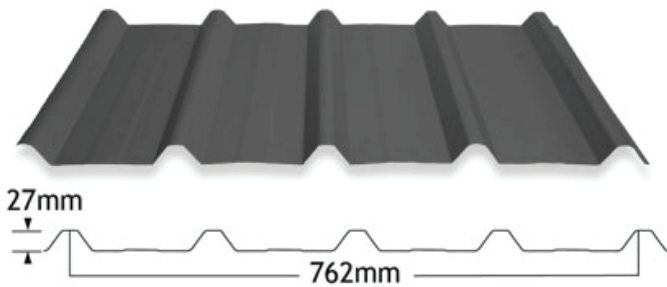




# FIVE RIB TECHNICAL MANUAL

# FIVE RIB



Queensland Sheet Metal (QSM) Five Rib sheeting is a great option for many roofing and walling needs. Made for a wide range of applications across domestic and commercial projects, five rib roof sheeting has a range of great benefits.

It is made to last and is well known in the roofing industry for its versatility and reliability. It is tough, cost-effective and superb for design purposes.

Five Rib is available in an unequalled range of colours and finishes including Zinalume®, Colorbond®, MagnaFlow™ and the luxurious UniCote® LUX range.

## Features & Benefits

- 762mm cover and 27mm rib height
- Available in 0.42BMT and 0.48BMT
- Hi-tensile steel - strong and lightweight
- 2° minimum pitch
- Cut to length
- Versatility - suitable for commercial/industrial and residential roofing and wall cladding

## Materials

**Zinalume®** - Aluminium / Zinc / Magnesium alloy coated steel coil, 125grams/m<sup>2</sup> coating weight. Metallic coating conforms to AS1397:2011. Suitable for ISO9223:2012 Atmospheric Classifications C1 - C3

**Colorbond®** - Pre-painted Aluminium / Magnesium / Zinc alloy coated steel coil, 100grams/m<sup>2</sup> coating weight. Metallic coating conforms to AS1397:2011, pre-painted finish conforms to AS/NZS2728:2013. Suitable for ISO9223:2012 Atmospheric Classifications C1 - C3

**MagnaFlow™** - Pre-painted Zinc / Aluminium / Magnesium alloy coated steel coil, 240grams/m<sup>2</sup> coating weight. Metallic coating conforms to AS1397:2011, pre-painted finish conforms to AS/NZS2728:2013. Suitable for ISO9223:2012 Atmospheric Classifications C1 - C4

Sheeting max (kg/m <sup>2</sup> of roof area)		
	Zinalume®	Colorbond®
0.42mm BMT	4.28	4.35
0.48mm BMT	4.86	4.93

## Testing

QSM Five Rib sheeting has been assessed for suitability for use in non-cyclonic roof and wall cladding applications in accordance to AS1562.1:2018, applicable to both residential and commercial applications. Metallic coated materials comply with AS1397:2011 and pre-painted materials comply with AS/NZS2728:2013.

Installation of product shall be in compliance with AS1562.1:2018 and SA HB-39:2015, National Construction Code (NCC) and relevant QSM Technical Bulletins.

## Adverse Conditions

QSM Five Rib sheeting will give excellent durability in almost all locations. It is however important to choose the correct coating for each application environment as shown in the table below. Durability recommendations do vary based on the application of the product, in roofing or walling installations. Please read the tables below carefully.

Suitability of coating type	Roof sheeting - site exposure condition				Wall cladding - distance from marine
	Mild (ISO Category 1-2)	Moderate (ISO Category 2)	Marine (ISO Category 3)	Severe Marine (ISO Category 4)	
Zinalume®					>1km
Colorbond®					>1km
MagnaFlow™					*

\* Severe marine begins 100 - 400m from the coast and may extend inland depending on local conditions.

These are general guidelines only. Building location, design and aspect need to be taken into account. To ensure warranty will be given, check with QSM before using in these areas.

## Material Compatibility

Due diligence needs to be applied to ensure that all materials are compatible. Corrosion may occur when incompatible materials are either in direct contact, immersed in a common electrolyte, receive inert drainage or drainage from incompatible materials.

As a general rule for metallic coated and pre-painted materials, always avoid direct contact with copper, lead, tantalised timber, Monel, uncoated steel, stainless steel and concrete/mortar.

Drainage from inert materials must not flow onto galvanised material. Inert materials include glass, aluminium, glazed ceramic tiles, pre-painted steel and metallic coated steel.

More highly corrosive environments require additional care, the effects of marine and industrial environments can extend long distances from the source and create unique corrosive challenges.

QSM are here to assist, speak to your representative for further assistance.

## Spans

Spans (mm) determined by wind speed					
BMT	Application	Span Type	Wind Classification		
			N1	N2	N3
0.42	Roofing	Internal	1700	1700	1700
		Double	1350	1350	1350
		End	1350	1350	1350
	Walling	Internal	3000	3000	2700
		Double	2900	2250	1950
		End	2900	2250	1950
0.48	Roofing	Internal	2300	2300	2300
		Double	1700	1700	1700
		End	1700	1700	1700
	Walling	Internal	3000	3000	3000
		Double	3000	2700	2550
		End	3000	2700	2550

Table based on testing in accordance to AS1562.1:2018, AS4040.0:1992 (R2016) and AS4040.2:1992 (R2016, Amd1 2018) and wind loading to AS4055:2012. Internal spans must have both end spans reduced by 20%. Roof sheets are to be fastened with minimum 12 gauge screw and wall sheets are to be fastened with minimum 10 gauge screw, having a non-conductive sealing washer and minimum corrosion resistant coating of Class 4 per AS3566. Table based on fixing to minimum steel support thickness of 1.50mm BMT.

## Pressures

Wind Pressure Limit State Capacities – 3 Fasteners per Sheet											
BMT	Type	Limit State	Span (mm)								
			600	900	1200	1500	1800	2100	2400	2700	3000
0.42	Internal	Serviceability	5.40	5.40	3.75	2.76	2.10	1.64	1.29	1.01	0.80
		Strength	8.60	7.17	5.75	5.24	4.74	4.09	3.52	3.07	2.69
	Double	Serviceability	4.10	4.10	2.34	1.55	1.13	0.88	0.72	0.61	0.53
		Strength	6.24	6.24	4.81	4.00	3.49	3.14	2.88	2.69	2.53
	End	Serviceability	4.10	1.40	2.34	1.55	1.13	0.88	0.72	0.61	0.53
		Strength	6.24	6.24	4.81	4.00	3.49	3.14	2.88	2.69	2.53
0.48	Internal	Serviceability	7.28	5.86	4.44	3.11	2.37	1.91	1.61	1.40	1.25
		Strength	9.42	8.51	7.60	6.60	5.60	4.70	3.70	2.70	1.80
	Double	Serviceability	4.54	4.54	3.52	2.70	2.05	1.55	1.15	0.83	0.56
		Strength	8.10	8.10	7.46	6.38	5.37	4.50	3.70	2.73	1.75
	End	Serviceability	4.54	4.54	3.52	2.70	2.05	1.55	1.15	0.83	0.56
		Strength	8.10	8.10	7.46	6.38	5.37	4.50	3.70	2.73	1.75

Table based on testing in accordance to AS1562.1:2018, AS4040.0:1992 (R2016) and AS4040.2:1992 (R2016, Amd1 2018), to be used in conjunction with AS1170.2:2011 (R2016). Internal spans must have both end spans reduced by 20%. Roof sheets are to be fastened with minimum 12 gauge screw and wall sheets are to be fastened with minimum 10 gauge screw, having a non-conductive sealing washer and minimum corrosion resistant coating of Class 4 per AS3566. Table based on fixing to minimum steel support thickness of 1.50mm BMT.

## Water Carrying Capacity

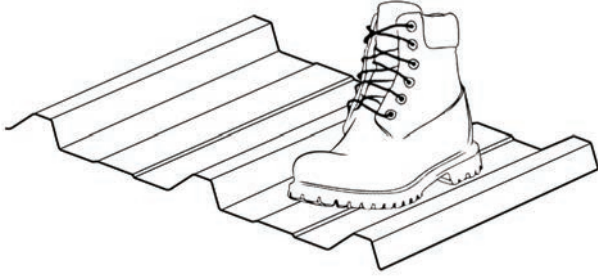
Minimum Roof Slope (degrees)												
Rainfall intensity (mm/hr)	Total roof run length (m)											Max roof run length (m) at 2° min slope
	30	40	50	60	70	80	90	100	110	120	130	
150	-	-	-	-	-	-	-	2.0	2.3	2.9	3.6	105
175	-	-	-	-	-	2.0	2.0	2.7	3.5	4.3	5.2	90
200	-	-	-	-	-	2.1	2.9	3.8	4.8	5.9	7.1	78
225	-	-	-	-	2.0	2.9	3.9	5.1	6.3	7.7	9.2	70
250	-	-	-	2.0	2.7	3.8	5.1	6.5	8.0	9.7	12	63
275	-	-	-	2.3	3.5	4.8	6.3	8.0	9.9	12	15	57
300	-	-	2.0	2.9	4.3	5.9	7.7	9.7	12	15	17	52
325	-	-	2.2	3.6	5.2	7.1	9.2	12	15	17	20	48
350	-	-	2.7	4.3	6.2	8.3	11	14	17	20	24	45
375	-	2.0	3.2	5.1	7.2	9.7	13	16	19	23	-	42
400	2.0	2.1	3.8	5.9	8.3	12	15	18	22	-	-	39

Drainage capacity calculated in accordance to AS1562.1:2018

## Foot Traffic

Foot traffic limits for QSM Five Rib sheeting are based on the accepted industry practise of designing traffic limitations on typical maintenance work. This equates to a single person with a small tool kit up to a total mass of 110kg (1.1kN load).

Walking on QSM Five Rib profile requires that feet are placed only in the pan of the sheet, never on the ribs.



Foot traffic limited spans (mm)		
BMT	Span type	Maximum span (mm)
0.42	Internal	1700
	Double	1350
	End	1350
0.48	Internal	2300
	Double	1700
	End	1700

Testing has been undertaken in accordance to AS1562.1:2018 and AS4040.0:1992 (R2016) and AS4040.2:1992 (R2016, Amd.1 2018)

## Fasteners

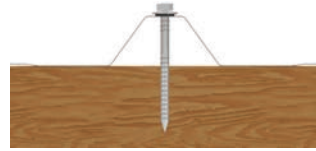
### Fastener Selection

Fastening screws are to be hex head and must be fitted with a non-conductive sealing washer for both roof and wall applications. Screws must conform to AS3566 with a corrosion resistant coating to Class 4 as minimum. Use of load spreading washers for high wind zones and for the fixing of flashings is encouraged. Fastener lengths specified below are based on using 60mm blanket, thicker insulation may require increased screw lengths.

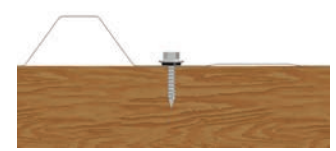
QSM Five Rib Screws (Non-Cyclonic only)			
Application	Fixing to Timber	Fixing to Steel ≤1.2	Fixing to Steel ≥1.2
Crest Fixed Roof	12g x 65mm Type 17 or M6 x 50mm Roof Zips®	M6 x 65mm Roof Zips® or 12g x 50mm Tek®	M6 x 65mm Roof Zips® (up to 1.9mm) or 12g x 50mm Tek®
Valley Fixed Wall	12g x 25mm Type 17 or M6 x 25mm Roof Zips®	10g x 16mm Tek® (over 1.0mm) or M6 x 25mm Roof Zips®	10g x 16mm Tek® or M6 x 25mm Roof Zips® (up to 1.9mm)

When fixing to steel section of 0.75mm BMT or less, use Type 17 or proprietary hybrid point screw. Metal self-drilling screws (such as Buildex Tek®) should not be used in steel less than 1.0mm BMT. Buildex Roof Zips® may be used both in steel (up to 1.9mm) and timber.

Crest fixed into timber



Valley fixed into timber



Crest fixed into steel



Valley fixed into steel



### Fastener Locations

Roofing: One fixing per crest



Walling: One fixing per pan, fasten adjacent to the overlapping rib



## Installation

- QSM Five Rib sheeting should be installed into the prevailing weather
- Each sheet should be laid accurately to cleanly lap the adjoining roof sheet without over or under lapping
- Where sheeting spans exceed 900mm for roofing and 1200mm for walling, install a side lap fastener mid-span
- For roofing, the pan needs to be turned up at the peak and turned down at the eave
- At the completion of each days work, the roof surface needs to be cleaned to remove all traces of metal debris and swarf. Typically this is achieved by air blower, hose down or sweeping.
- Good trade practise should be applied, such as that contained in SA HB39:2015

## Ordering

- QSM Five Rib sheeting is ordered cut to length.
- Manufacturing tolerance on the length is +0/-15mm.
- Delivery can usually be made within 24-48 hours of payment depending on location, quantity and availability.
- Please ensure lengths are within the limit of local Transport Authority regulations.
- Be sure that a suitable arrangement has been made for truck unloading as this is the responsibility of the receiver.

## Maintenance

- Roofing and cladding materials that are not exposed to rainfall should be washed down at least once every six months (more often in marine environments) to remove build-up of corrosive elements.
- Prior to installation, materials must be kept clean and dry. Ensure that sheeting packs are covered, air flow is adequate to eliminate condensation and water is not allowed to pond. Should materials get wet, sheeting must be separated and thoroughly dried.
- Sheetting should be handled with care to both avoid installer injury and damage to the product. Cutting of sheets must only be done with tin snips, shears or cold-cutting saw, so as to avoid the damage caused by abrasive cutting methods (i.e angle grinder).



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