away from the fixings
- Twin capillary breaks on the lap
- Purpose designed leg provides support to the underlap
- Steeply angled ribs provide superior strength and aesthetics
- Installers feet fit neatly in the pan thereby avoiding damage to the ribs
- Can be "reverse run" and the swage removed for use as a wall cladding
- Lap can be altered in the reverse run process to ensure improved aesthetics and water tightness
- Excellent water carrying capacity
- Equally impressive for both roofing and cladding applications
- Superior spanning at low roof pitch
- Supported by Wind and Concentrated Load Span Design graphs derived from extensive industry test rig trials

Applications

- For industrial and commercial roofing and cladding projects where both high spanning and a low pitch is required
- Residential roofing
- Industrial and commercial horizontal and vertical cladding in both standard and reverse run applications
- Rural and lifestyle roofing and cladding
- Drape curving

Building Design / Performance Criteria / Product selection

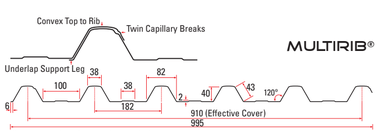
During the design of buildings, it is necessary for the designer to take into account a number of issues to ensure that the most appropriate roofing and cladding product is chosen.

Whilst aesthetics and product availability do play a part, the chosen profile must meet certain performance criteria. These are centered around the profile's ability to shed water from the roof and the ability of the product to span purlin and girt spacings and meet design criteria. The minimum pitch for this profile is outlined elsewhere within this literature.

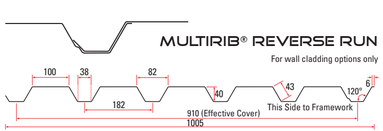
In terms of purlin spans and girt spacing it is necessary to follow due process.

If a building is being designed in accordance with E2/AS1 and roofing and cladding products as covered by that document are chosen, then it is necessary for the design spans to comply with those of E2/AS1.

However where a building is outside of the scope of E2/AS1 and the building or parts thereof are of specific design then it is necessary for the roofing and cladding to be suitable for the design and vice versa.



MULTIRIB®



MULTIRIB® REVERSE RUN

For wall cladding options only

All measurements are in mm and are nominal.

Wind Load Span Design Graph

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, and in these instances purlin spacing should be reduced accordingly.

Reference should be made to the notes in the graphs.

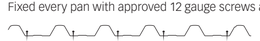
It is our recommendation that for commercial and industrial roofing applications that .55 mm BMT is used as it has more resilience to damage particularly by other trades.

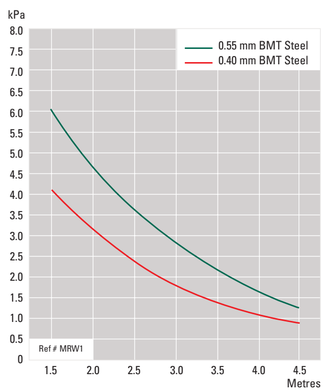
Multirib® G550 Steel

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.

Refer to 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 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

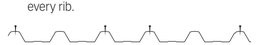
Primary Fixing Method(s):
(Also refer to further content on the rear page)

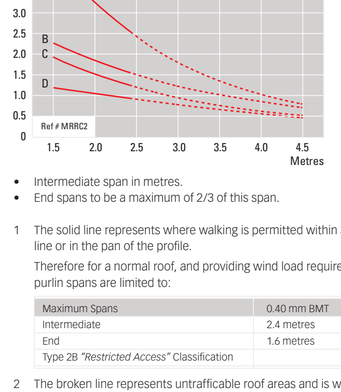
A Fixed every purlin on every rib with approved screws and neos, load spreading profiled metal washers and EPDM washers.

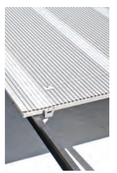
B Fixed every purlin with the same pattern, (hit-miss-hit-hit-miss-hit) with approved screws and neos, load spreading profiled metal washers and EPDM washers. End purlins to be fixed every rib.

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 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 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.