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PURPOSE

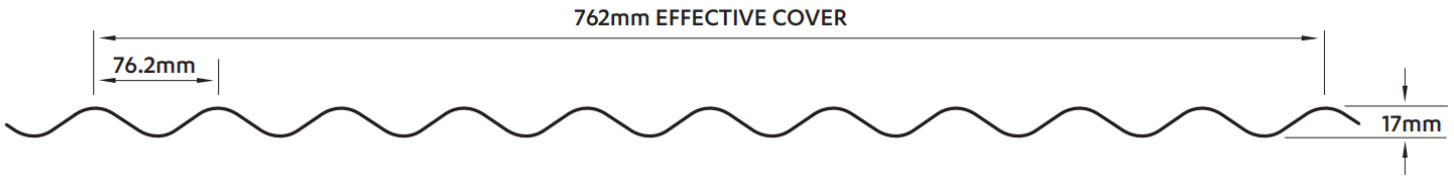
Quin Roofing Ltd supplies ZinaCore™ & MagnaFlow™ Corrugate Long Run metal sheets (ZinaCore™ & MagnaFlow™ Corrugate) for use as a cladding on external walls and pitched roofs.

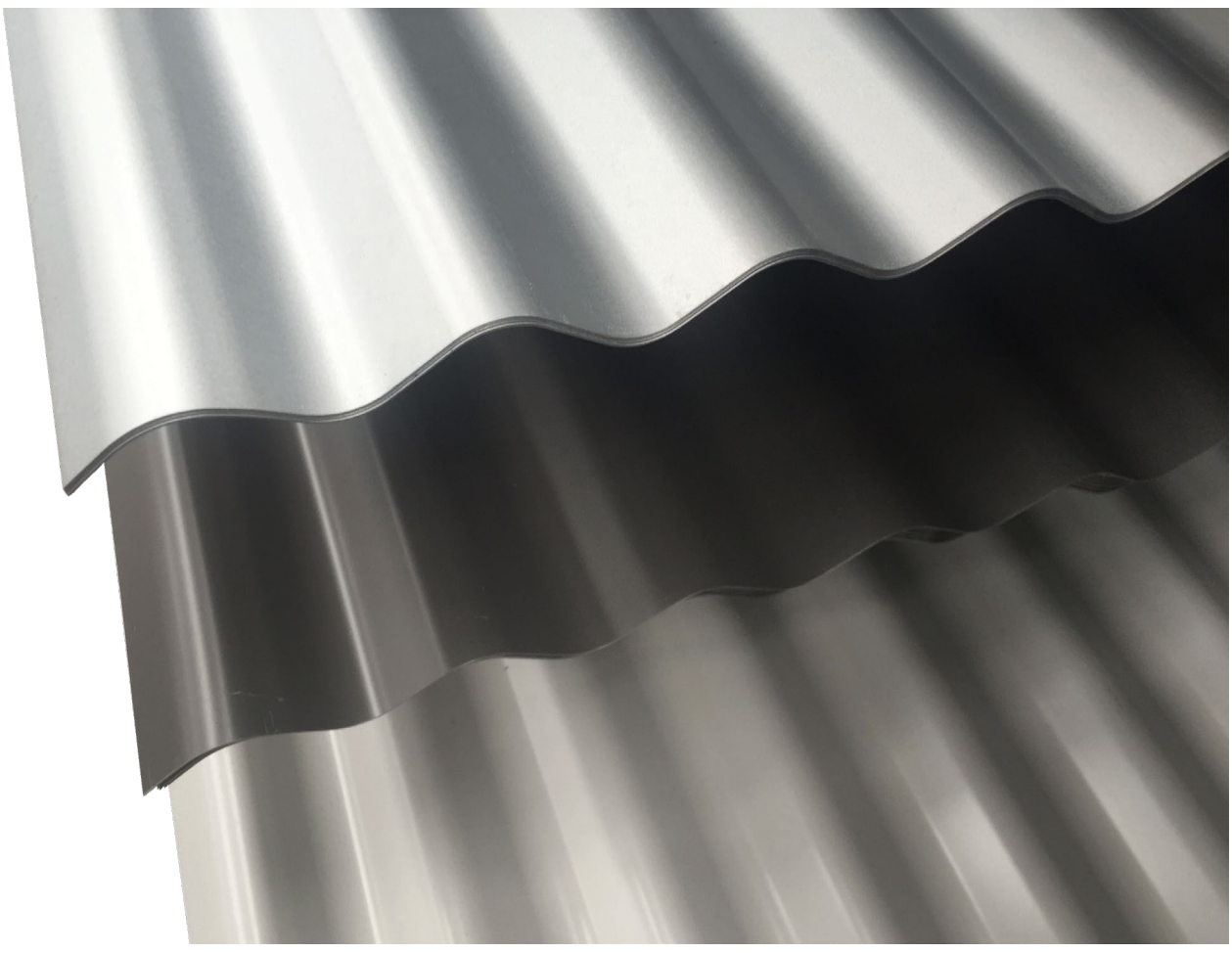
EXPLANATION

ZinaCore™ comprises a steel substrate (0.4mm or 0.55mm gauge) protected with a hot-dipped aluminium/zinc coating and a flexible exterior acrylic, polyester, modified polyester or a 70% PVDF finishing coat. It weighs 150gms/m2.

MagnaFlow™ is a steel substrate (0.4mm or 0.55mm gauge) protected with a hot-dipped coating that includes magnesium with the aluminium/zinc. It is also finish coated with a flexible exterior acrylic, polyester, modified polyester or a 70% PVDF finishing coat. The inclusion of magnesium increases it's resistance to corrosion.

PROFILE





MAXIMUM ROOF SPAN

	Material Thickness	Internal Span	End Span
		Span	Span
Controlled Traffic*	0.40mm	1200	900
	0.55mm	1600	1050
Heavy Traffic**	0.40mm	N/R	N/R
	0.55mm	900	600

Notes:

- Sheet ends should be fastened through every second crest.
- To correlate Wind Zone figures to kPa a local pressure factor of 2 has been applied to the entire roof. Specific design is required for roofs designed in accordance with NZS1170 where a local pressure factor of 3 occurs over areas greater than one sheet width or end purlin spacing.
- The above tables are governed by serviceability load factors applicable to normal buildings (importance level 2) for all geographic areas.

MAXIMUM WALL SPAN

	Load (kPa)*	Maximum Spans	
		0.40 mm	0.55 mm
Medium	0.93	1.80	2.10
High	1.32	1.50	1.80
Very High	1.72	1.40	1.60
Extra High	2.09	1.20	1.50

*Serviceability load governs

The deflection criteria used in this table is span/120 + P/20, where P = the space between fasteners. Higher deflection limits may be acceptable in certain circumstances.

FASTENING REQUIREMENTS

Material Thickness	Purlin Spacing	Wind Zone		
		High 44 m/s	Very High 50 m/s	Extra High 55 m/s
0.40mm	900	3	4	5
0.55mm		2	2	3
0.40mm	1200	4	5	5
0.55mm		3	3	4

Fastener requirements for wind zones according to NZMRM 3.16.5.1 – NZMRM 3.16.5.2 (calculated on periphery area pressures), using standard fasteners without load spreading washers (typically fastened through every rib top and bottom purlin).

For all other scenarios refer to Quin Roofing.

FASTENERS

Typically: Steeltite 12g x 45mm, Timbertite 12g x 55mm, Class 4 minimum, of material compatible with that being fastened and durability no less than the sheet material. Class 5 or non-ferrous fasteners are recommended for severe or very severe marine environments.

SCOPE OF USE AND LIMITATIONS

LOCATION

Scope	Limitation
In all wind zones up to and including extra high as defined in NZS 3604:2011 or calculated design wind pressure (ULS).	• Spans and fixings in accordance with NZMRM Code of Practice Span tables • Where the pressure or product falls outside the scope of the span tables, specification is subject to specific design.
In all exposure zones defined by NZS 3604:2011.	• In exposure Zone D only MagnaFlow™ may be used. • Where microclimatic considerations apply(as defined in Section 4.2.4) contact Quin Buildings Direct for technical advice.
On buildings any proximity to a relevant boundary.	

BUILDING

Scope	Limitation
On timber or steel structural framing.	• Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice.
In conjunction with a primary structure that complies with the NZ Building Code or where the designer has established that the existing structure is suitable for the intended building work.	• Spans and fixings to be in accordance with NZMRM Code of Practice Span tables • Where the wind pressure or product falls outside the scope of the span tables, specification is subject to specific design.
As a roof cladding	• A minimum roof pitch of 8° is required. • A potable water collection system may be installed. • Flashings and fixings must be in accordance with E2/AS1 and NZMRM Code of Practice. • Flexible and rigid building underlays must meet the same physical characteristics of Table 23 E2/AS1. • Contact with other materials must be in accordance with E2/AS1 and NZMRM Code of Practice.
As a wall cladding, installed horizontally or vertically.	• Orientation (horizontal/vertical) and whether direct fixed or installed over a cavity must be in accordance with Table 3, E2/AS1. • Flashings and fixings must be in accordance with E2/AS1 and NZMRM Code of Practice • Flexible and rigid building underlays must meet the same physical characteristics of Table 23 E2/AS1.

CONDITIONS OF USE

ZinaCore™ & MagnaFlow™ Corrugate must be installed in accordance with E2/AS1 and the NZMRM Code of Practice.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Quin Roofing Ltd requirements, ZinaCore™ & MagnaFlow™ Corrugate will comply with or contribute to compliance with the following performance claims:

NZ BUILDING CODE CLAUSES

	Basis of compliance	
	Compliance statement	Demonstrated by
B1 Structure **B1.3.1** **B1.3.2** **B1.3.3 (a, b, c, d, g, i)**	ALTERNATIVE SOLUTION	• E2/AS1 AND NZMRM Code of Practice include metal cladding for roof and external cladding. This implies that ZinaCore™ & MagnaFlow™ Corrugate to this standard will have the necessary structural integrity for those uses.
B2 Durability **B2.3.1 (b)** **B2.3.2 (b)**	ACCEPTABLE SOLUTION B2/AS1	• Finish coated in accordance with AS/NZS 2728:2013 (cited in E2/AS1). • Coating of the steel core is to AS/NZS 1397:2011
C3 Fire Affecting Areas Beyond the Source **C3.4 (a)** **C3.7 (a)**	ACCEPTABLE SOLUTION C/AS2 – C/AS6	• Steel non-combustible (refer para 5.8 C/AS2-C/AS6). • Tested by CSIRO to ISO 5660.1:2002, Material Group number 1-S. • CSIRO is registered by NATA to perform the ISO tests.
E2 External Moisture **E2.3.1** **E2.3.2** **E2.3.7 (a, b, c)**	ACCEPTABLE SOLUTION E2/AS1	• NZMRM Code of Practice.
F2 Hazardous Building Materials **F2.3.1**	ALTERNATIVE SOLUTION ColorCote™ MDS	• Coating system is inert once dry.

1. The Compliance Statement is the pass holder's statement that they have met their obligations under s14G(2) of the Building Act 2004.

OTHER PERFORMANCE STATEMENTS

	Basis of statement	
	Performance statement	Demonstrated by
Corrugate Long Run will not contaminate potable water.	AS/NZS 4020:2005	• BRANZ statement refer: http://www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater/

USEFUL INFORMATION

For information on the design, installation and maintenance of ZinaCore™ & MagnaFlow™ Corrugate and for our warranty refer to quinbuildings.co.nz.

SOURCES OF INFORMATION

- AS/NZS 1397:2001 Steel sheet and strip—Hot-dip zinc coated or aluminium/zinc-coated
- AS/NZS 2728:2013 Prefinished/pre-painted sheet metal products for interior and exterior building applications
- BRANZ http://www.level.org.nz/water/water-supply/mains-or-rainwater/harvesting-rainwater/
- NZ Metal Roof Manufacturer's (NZMRM): *Code of Practice (V3.0)*
- ColorCote™ Technical Bulletin Number 3 *Fire Rating Compliance of ColorCote Products*.