



CR 1100

Coolroom Panel

Product Guide



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Metecno NZ

State-of-the-art \$30 million, 8,500sqm manufacturing facility in Hamilton, New Zealand, supported by United Industries Group.

About Metecno

Metecno Group

Founded in Italy in 1961, Metecno Group has been a global leader in insulated building materials for over 58 years, delivering cutting-edge solutions across 16 countries. Our expansion into New Zealand marks a significant step in local manufacturing, lowering emissions and meeting the growing demand for energy-efficient cladding and roofing solutions.

Metecno NZ

We're proud to strengthen our global presence with a state-of-the-art \$30 million, 8,500sqm manufacturing facility in Hamilton, New Zealand, supported by United Industries Group.

TE RAPA PLANT HIGHLIGHTS:

Producing insulated panels & Insulation boards, supporting residential, commercial & controlled environments.

Driving local economic growth & sustainability. This facility isn't just an expansion—it's a commitment to a greener, more energy-efficient future for New Zealand's construction industry.

Metecno at a Glance

- **58 Years of experience**
- **16 Factories worldwide**
- **30 Offices worldwide**
- **2000 employees worldwide**

United Industries Group

Metecno NZ is part of United Industries Group Limited. United Industries is heavily involved in providing materials and services to the New Zealand construction market through its group companies.

For more information on United Industries, please visit:
www.unitedindustries.co.nz

Insulated Panels & Boards

INSULATED PANELS & BOARDS: SMARTER, FASTER, AND MORE SUSTAINABLE.

Metecno NZ delivers a full range of insulated panel solutions designed for cool rooms, cold storage, architectural walls and roofing applications. Built for superior thermal efficiency, fire resistant and durable, our panels ensure seamless installation and long-term performance for residential, commercial and industrial projects.

INSULATED PANELS – PERFORMANCE, EFFICIENCY & SUSTAINABILITY

Proudly NZ-made, our insulated panels offer longer sheet lengths, shorter lead times and enhanced energy efficiency. Engineered for durability and high thermal performance, they support faster construction, reduced costs and long-term sustainability.

Committed to Local & Sustainable Sourcing

We prioritise New Zealand-based suppliers, sourcing high-quality steel from New Zealand Steel, our insulated panels are available in COLORSTEEL® CP (coolroom panel) and COLORSTEEL® MAXAM®, ensuring:

- Exceptional strength
- Superior weather resistance





Introduction

CR 1100 Coolroom Panel

Metecno's CR 1100 insulated panels are Manufactured on a continuous production line where the fire resistant PIR core is foamed and cured directly between 0.55mm or 0.59mm BMT steel skins from New Zealand Steel in COLORSTEEL® or ® COLORSTEEL® CP depending on application and environmental categories.

- Exceptional thermal & moisture resistance
- Fire resistant PIR core
- Low air Leakage

Ideal for controlled environments, Metecno's CR 1100 PIR panels help maintain consistent internal temperatures with high energy efficiency. Lightweight yet strong, they deliver long-term dimensional stability and reliable performance, making them perfect for walls and ceilings for cool rooms, freezers and ambient temperature clean rooms.

TYPICAL APPLICATIONS INCLUDE:

- Coolrooms & Freezers
- Health & Infrastructure
- Ceilings, Walls and Partitions
- Office Fit-Outs & Retail Applications
- Laboratory & Clean Room Walls & Ceilings
- Internal Partition Walls
- Transportable Buildings
- Factories, Data Centres and Food Manufacturing

Non Ozone Depleting

Metecno's CR 1100 Insulated panels use pentane as the blowing agent, which has zero ozone-depleting potential, making it an environmentally responsible choice.

What is PIR?

Polyisocyanurate (PIR) is a high-performance rigid foam insulation widely used as the core of insulated panels in commercial, industrial, and cold storage buildings. Its closed-cell thermoset structure provides excellent thermal insulation by minimising heat transfer, improving energy efficiency, and reducing electricity consumption in coolrooms and freezers.

Controlled Environments Explained

Controlled Environments are spaces where specific parameters such as temperature, humidity, and cleanliness must be maintained. These are critical in industries such as; pharmaceuticals; food processing; cold storage; data centres and food manufacturing.

Vapour Barrier

Vapour barriers are essential for the operating performance of controlled environments and to prevent condensation.

These can be easily incorporated, by applying silicone sealant to flashings and panel joints.

Installation details can be downloaded from:
www.metecno.co.nz

Fixing Method

Metecno's CR 1100 insulated panels are installed through fixed with mushroom bolts. Channels, angles and related extrusions are typically used in conjunction with 4.8mm rivets.

Structure

Metecno's CR 1100 insulated panels are classified as cladding or ceiling elements and are not designed, tested, or rated for bracing or structural load-bearing applications.

CR 1100 insulated panel load span graphs and fixing designs are in accordance with AS/NZS 1170.2:2011 and AS 1562.1.

Ancillaries, Extrusions and Flashings

Metecno can source a comprehensive range of extrusions to support the installation of CR 1100.

Features and Benefits

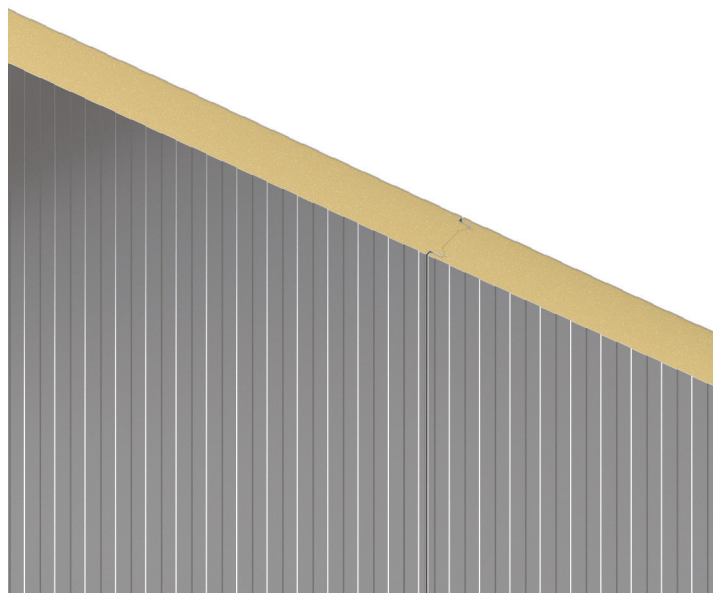
Features & Benefits

Metecno's CR 1100 insulated panels are available in a range of colours with a variety of external and internal profile options..

NZ Made for longer sheet lengths and shorter lead times.

FEATURES AND BENEFITS INCLUDE:

- Fire resistant PIR thermosetting core
- Longer lengths
- Shorter lead times
- Strong and durable
- NZ Steel - COLORSTEEL® colours providing perfect colour match with flashings
- Thermally efficient
- Ease of cutting and trimming on site
- Minimal mess on site
- Compatibility with openings and design elements of the building



Indicative 3D Render of CR 1100 -
100mm thick panel with Fineline Finish

Colours

CR 1100 insulated panels are manufactured as standard in COLORSTEEL® Titania, other colour options are available and steel swatches are available on request.

*Ebony is only suitable for internal applications, due to heat build-up on dark colours.



Thermal Performance and Weight

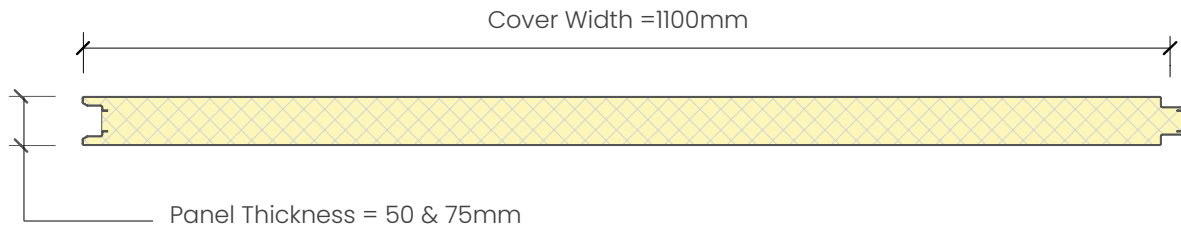
Properties	CR 1100 Panel Thickness (mm)					
	50	75	100	125	150	200
Product R-Value (m2K/W) *	2.20	3.30	4.35	5.45	6.55	8.70
In-Service R -Value (m2K/W) **	2.38	3.48	4.53	5.63	6.73	8.88

* Product R-Value = aged thermal performance at 15°C in accordance with AS/NZS 4859 Parts 1 & 2:2018; applicable prior to installation of insulation panels or boards

** In-Service R-Value = thermal resistance of the product as part of a building element, including surface air films, determined in accordance with NZS 4214.

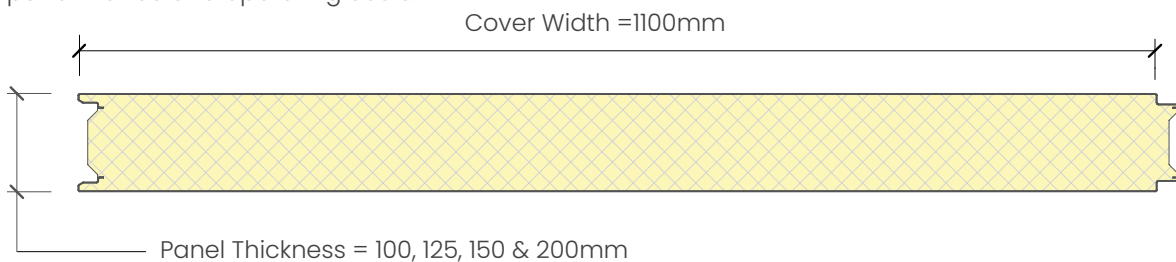
Product Properties

Panel Butt Joint



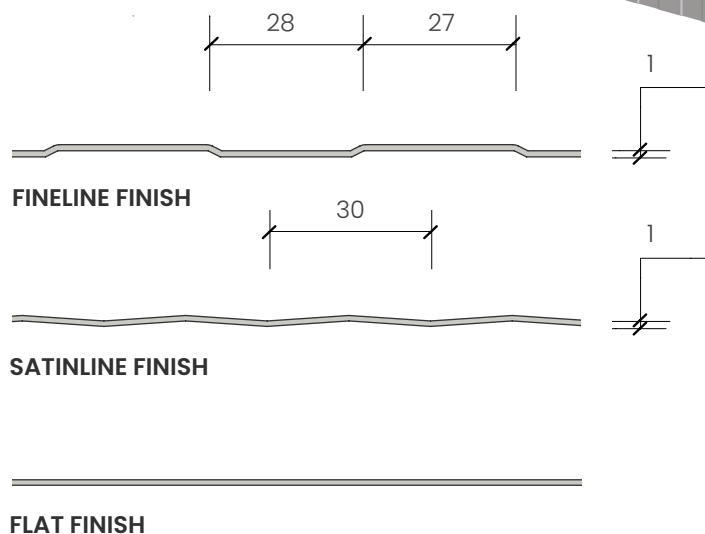
Panel Interlocking Joint

Interlocking joints enhance insulation by minimising thermal bridging and air leakage—recommended for maintaining temperature control in coolrooms and freezers, where energy efficiency directly impacts performance and operating costs.



Panel Finish Options

EXTERNAL & INTERNAL PROFILE OPTIONS:



Indicative 3D Render of:
Fineline Finish
Satinline Finish
Flat Finish

All dimensions are nominal and may vary with manufacturing and installation tolerances.

Product Properties

Product Properties	
Place of Manufacture	Metecno NZ, 10 Earthmover Crescent, Burbush, Hamilton, New Zealand
Core	Polyisocyanurate (PIR) Density 37Kg/m ³ Core density may vary by + or - 5%
Water Vapour Transmission	Water Vapour Transmission tested by BRANZ in accordance with AS2498.5. Water vapour transmission rate (WVT): 11.4 g/m ² /24h (equivalent to 132.1 µg/m ² .s) Branz Test Report: DC21639-01-1
Water Absorption	Water absorption tested by BRANZ in accordance with AS2498.8 Negligible (<0.20% by mass) Branz Test Report: DC21639-01-1
External steel Facing	0.55mm (0.59mm optional)BMT COLORSTEEL® CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. or: 0.55mm (0.59mm optional) BMT COLORSTEEL® MAXAM® with G300 AM150 consistent with AS 1397:2021. The correct steel is dependent on the environmental category and corrosion zone, please consult Metecno NZ.
Internal steel Facing	0.55mm (0.59mm optional)BMT COLORSTEEL® CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. or: 0.55mm (0.59mm optional)BMT COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. Please consult Metecno NZ for correct steel selection for specific application.
Cover Width	1100mm
Length	Maximum length 24m. Lengths may be restricted by panel thickness and transportation to site.
Thickness	50mm, 75mm, 100mm, 125mm, 150mm and 200mm.
Fire Resistant Core	Yes
Combustibility	Combustible
Environment	Non Ozone Depleting Potential (ODP)

Guidance Notes– Loadspan Tables

General

The following loadspan tables must be read in conjunction with the following notes

- Steel material used in testing was 0.55mm BMT G300.
- Tested without washers.

Span Table Selection

Panel properties and screw performance have been used to derive span tables for a Single simply supported span. The values given are for:

- SLS – the minimum pressure for a panel deflection of span/150, or the local deformation limit at the screw head.
- ULS – The panel flexural strength or the screw pull-over strength for uplift, or the panel.
- Strength for positive pressure. Under positive pressure it is assumed that panels bear on the purlin or girt surface.
- Fixings used in test were 14g washer head screws with 14.8mm diameter heads at 250mm spacing. Embedment of the screws into purlins, studs or girts should be determined on a case-by-case basis and did not form part of the testing.
- Self weight has not been allowed for in the tables, so for walls, the pressures can be used directly.

Other

- For span arrangements, such as continuous spans, or cantilever ends, structural analysis and specific design is recommended. An approximate design can be achieved by using the table values for a two-span situation, but doubling the screw force at the centre support.
- For three or more spans, the tabulated pressure could be multiplied by 1.08 times to get an approximate design pressure. Screw forces would again be double the single span case.

Panel Stiffness and Panel Flexural Resistances

The results have been depreciated as per AS/NZS 1170.0 Table B1 and the NZMRM Code of Practice. For these tests a minimum SLS CoV of 5% and ULS Cov of 10% were adopted, as per the NZMRM Code of Practice for roofing. For design use, a lower bond SLS stiffness EI was derived, with mean test stiffnesses about 120% of this. For ULS a limiting moment was derived which include self-weight as tested.

Panel stiffness's EI are provided to allow modelling to determine SLS deflection performance. Lower bound and average EI values are provided so designers can check sensitivity.

- The panel local deformation around fasteners may also govern SLS conditions.
- Panel failure flexural resistances ϕM_n are provided in both hogging and sagging to allow ULS design. These values are not allowing for panel self weight.

Thickness (mm)	SLS Stiffness EI kNm ² /m	ULS ϕM_n kNm/m
50	81	3.17
75	156	5.20
100	316	7.93
125	460	8.85
150	604	9.77
200	895	14.6

Panel Weight and Mass

Thickness	Panel Mass* (kg/m ²)	Weight (kPa)
50	11.83	0.116
75	12.80	0.126
100	13.77	0.135
125	14.75	0.145
150	15.73	0.154
200	17.67	0.173

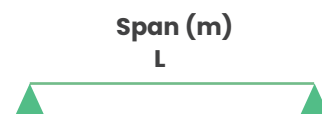
These are mean values. Actual values could vary +/- 0.1 kg/m²

* Steel gauges may affect overall mass; actual mass may vary by ±10%

Single Span – Loadspan Tables

IMPORTANT:

Loadspan tables below must be read in conjunction with the guidance notes on page 11 of this document.
Without washers.



Single Span – Serviceability Limit State (SLS)

Single Span Maximum SLS kPa (m)																	
Thickness (mm)	Load Type	0.55mm BMT G300															
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
50	Pressure	10	6.7	5.0	2.6	1.5	0.97	0.65	0.46								
	Suction	-10	-6.7	-5.0	-2.6	-1.5	-0.97	-0.65	-0.46								
75	Pressure	15	10	7.5	5.2	3.0	1.8	1.2	0.88	0.64	0.48	0.37					
	Suction	-12	-8.1	-6.1	-4.9	-3.0	-1.8	-1.2	-0.88	-0.64	-0.48	-0.37					
100	Pressure	10	13	10.0	8.0	6.0	3.8	2.5	1.8	1.3	0.97	0.75	0.59	0.47	0.38	0.32	
	Suction	-10	-8.1	-6.1	-4.9	-4.1	-3.5	-2.5	-1.8	-1.3	-0.97	-0.75	-0.59	-0.47	-0.38	-0.32	
125	Pressure	25.0	17.0	12.0	10.0	8.30	5.5	3.7	2.6	1.9	1.4	1.1	-0.86	-0.69	-0.56	-0.46	-0.38
	Suction	-12.0	-8.1	-6.1	-4.9	-4.1	-3.5	-3.0	-2.6	-1.9	-1.4	-1.1	0.86	0.69	0.56	0.46	0.38
150	Pressure	30	22.0	15.0	12.0	10.0	7.2	4.8	3.4	2.5	1.9	1.4	1.1	0.90	0.73	0.60	0.50
	Suction	-12.0	-8.1	-6.1	-4.8	-4.1	-3.5	-3.0	-2.7	-2.4	-1.8	-1.4	-1.1	-0.90	-0.73	-0.60	-0.50
200	Pressure	40.0	30.0	20.0	17.0	13.0	10.0	7.2	5.0	3.7	2.7	2.1	1.7	1.3	1.1	0.90	0.75
	Suction	-12.0	-8.1	-6.1	-4.9	-4.0	-3.5	-3.0	-2.7	-2.4	-2.2	-2.0	-1.7	-1.3	-1.1	-0.90	-0.75

Single span – Ultimate Limit State (ULS)

Single Span Maximum ULS kPa (m)																	
Thickness (mm)	Load Type	0.55mm BMT G300															
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
50	Pressure	10	6.7	5.0	3.8	2.7	2.0	1.5	1.2	0.96	0.79						
	Suction	-10	-6.7	-5.0	-4.0	-2.7	-2.0	-1.5	-1.2	-0.96	-0.79						
75	Pressure	15	10	7.5	6.0	4.5	3.3	2.5	2.0	1.6	1.3	1.1					
	Suction	-15	-10	-7.5	-6.0	-4.5	-3.3	-2.5	-2.0	-1.6	-1.3	-1.1					
100	Pressure	10.0	13.0	10.0	8.0	6.7	4.9	3.8	3.0	2.4	2.0	1.7	1.4	1.2	1.1	0.94	
	Suction	-10.0	-13.0	-10.0	-8.0	-6.7	-4.9	-3.8	-3.0	-2.4	-2.0	-1.7	-1.4	-1.2	-1.1	-0.94	
125	Pressure	25	17	12	10	7.2	5.3	4.1	3.2	2.6	2.2	1.8	1.5	1.3	1.2	1.0	0.9
	Suction	-25	-17	-12	-10.0	-7.2	-5.3	-4.1	-3.2	-2.6	-2.2	-1.8	-1.5	-1.3	-1.2	-1.0	-0.9
150	Pressure	30.0	22.0	15.0	12.0	8.3	6.1	4.7	3.7	3.0	2.5	2.1	1.8	1.5	1.3	1.2	1.0
	Suction	-26.0	-17.0	-13.0	-10.0	-8.3	-6.07	-4.70	-3.67	-3.0	-2.46	-2.1	-1.76	-1.5	-1.3	-1.2	-1.0
200	Pressure	40.0	30.0	20.0	17.0	13.0	9.2	7.1	5.6	4.5	3.7	3.1	2.7	2.3	2.0	1.7	1.5
	Suction	-26.0	-17.0	-13.0	-10.0	-9.0	-7.7	-6.7	-5.6	-4.5	-3.7	-3.1	-2.7	-2.3	-2.0	-1.8	-1.5

Refer to guidance notes on page 3.

Double Span – Loadspan Tables

IMPORTANT:

Loadspan tables below must be read in conjunction with the guidance notes on page 11 of this document.
Without washers.



Double span – Serviceability Limit State (SLS)

Double Span Maximum SLS kPa (m)																	
Thickness (mm)	Load Type	0.55mm BMT G300															
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
50	Pressure	8.0	5.3	4.0	3.2	2.7	2.3	1.6	1.1	0.80	0.60						
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.80	-0.60						
75	Pressure	12.0	8.0	6.0	4.8	4.0	3.4	3.0	2.1	1.5	1.2	0.89					
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.97	-0.88	-0.81					
100	Pressure	16.0	11.0	8.0	6.4	5.3	4.6	4.0	3.6	3.1	2.3	1.8	1.4	1.1	0.92	0.76	
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.97	-0.88	-0.81	-0.75	-0.69	-0.65	-0.61	
125	Pressure	20.0	13.0	10.0	8.0	6.7	5.7	5.0	4.4	4.0	3.4	2.6	2.1	1.6	1.3	1.1	0.92
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.97	-0.88	-0.81	-0.75	-0.69	-0.65	-0.61	-0.57
150	Pressure	24.0	16.0	12.0	9.6	8.0	6.9	6.0	5.3	4.8	4.4	3.5	2.7	2.2	1.8	1.5	1.2
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.97	-0.88	-0.81	-0.75	-0.69	-0.65	-0.61	-0.57
200	Pressure	32.0	21.0	16.0	13.0	11.0	9.1	8.0	7.1	6.4	5.8	5.1	4.0	3.2	2.6	2.2	1.8
	Suction	-4.9	-3.2	-2.4	-2.0	-1.6	-1.4	-1.2	-1.1	-0.97	-0.88	-0.81	-0.75	-0.69	-0.65	-0.61	-0.57

Double Span – Ultimate Limit State (ULS)

Double Span Maximum ULS kPa (m)																	
Thickness (mm)	Load Type	0.55mm BMT G300															
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
50	Pressure	8.0	5.3	4.0	3.2	2.7	2.0	1.5	1.2	0.96	0.79	0.66					
	Suction	-8.0	-5.3	-4.0	-3.2	-2.7	-2.0	-1.5	-1.2	-0.96	-0.79	-0.66					
75	Pressure	12.0	8.0	6.0	4.8	4.0	3.3	2.5	2.0	1.6	1.3	1.1					
	Suction	-10	-7.2	-5.4	-4.3	-3.6	-3.1	-2.5	-2.0	-1.6	-1.3	-1.1					
100	Pressure	16.0	11.0	8.0	6.4	5.3	4.6	3.8	3.0	2.4	2.0	1.7	1.4	1.2	1.1	0.94	
	Suction	-10.0	-7.2	-5.4	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2.0	-1.7	-1.4	-1.2	-1.1	-0.94	
125	Pressure	20.0	13.0	10.0	8.0	6.7	5.3	4.1	3.2	2.6	2.2	1.8	1.5	1.3	1.2	1.0	0.9
	Suction	-10.0	-7.20	-5.4	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2.0	-1.8	-1.5	-1.3	-1.2	-1.0	-0.9
150	Pressure	24.0	16.0	12.0	9.6	8.0	6.1	4.7	3.7	3.0	2.5	2.1	1.8	1.5	1.3	1.2	1.0
	Suction	-11.0	-7.2	-5.4	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2.0	-1.8	-1.7	-1.5	-1.3	-1.2	-1.0
200	Pressure	32.0	21.0	16.0	13.0	11.0	9.1	7.1	5.6	4.5	3.7	3.1	2.7	2.3	2.0	1.7	1.5
	Suction	-11.0	-7.2	-5.4	-4.3	-3.6	-3.1	-2.7	-2.4	-2.2	-2.0	-1.8	-1.7	-1.5	-1.4	-1.3	-1.2



General Notes

Compliance to New Zealand Building Code

TECHNICAL LITERATURE

Please refer to the Building Product Information sheet for compliance of Metecno's CR 1100 insulated panel to the New Zealand Building Code and for scope and limitations of use.

Metecno's product literature can be downloaded from:

www.metecno.co.nz

Technical Support

The guidance provided in Metecno's technical documentation reflects recognised industry practices; however, it should not be considered a complete source of all information required for design or installation. Because the performance of any Metecno system relies on factors beyond our control—such as design decisions, installation quality, and site conditions—Metecno accepts no liability for how these recommendations are applied or for the performance of the system in any specific situation, including meeting the requirements of the NZBC or any applicable laws, regulations, or standards.

It is the responsibility of the project's designer to confirm that the details and recommendations within Metecno's technical documents are appropriate for the intended application and to undertake any necessary project-specific design.

Contact Metecno for Technical Support.

Contact Us

HAMILTON

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10 Earthmover Crescent,
Burbush 3200, Hamilton,
New Zealand

T: 07 849 1400

For more information on Metecno visit:

www.metecno.co.nz

Metecno NZ Limited is part of the
United Industries Group, formed in New Zealand in 1981.

Metalcraft Roofing | Metalcraft Insulated Panels
Reofab | United Steel | Millier Reinforcing | IMBMS
Akarana Timbers | KnK Architectural Hardware
Zeta Windows | Pipes NZ | Styrobeck Plastics

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