Metalcraft
Insulated Panels

COMPANY PROFILE

CONTENTS

ABOUT US

ABOUT US

We specialise in manufacturing and supplying insulated panels, backed by robust warranties. Our panels are widely used across various sectors, including:

- Residential
- Industrial
- Commercial
- Retail
- Healthcare
- Coolstores/Freezers
- Agricultural

We offer a comprehensive range of panel solutions, employing various core technologies and coatings to meet the performance requirements of different environments.

Our locally manufactured products include:

- Thermospan and Thermopanel with an EPS (expanded polystyrene) core
- Aspirespan® and Aspirepanel® with a PIR (polyisocyanurate) core

Additionally, through our sister company Bondor Australia, we can supply:

- Metecnospan® and Metecnopanel® with a PIR core, FM Approved to unlimited height.

Metalcraft Insulated Panel Systems operates a manufacturing facility in Auckland, serving the entire New Zealand market.

Metalcraft Insulated panels and our sister company Metalcraft Roofing are members of:

The Roofing Association, New Zealand.
New Zealand Metal Roofing Manufacturers Incorporated.

MRM
NZ METAL ROOFING MANUFACTURERS INC.

MEMBER OF ROOFING ASSOCIATION N.Z.

STEEL SOURCING

Our insulated panels are manufactured in New Zealand using steel from New Zealand Steel. Galvsteel® is most commonly used and COLORSTEEL® MAXAM® is also available. Please consult with Metalcraft Insulated Panels about suitability of use and also about the availabilty of other metal types.

COLORSTEEL.

UNITED INDUSTRIES LIMITED

Metalcraft Insulated Panels is part of United Industries Limited, a leading supplier of construction materials and services in New Zealand. Our sister company, Metalcraft Roofing, complements our offering with a wide range of high-quality steel products.

Metalcraft Roofing was established in the 1950's in Palmerston North, Metalcraft Roofing has over 70 years of experience manufacturing roll-formed steel products and delivering outstanding service.

They also operate structural manufacturing facilities in Auckland and Christchurch, supplying purlins, girts, tophats, metal decking and composite flooring to the construction market nationwide.

All products are manufactured locally using steel from New Zealand Steel, and include:

- Longrun roofing profiles
- Lightweight metal tiles
- Metal fencing
- Gutters, fascias & downpipes
- Purlins, girts, tophats & bracing
- Composite tray flooring

Solar energy solutions are also available.

For more, visit: **unitedindustries.co.nz**

ENVIRONMENTAL & SUSTAINABILITY

ENVIRONMENTAL POLICY -UNITED INDUSTRIES GROUP

We look to advance waste minimisation in our manufacturing processes wherever possible. We promote recycling of ancillary non-steel waste, -by sorting to maximise our ability to recycle it. Transportation efficiency is another critical area for evaluation and improvement in order to minimise the adverse environmental effects from inefficient logistical movements, and to simultaneously generate cost efficiencies for the United Industries Group and its customers.

As an established provider of solar photovoltaic services, we appreciate the value of investment in renewable energy generation, from both a sustainability and a cost saving point of view. We seek to standardise renewable energy generation across our locations nationwide. The current sites with PV generate around 25% of our energy requirements, but it is our long-term intention to scale this up to generate 100% of our energy requirements from on-site PV Solar generation.

To complement this initiative, the auditing and optimising energy consumption in our manufacturing operations is a key point of focus. Energy efficiency measures are already being implemented in our older locations, and remains front of mind when designing new facilities and procuring new equipment. Furthermore, on-site water harvesting is another sustainability feature of note that is being integrated into our new facilities as they are constructed.

SUSTAINABILITY

Our Auckland-manufactured panels, featuring New Zealand-made components like PIR insulation and 100% New Zealand-manufactured steel from New Zealand Steel, assist in reducing our carbon miles.

In 2023, our manufacturing plant invested $110,000 in solar panels, helping to reduce our energy usage by approximate 30%.

Our sustainability practices include:

- A returns program for recycling offcuts
- A recycling center for EPS in packaging
- A made-to-length service to reduce building waste.

Our packaging now comprises 50% recyclable EPS and recycled cardboard, reducing landfill costs by 22%.

COLORSTEEL® FROM NEW ZEALAND STEEL

Our insulated panels can be manufactured using COLORSTEEL® MAXAM® steel, this product has been assessed and New Zealand Steel have been awarded the Eco Choice Aotearoa license. (Please note this certification is only applicable to COLORSTEEL® steel and not the insulated panel system manufactured by Metalcraft Insulated Panels).

For more information on sustainability of New Zealand Steel and COLORSTEEL® visit:

https://www.colorsteel.co.nz/our-story/sustainability/
https://www.nzsteel.co.nz/sustainability/


soundsAIR

BENEFITS OF INSULATED PANELS

INSULATED PANELS ARE LOCALLY MADE IN NEW ZEALAND FOR LONGER LENGTHS AND QUICKER SUPPLY. SHEET LENGTHS UP TO 24M.

FEATURES & BENEFITS

Insulated panels are a stressed skin sandwich panel, comprising of pre-painted steel skins continuously laminated over a PIR or EPS core.
Available in a range of colours with a variety of profile finishes, providing greater strength in walls and a clean, smooth aesthetic look.

- NZ Made for longer sheet lengths and shorter lead times
- Fire retardant core
- NZ Steel - COLORSTEEL® colours providing perfect colour match with flashings
- Thermally efficient
- Efficient concealed fixing system
- Ease of cutting and trimming on site
- Minimal mess on site
- Compatibility with openings and design elements of the building
- Load bearing capability
- Large scale fire tested- Aspirepanel 150mm thick only

DIFFERENT CORE TYPES

When selecting panel cores, consider that some panels, despite having a lower R-value per thickness, may be more economical when used in a thicker form. This is because improved spans can reduce the number of fixing points and supporting materials needed.

PIR CORE
Polyisocyanurate (PIR) board is a thermoset, medium density, high strength foam, panels manufactured using PIR Core:

- AspirePanel® (PIR Core)
- AspireSpan® (PIR Core)

EPS CORE
Expanded Polystyrene is produced using a fire-retardant raw material. Panels manufactured using EPS Core:

- ThermoPanel (EPS Core)
- ThermoSpan (EPS Core)

MAINTENANCE

Please refer to Metalcraft Insulated Panels - Maintenance Guide for more information regarding Maintenance this can be downloaded from: www. metalcraftgroup.co.nz

WARRANTY

Insulated panels manufactured by Metalcraft Insulated Panels, when installed in accordance with the product's scope and limitations of use, and maintained in line with Metalcraft's Maintenance Guide, are warranted for up to 15 years.

For full details on the warranty terms and conditions, including the scope and limitations of use and maintenance requirements, please visit: www.metalcraftinsulatedpanels.co.nz or contact Metalcraft Insulated Panels.

COLOURS

Insulated panels manufactured in New Zealand are available in standard COLORSTEEL® colours*.

Colour brochures and steel swatches are available on request.

*Excluding Ebony. This is due to heat build up on dark colours and in the worst case potential delamination of steel from the core.

ROOF NOISE

Metalcraft Insulated Panels advise the use of light colours and expansion detailing for long panels to mitigate potential noise issues that might arise with an insulated panel roof. The homeowner, architect and designer should be aware that temperatures of dark colours are higher than those of lighter colours. Darker colours will thermally expand more. Thermal expansion of metal roofs is covered in the NZMRM Code of Practice. The MBIE document on roof cladding advises that noise from thermal expansion is normal and should be expected. Refer to MBIE -Guide to tolerances, materials and workmanship in new residential construction 2015.

COMPLIANCE

CODEMARK CERTIFIED

Where the Metalcraft Insulated Panel System is designed, installed and maintained in accordance with the conditions of the CodeMark Certificates, The panel system will comply or contribute to compliance with the NZ Building Code.

CodeMark (GM-CM30078)
ThermoSpan and ThermoPanel

CodeMark (CMNZ30150)
AspireSpan and AspirePanel

CODEMARK EXPLAINED

Metalcraft Insulated Panels is the certificate holder of:

CodeMark (GM-CM30078)
ThermoSpan and ThermoPanel

CodeMark (CMNZ30150)
AspireSpan and AspirePanel

CodeMark is a third party certification, allowed for under the Building Act 2004. This means that under law, a Building Consent Authority must accept the specification of the above mentioned, Metalcraft Insulated Panels (the panel and the installation details) as complying with the NZ Building Code, providing that all conditions of the certificate have been met.

Achieving CodeMark also focuses on the manufacturing quality of Metalcraft Insulated Panels and the competence of the support provided by Metalcraft Insulated Panels. This means that designers and installers can use Metalcraft Insulated Panels products with confidence that, providing all instructions are followed, will result in building work complying with the NZ Building Code.

Refer - MBIE, Product Performance
https://www.building.govt.nz/building-code compliance/product-assurance-and multiproof/

STRUCTURAL PANEL / WALL BRACING

The Metalcraft Insulated Panel System may be used as a structural panel system. When used as a structural panel system the Designer, Architect, Engineer must design in accordance with the Engineering Documentation, this is available for download from:

www.metalcraftinsulatedpanels.co.nz

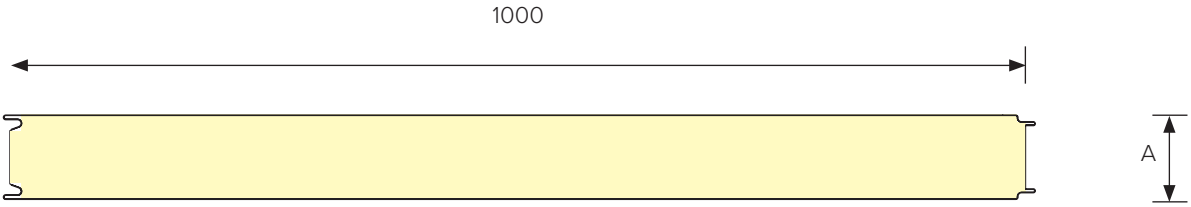
LARGE-SCALE FIRE TESTED TO BS8414-2:2015+A1:2017

Aspirepanel® 150mm thick has passed Large-Scale Fire Testing at BRANZ in September 2023.

The result, recorded in:
Branz Report: FF17611-01-1

ASPIREPANEL® PROPERTIES

CodeMark CERTIFIED



Dimensions, cover and sheet widths are all nominal and may vary with manufacturing and installation tolerances. Line drawings are indicative only and should not be scaled, if other dimensions are required please ask for them from Metalcraft Insulated Panels.

Panel Thickness Options = A
50, 75, 100 & 150mm

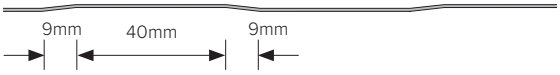
INNER PROFILE OPTIONS

Aspirepanel® consists of 0.59mm steel bonded to a PIR core with a ceiling panel sheet bonded to the underside. Aspirepanel® has a fire-retardant core and is available with a range of colour and ceiling profile finishes.

FLAT FINISH - AVAILABLE BOTH SIDES

SILKLINE FINISH - AVAILABLE 1 SIDE ONLY

MESA FINISH - AVAILABLE 1 SIDE ONLY



RIBBED FINISH - AVAILABLE BOTH SIDES

PRODUCT PROPERTIES	
Core	Polyisocyanurate (PIR) Density 37Kg/m3
External facing	0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. or; 0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. The correct steel is dependent on the environmental category and corrosion zone, please consult Metalcraft Insulated Panels.
Internal Facing	0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with G300 AM150 consistent with AS 1397:2021. or; 0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with G300 AM150 consistent with AS 1397:2021. Please consult Metalcraft Insulated Panels for correct selection for application.
Cover Width	1000mm
Length	Manufactured in Auckland - Maximum length 24m Lengths are restricted by transportation to site.
Thickness	50mm, 75mm, 100mm, 150mm
Fire Retardant Core	Aspirepanel® has a fire-retardant core
Large Scale Fire Tested	150mm thick Aspirepanel® has passed Large Scale Fire Testing to: BS8414-2: 2015+A1:2017

Architect: Malcolm Taylor Architects
Photography: ©Simon Devitt

ASPIREPANEL® PERFORMANCE

CodeMark CERTIFIED

ASPIREPANEL® THERMAL

The below total R-values are for insulation at an average temperature of 15°C. Contact us for other temperatures.

PANEL THICKNESS (mm)	50	75	100	150
Mass (Kg/m²)	11.90	12.85	13.80	15.70
Thermal Resistance R Value (m²K/W) @15 degreeC	2.34	3.50	4.67	7.01

THICKNESSES FOR CHILLERS & FREEZERS

Allow an additional 50mm thickness for walls and roofs exposed to direct sunlight.

Consideration should be given to insulating floor detail. Values are guides only and are given for cool rooms operating under average ambient conditions.

CHILLERS / FREEZERS	
Temperature (Degree C)	**Panel Thickness (mm)**
7.0 down to 3.0	50mm
3.0 down to -3.0	75mm
-3.0 down to -18.0	100mm
-23.0 down to -30.0	150mm

INTERNAL SPREAD OF FLAME

Aspirepanel® has achieved a group 1S classification.

Specific installation requirements are needed and available if required, please consult Metalcraft Insulated Panels.

AS 2122.1-1993

Compliance to AS 1366.2-1992 Clause 10 Table 2- Flame Propagation Characteristics Requirement:

- Median flame duration (max) 1 second
- Eighth value (max) 1.5 seconds
- Median mass retained (min) 80 %
- Eighth value (min) 75 %

Complies - Refer test report:: 15-000215
AWTA Product Testing

Architect: Malcolm Taylor Architects
Photography: ©Simon Devitt

ASPIREPANEL® LOADSPAN TABLES

CodeMark CERTIFIED

SINGLE SPAN -ULTIMATE LIMIT STATE (ULS)

Single span, wind pressure acting outwards.
Maximum uniformly distributed load (kPa) for the given span:
Please note: these loads are based on the load that will result in failure of the panels bending.

Panel Thickness (mm)	Span (mm)										
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
50	2.14	1.49	1.09	0.84	0.66	0.54	0.44	0.37	0.32	0.27	0.24
75	3.21	2.23	1.64	1.25	0.99	0.80	0.66	0.56	0.48	0.41	0.36
100	4.28	2.97	2.18	1.67	1.32	1.07	0.88	0.74	0.63	0.55	0.48
150	6.42	4.46	3.28	2.51	1.98	1.61	1.33	1.12	0.95	0.82	0.71

SINGLE SPAN -SERVICEABILITY LIMIT STATE (SLS)

Single span, wind pressure acting outwards.
Maximum uniformly distributed load (kPa) for the given span:
Please note: these loads are based on the load that will result in deflection limited to L/150.

Panel Thickness (mm)	Span (mm)										
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
50	1.53	1.12	0.84	0.64	0.50	0.39	0.31	0.25	0.21	0.17	0.14
75	2.57	1.94	1.49	1.17	0.93	0.75	0.61	0.50	0.42	0.35	0.30
100	3.64	2.80	2.17	1.66	1.31	1.06	0.87	0.73	0.62	0.54	0.47
150	5.82	4.45	3.27	2.50	1.97	1.60	1.32	1.11	0.94	0.81	0.70

ASPIREPANEL® STRENGTH AND FIXING CAPACITIES:
Metalcraft Panel Specification.
The panel strength data applies to Metalcraft Aspirepanel® with 0.59 mm steel skins structurally bonded to a core of PIR. The steel has yield strength of 300 MPa.

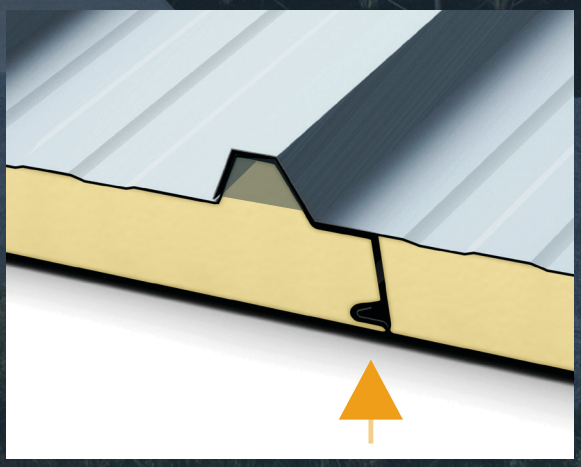
METALCRAFT PANEL FIXINGS:

- For Metalcraft Mushroom fixing with 10 mm threaded steel rod installed to Metalcraft details, Load Capacity perpendicular to face of the panel = 3 kN Permissible. Load Capacity parallel to and at the face of the panel = 1.0 kN Permissible.
- For 4mm (5/16") aluminium rivets attaching thin metal sections to Metalcraft panel skins, Shear Capacity of the connection = 0.45 kN Permissible per-rivet. For the shear capacity of a multi riveted connection, add the shear capacity of each rivet, provided the rivets considered are spaced at or more than 100 mm.
- For a 14 gauge Tek screw with 25 diameter steel washer fixed through the panel, the permissible live load fixing capacity in the Metalcraft panel part of the connection is: at 100 mm from the Metalcraft panel edge = 1.5 kN at 50 mm from the Metalcraft panel edge = 0.6 kN.
- 40mm minimum embedment is required in timber and for steel a minimum three full threads into steel.

LIMITATIONS TO SPAN TABLE:

- The load span tables are suitable only for walls and roofs under wind loadings as defined below.
- Deflection limit of span L/ 150 for SLS has been applied.
- For long term loads such as snow, and for imposed loads when panels are used as floors, consideration of shear will be important and specific engineered design is required, please consult Metalcraft Insulated Panels.

INTERLOCKING SLIP JOINT

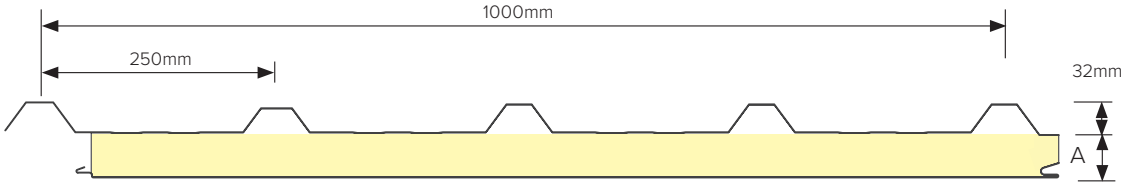


INDICATIVE RENDER SHOWING
INTERLOCKING SLIP JOINT

Architect: Malcolm Taylor Architects
Photography: ©Simon Devitt

ASPIRESPAN® PROPERTIES

CodeMark CERTIFIED



Dimensions, cover and sheet widths are all nominal and may vary with manufacturing and installation tolerances. Line drawings are indicative only and should not be scaled, if other dimensions are required please ask for them from Metalcraft Insulated Panels. Cross section indicative showing PIR flat core.

Panel Thickness = A
50, 75, 100 & 150mm

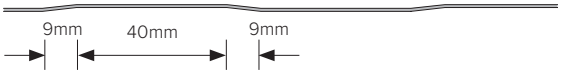
INNER PROFILE OPTIONS

Aspirespan® consists of a 0.59mm profiled roofing sheet bonded to an PIR flat core with a ceiling panel sheet bonded to the underside.
Aspirespan® has a fire retardant core and is available with a range of colour and ceiling profile finishes.

FLAT FINISH - AVAILABLE BOTH SIDES

SILKLINE FINISH - AVAILABLE 1 SIDE ONLY

MESA FINISH - AVAILABLE 1 SIDE ONLY



RIBBED FINISH - AVAILABLE BOTH SIDES

PRODUCT PROPERTIES	
Core	Polyisocyanurate (PIR) Density 37Kg/m3
External facing	0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. The correct steel is dependent on the environmental category and corrosion zone, please consult Metalcraft Insulated Panels.
Internal Facing	0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. or; 0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. Please consult Metalcraft Insulated Panels for corect selection for application.
Cover Width	1000mm
Length	Manufactured in Auckland - Maximum length 24m Lengths are restricted by transportation to site.
Thickness	50mm, 75mm, 100mm and 150mm
Fire Retardant Core	Aspirespan® has a fire-retardant core.

MINIMUM PITCH

Roof pitches will vary depending on the site conditions, loads, purpose, configuration, snow loading and span requirements.
Buildings designed with widely spaced purlins and portal frames may require a frame pitch increase of 1 or 2 degrees.

- Min. roof slope of 3 degree applies


GRAND
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18

ASPIRESPAN® PERFORMANCE

CodeMark CERTIFIED

THERMAL

The below total R-values are for insulation at an average temperature of 15°C. Contact us for other temperatures.

PANEL THICKNESS (mm)	50	75	100	150
Mass (Kg/m²)	11.90	12.85	13.80	15.70
Thermal Resistance R Value (m²K/W) @15 degreeC	2.34	3.50	4.67	7.01

INTERNAL SPREAD OF FLAME

Aspirespan® conforms to the requirements of the NZBC and has achieved a group 1S.

Please note: Specific installation requirements are needed and available if required.

AS 2122.1-1993

Compliance to AS 1366.2-1992 Clause 10 Table 2- Flame Propagation Characteristics Requirement:

- Median flame duration (max) 1 second
- Eighth value (max) 1.5 seconds
- Median mass retained (min) 80 %
- Eighth value (min) 75 %

Complies - Refer test report: 15-000215
AWTA Product Testing

ASPIRESPAN® LOADSPAN TABLES

SINGLE SPAN -ULTIMATE LIMIT STATE (ULS)

Single span, wind pressure acting outwards.
Maximum uniformly distributed load (kPa) for the given span:
Please note: these loads are based on the load that will result in failure of the panels bending.

Panel Thickness (mm)	Span (mm)										
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
50	2.38	1.65	1.21	0.93	0.73	0.59	0.49	0.41	0.35	0.30	0.26
75	3.57	2.48	1.82	1.39	1.10	0.89	0.74	0.62	0.53	0.46	0.40
100	4.76	3.30	2.43	1.86	1.47	1.19	0.98	0.83	0.70	0.61	0.53
150	7.14	4.96	3.64	2.79	2.20	1.78	1.47	1.24	1.06	0.91	0.79

SINGLE SPAN -SERVICEABILITY LIMIT STATE (SLS)

Single span, wind pressure acting outwards.
Maximum uniformly distributed load (kPa) for the given span:
Please note: these loads are based on the load that will result in deflection limited to L/150.

Panel Thickness (mm)	Span (mm)										
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
50	1.68	1.23	0.92	0.70	0.55	0.43	0.35	0.28	0.23	0.19	0.16
75	2.82	2.13	1.64	1.29	1.03	0.83	0.67	0.55	0.46	0.39	0.33
100	4.00	3.08	2.42	1.85	1.46	1.18	0.97	0.82	0.69	0.60	0.52
150	6.40	4.95	3.63	2.78	2.19	1.77	1.46	1.23	1.05	0.90	0.78

LIMITATIONS TO SPAN TABLE

- The load span tables are suitable only for walls and roofs under wind loadings as defined below.
- Deflection limit of span L/ 150 for SLS has been applied.
- For long term loads such as snow, and for imposed loads when panels are used as floors, consideration of shear will be important and specific engineered design is required, please consult Metalcraft Insulated Panels.

ASPIRESPAN® STRENGTH AND FIXING CAPACITIES:
Metalcraft Panel Specification.
The panel strength data applies to Aspirespan® with 0.59 mm steel skins structurally bonded to a core of PIR.

The steel has yield strength of 300 MPa.

METALCRAFT PANEL FIXINGS:

- Fixing with 14g tek screws (or equivalent) at each rib are required. Wall cladding is typically pan fixed. 40mm minimum embedment is required in timber and for steel a minimum three full threads into steel.
- Min. roof slope of 3 degree applies.

NOTES:

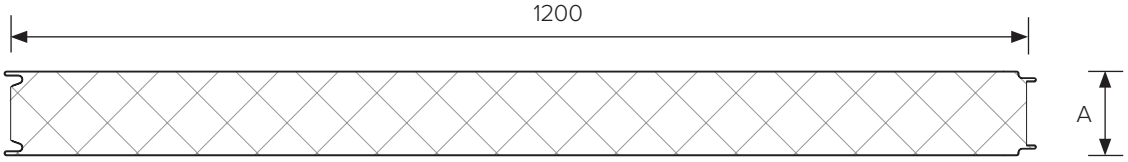
1. The maximum permissible pull-out load on a rib fixing is 1.8kN.
2. Always check that adequate fixing capacity is provided.
3. Self weight of the panel has been allowed for, plus an allowance of up to 10kg/m2 for light duty fittings (lights, etc.). No other dead loads permitted.
4. Non-trafficable maintenance access (concentrated load) of 140kg on any one panel has been allowed for (exceeding min. requirements of AS/NZS 1170.1:2002).
5. The spans are for single spans, i.e. panel supported at the ends. The spans in multi-span cases are no greater than for the single span case.
6. The maximum overhang without a thermal break is 0.25 times the maximum span for the given conditions, provided this value does not exceed:
    - 600mm for 50mm Aspirespan®
    - 1000mm for 75mm Aspirespan®
    - 1200mm for 100mm or thicker.

Longer cantilevers can be expected on thicker panels and require specific engineered design, please consult Metalcraft Insulated Panels. For cantilevers with a thermal break, consult Metalcraft Insulated Panels for maximum cantilever.


ColdWatch
TRAPPED
PERSONNEL
ALARM

THERMOPANEL PROPERTIES

PANEL DIMENSIONS



Dimensions, cover and sheet widths are all nominal and may vary with manufacturing and installation tolerances. Line drawings are indicative only and should not be scaled, if other dimensions are required please ask for them from Metalcraft Insulated Panels.

Panel Thickness Options = A
50, 75, 100, 125, 150, 175, 200 & 250mm

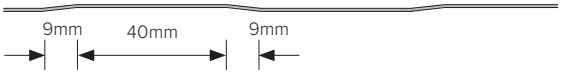
INNER PROFILE OPTIONS

ThermoPanel consists of 0.59mm steel bonded to an EPS core with a ceiling panel sheet bonded to the underside. ThermoPanel has a flame retardant additive to the EPS core and is available in a range of colour and ceiling profile finishes.

FLAT FINISH - AVAILABLE BOTH SIDES

SILKLINE FINISH - AVAILABLE 1 SIDE ONLY

MESA FINISH - AVAILABLE 1 SIDE ONLY



RIBBED FINISH - AVAILABLE BOTH SIDES

PRODUCT PROPERTIES	
Core	EPS with flame retardant additive Class “S” Standard
External facing	0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. or; 0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. The correct steel is dependent on the environmental category and corrosion zone, please consult Metalcraft Insulated Panels.
Internal Facing	0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with G300 AM150 consistent with AS 1397:2021. or; 0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with G300 AM150 consistent with AS 1397:2021. Please consult Metalcraft Insulated Panels for corect selection for application.
Width	1200mm
Length	Manufactured in Auckland - Maximum length 24m Lengths are restricted by transportation to site.
Thickness	50mm, 75mm, 100mm, 125mm 150mm, 175mm, 200mm, 250mm
Flame retardant additive	Yes - Thermopanel’s EPS core has been treated with a a flame retardant additive

THERMOPANEL PERFORMANCE

CodeMark CERTIFIED

THERMAL

The below total R-values are for insulation at an average temperature of 15°C. Contact us for other temperatures.

Panel Thickness (mm)	50	75	100	125	150	175	200	250
Mass Kg/m2	11.30	11.60	12.00	12.30	12.70	13.0	13.30	14.00
Thermal Resistance R Value (m^2K/W) @15 degreeC	1.32	1.97	2.63	3.29	3.95	4.60	5.26	6.60

THICKNESSES FOR CHILLERS & FREEZERS

Allow an additional 50mm thickness for walls and roofs exposed to direct sunlight.

- Consideration should be given to insulating floor detail.
- Values are guides only and are given for cool rooms operating under average ambient conditions.

CHILLERS / FREEZERS	
Temperature Degrees C	**Panel Thickness**
7.0 down to -3.0	75mm
3.0 down to -3.0	100mm
-3.0 down to -18.0	150mm
-18.0 down to -23.0	175mm
-23.0 down to -30.0	200mm

ISO 9705

ThermoPanel conforms to the requirements of the NZBC and has achieved a group 1S.

Specific installation requirements are needed and available if required, please consult Metalcraft Insulated Panels.

AS 2122.1-1993

Compliant to AS1366.3 Part 3
AWTA Test Report: 7- 561976-CO

THERMOPANEL LOADSPAN TABLES

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FOR PERMISSABLE VALUE WIND PRESSURES (kPa)

Thickness (mm)	Span (mm)										
	2500	3000	3500	4000	4500	5000	6000	6500	7000	7500	800
50	1.61	1.12	0.82	0.63	0.49						
75		1.68	1.23	0.94	0.74	0.60					
100		2.24	1.64	1.26	0.99	0.80	0.56				
125		2.80	2.05	1.57	1.24	1.00	0.70	0.59			
150			2.46	1.89	1.49	1.20	0.84	0.71	0.61		
175			2.88	2.20	1.74	1.41	0.98	0.83	0.72	0.62	0.55
200				2.52	1.99	1.61	1.12	0.95	0.82	0.71	0.63
250					2.48	2.01	1.40	1.19	1.02	0.89	0.78

THERMOPANEL STRENGTH AND FIXING CAPACITIES:

Metalcraft Panel Specification.
The panel strength data in this document applies to Metalcraft ThermoPanel with 0.59 mm steel skins structurally bonded to a core of "S" grade expanded polystyrene (EPS).

The steel has yield strength of 300 MPa.

LIMITATIONS TO SPAN TABLE:

- Permissible pressure values incorporate a factor of safety of 1.8 on ultimate strength.
- This table applies to live loads only. For dead loads (eg long term loads) the strength capacity is reduced – refer to Metalcraft in such cases.
- Calculate Ultimate Limit State Value:
  (kPa) = Permissible (kPa) Value from table x 1.8 (safety factor) x 0.9 (material factor).
- The load span tables are suitable only for walls and roof under wind loadings.
- Deflection limit of span L/ 150 for SLS has been applied.
- For long term loads such as snow, and for imposed loads when panels are used as floors, consideration of shear will be important and specific engineered design is required, please consult Metalcraft Insulated Panels.

METALCRAFT PANEL FIXINGS:

- For Metalcraft Mushroom fixing with 10 mm threaded steel rod installed to Metalcraft details, Load Capacity perpendicular to face of the panel = 3 kN Permissible. Load Capacity parallel to and at the face of the panel = 1.0 kN Permissible.
- For 4mm (5/16") aluminium rivets attaching thin metal sections to Metalcraft panel skins, shear capacity of the connection = 0.45 kN Permissible per-rivet. For the shear capacity of a multi riveted connection, add the shear capacity of each rivet, provided the rivets considered are spaced at or more than 100 mm.
- For a 14 gauge Tek screw with 25 diameter steel washer fixed through the panel, the permissible live load fixing capacity in the Metalcraft panel part of the connection is:

  at 100 mm from the Metalcraft panel edge = 1.5 kN.

  at 50 mm from the Metalcraft panel edge = 0.6 kN.
- 40mm minimum embedment is required in timber and for steel a minimum three full threads into steel.

THERMOSPAN PROPERTIES

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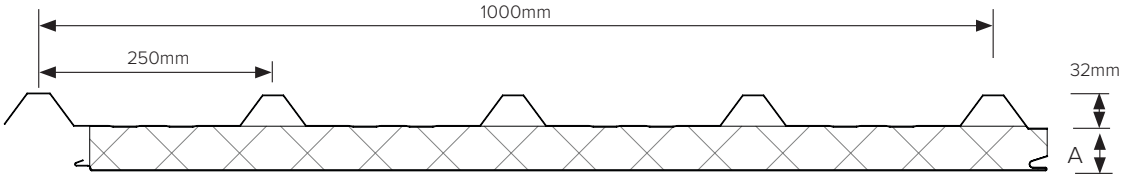
PANEL DIMENSIONS



Dimensions, cover and sheet widths are all nominal and may vary with manufacturing and installation tolerances. Line drawings are indicative only and should not be scaled, if other dimensions are required please ask for them from Metalcraft Insulated Panels.

Panel Thickness = A
50, 75, 100, 125, 150, 175, 200 & 250mm

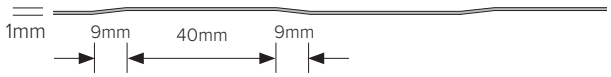
INNER PROFILE OPTIONS

ThermoSpan consists of 0.59mm profiled roofing sheet bonded to an EPS core with a ceiling panel sheet bonded to the underside. ThermoSpan has a flame retardant additive to the EPS core and is available in a range of colour and ceiling profile finishes.

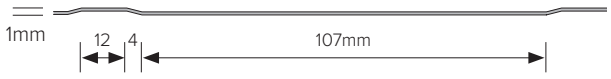
FLAT FINISH - AVAILABLE INNER SKIN SIDE ONLY

SILKLINE FINISH - AVAILABLE INNER SKIN SIDE ONLY

MESA FINISH - AVAILABLE INNER SKIN SIDE ONLY



RIBBED FINISH - AVAILABLE INNER SKIN SIDE ONLY



PRODUCT PROPERTIES	
Core	EPS with flame retardant additive Class “S” Standard
External facing	0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. The correct steel is dependent on the environmental category and corrosion zone, please consult Metalcraft Insulated Panels.
Internal Facing	0.59mm COLORSTEEL® MAXAM® G300 AM150 consistent with AS 1397:2021. or: 0.59mm CP Grade Prepainted Galvanised Steel G300 Z275 consistent with AS 1397:2021. Please consult Metalcraft Insulated Panels for corect selection for application.
Width	1000mm
Length	Manufactured in Auckland - Maximum length 24m Lengths are restricted by transportation to site.
Thickness	50mm, 75mm, 100mm, 125mm 150mm, 175mm, 200mm, 250mm
Flame retardant additive	Yes - ThermoSpan’s EPS core has been treated with a a flame retardant additive

MINIMUM PITCH

Roof pitches will vary depending on the site conditions, loads, purpose, configuration, snow loading and span requirements.
Buildings designed with widely spaced purlins and portal frames may require a frame pitch increase of 1 or 2 degrees.

- Min. roof slope of 3 degree applies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THERMOSPAN PERFORMANCE

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THERMAL

The below total R-values are for insulation at an average temperature of 15°C. Contact us for other temperatures.

Panel Thickness (mm)	50	75	100	125	150	175	200	250
Mass Kg/m²	11.30	11.60	12.00	12.30	12.70	13.0	13.30	14.00
Thermal Resistance R Value (m²K/W) @15 degreeC	1.32	1.97	2.63	3.29	3.95	4.60	5.26	6.58

ISO 9705

ThermoSpan conforms to the requirements of the NZBC and has achieved a group 1S.

Please note specific installation requirements are needed and available if required.

AS 2122.1-1993

Compliant to AS1366.3 Part 3
AWTA Test Report: 7- 561976-CO

THERMOSPAN LOADSPAN TABLES

CodeMark CERTIFIED

FOR PERMISSABLE VALUE WIND PRESSURES (kPa)

Thickness (mm)	Span (mm)															
	1500	1800	2100	2400	2700	3000	3300	3600	3900	4100	4500	4800	5100	5400	5700	6000
50	2.88	2.40	2.06	1.80	1.60	1.50	1.20	1.00	0.90	0.80	0.65	0.57	0.51	0.45		
75	3.00	2.50	2.14	1.87	1.67	1.61	1.36	1.25	1.15	1.10	0.93	0.82	0.72	0.64	0.58	0.52
100	3.75	3.20	2.78	2.45	2.20	2.00	1.84	1.70	1.59	1.52	1.33	1.22	1.02	0.94	0.90	0.63
125	3.83	3.54	2.99	2.68	2.32	2.10	2.18	2.00	1.93	1.88	1.56	1.37	1.21	1.08	0.97	0.87
150					4.30	3.95	3.61	3.00	2.58	2.25	1.87	1.64	1.45	1.30	1.16	1.05
175						4.29	3.85	3.55	3.00	2.60	2.20	1.85	1.62	1.42	1.28	1.20
200								4.00	3.55	3.00	2.35	2.00	1.70	1.51	1.37	1.25
250									4.10	3.85	3.61	3.00	2.55	2.23	2.10	1.98

THERMOSPAN STRENGTH AND FIXING CAPACITIES

Metalcraft Panel Specification.
The panel strength data in this span table Metalcraft ThermoPanel with 0.59 mm steel skins structurally bonded to a core of "S" grade expanded polystyrene (EPS).

The steel has yield strength of 300 MPa.

LIMITATIONS TO SPAN TABLE:

- The load span tables are suitable only for walls and roofs under wind loadings.
- Pressures are maximum permissible values with a safety factor of 1.8 on the ultimate mean failure load.
- Where required, Ultimate Limit State Pressure values are obtained by multiplying table values by 1.8 (Safety factor) and 0.9 (Material factor). ie, Ultimate Limit State value (kPa) = Table value x 1.8 x 0.9 (kPa).
- Deflection limit of Span / 150 for SLS has been applied.
- Non-trafficable maintenance access (concentrated load) of 110kg has been allowed for.
- For long term loads such as snow, and for imposed loads when panels are used as floors, consideration of shear will be important and specific engineered design is required, please consult Metalcraft Insulated Panels.

THERMOSPAN FI XINGS

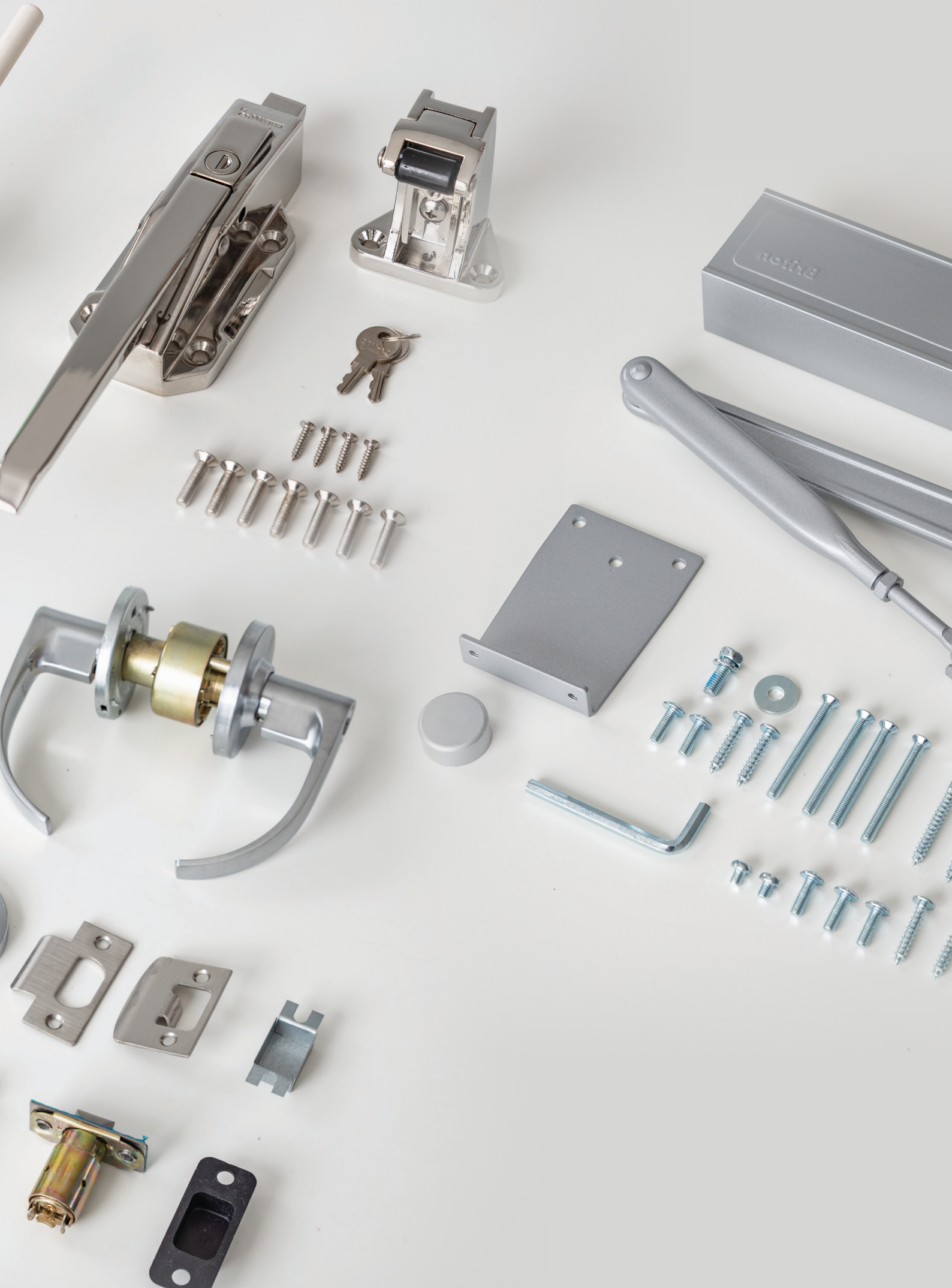
Fixing with 14g tek screws (or equivalent) at each rib are required.
Wall cladding is typically pan fixed.
40mm minimum embedment is required in timber and for steel a minimum three full threads into steel.

- Min. roof slope of 3 degree applies.

NOTES:

1. The maximum permissible pull-out load on a rib fixing is 1.8 k
2. Always check that adequate fixing capacity is provided.
3. Self weight of the panel has been allowed for, plus an allowance of up to 10kg/m2 for light duty fittings (lights, etc.). No other dead loads permitted.
4. The spans are for single spans, i.e. panel supported at the ends. The spans in multi-span cases are no greater than for the single span case.
5. The maximum overhang without a thermal break is 0.25 times the maximum span for the given conditions, provided this value does not exceed:
    - 600mm for 50mm Thermospan®
    - 1000mm for 75mm Thermospan®
    - 1200mm for 100mm or thicker.

Longer cantilevers can be expected on thicker panels and require specific engineerd design. Please consult Metalcraft Insulated Panels.For cantilevers with a thermal break, consult Metalcraft Insulated Panels for maximum cantilever.



PERSONNEL ACCESS DOOR & OTHER ITEMS

PERSONNEL ACCESS DOOR

Metalcraft Insulated Panels is proud to be offering personnel access doors. These are suitable for sheds and garages and have been manufactured from locally sourced steel from
New Zealand Steel.

For more information download the personnel access door brochure from: www.metalcraftgroup.co.nz

DOOR PANEL
35mm sandwich panel consisting of two COLORSTEEL® MAXAM® 0.59/G300 steel skins, laminated over a polystyrene, EPS core treated with a flame retardant additive.

External colour options as per from the colour range. Internal colour to match external colour.

FRAME
- Proprietary aluminium extrusions 6060-T5 alloy
- Powder coated to match
- Heavy duty wall thickness at hinge location
- Rubber weather seal
- Left Hand (LH) or Right Hand (RH) (reversible) - Open outwards and open inwards options for PA Door with full frame
- Left Hand (LH) or Right Hand (RH) (to be specified when ordered) for PA Door with bottom frame
- Corner gussets for mitre reinforcing

ALUMINIUM EXTRUSIONS

Metalcraft Insulated Panels source aluminium profiles from local suppliers these can be used in the cool store industry as well as commercial and architectural markets. Our stocked range of profiles include: Angles, Channels, Tees, I Beams and Door sections.

Stocked in grade 6060 TS mill finish & powder coated in Titania subject to stock availability at time of order. Other powder coated colours are available on request. All aluminium extrusions are sold in 5m lengths only.

For more information download the Aluminium Extrusions brochure from: www.metalcraftgroup.co.nz

ANCILLARY ITEMS

Metalcraft Insulated Panels have an assortment of ancillary items with a selection of:

- Sealants foam and paint
- Door hardware
- Fasteners
- Suspension items
- Insulated floor accessories

For more information download the Ancillaries brochure from: www.metalcraftgroup.co.nz

OUTSIDE VIEW

INSIDE VIEW

OUR GROUP

United Industries Limited is a very different group of companies than it was when formed in 1991. Through the years we have enjoyed tremendous growth within all companies making up the group today and in all key activities we would be considered leaders. For more information visit

www.unitedindustries.co.nz

METALCRAFT ROOFING

Operating since the 1950's and originating in the lovely town of Palmerston North. With more than 50 years experience in the industry, we have established a reputation for both manufacturing high quality roll formed products and for providing an unrivaled level of service.

www.metalcraftgroup.co.nz

METALCRAFT INSULATED PANELS

Specialises in the manufacture, supply of insulated panels.

www.metalcraftinsulatedpanels.co.nz

STYROBECK PLASTICS

A world class manufacturer of cut or moulded expanded polystyrene and plastic injection moulded products. These products offer solutions to the packaging, building, manufacturing, horticulture and fishing industries. They currently operate factories in Auckland and Wellington. With modern plant and the most up to date technology, their goal is to manufacture the best plastic based products most suited to their customers needs. Styrobeck Plastics have made a commitment to the environment by re-using up to 100% of internally generated waste and recycling practically all customer waste.

www.styrobeck.co.nz

KNK ARCHITECTURAL HARDWARE

Well known in the New Zealand market as a supplier of quality décor and window hardware and supported by excellent service. For over 30 years they have provided both trade and consumers with an extensive architectural range of exclusively imported and locally produced product. Recently they have added to their imported products, a range of Italian wrought iron balusters, railings and security products. These are then assembled into endless designs by craftsmen. KnK showrooms across New Zealand provide an outstanding backdrop for their extensive range. They make specifying and selecting the correct products easy for architects, interior designers, builders and home owners.

www.knkhardware.co.nz

UNITED STEEL

Sources a full range of products from a network of Australasia and South East Asian leading steel producers – sections, beams, channels, plates and structural steel destined to form the backbone of many of the country's major engineering and construction projects. Drawing on the expertise of some of the steel industry's most experienced people, the United Steel team prides itself on making the specification and use of steel as simple and economical as possible. United Steel specialises in the manufacture and distribution of reinforcing bar and welded mesh for building and construction projects. Two new state-of-the-art mesh welders provide increased production flexibility, quick response times and competitive pricing on short call orders. With five distribution centres nationwide carrying a comprehensive range of reinforcing bar and mesh, United Steel is there to meet the industry's reinforcing needs.

www.unitedsteel.co.nz

UNITED INDUSTRIES LIMITED

PIPES NZ

New Zealand's specialist provider of steel pipes. Pipes NZ has an extensive stock of associated high and low pressure, flanges, bends and fittings. Through long standing relationships with leading global steel mills, Pipes NZ is able to obtain the highest quality material available in the market, along with the best possible lead times.

www.pipesnz.co.nz

MILLIER REINFORCING

Specialises in the fabrication and installation of reinforcing steel and mesh for all building projects. Millier Reinforcing carries a stock of steel reinforcing material, produces customised orders from construction drawings and performs on-site placement.

www.millierreinforcing.co.nz

REOFAB

Specialises in the fabrication, supply, cut, bend and delivery of reinforcing steel, and the supply of reinforcing mesh for large building projects. ReoFab carries a stock of steel reinforcing material, produces customised orders from construction drawings and performs on-site placement for the Auckland Region. They are considered New Zealand's expert suppliers and fabricators of reinforcing steel. They have an outstanding reputation for providing quality product, on time, for many of the country's building projects.

www.reofab.co.nz

AKARANA TIMBERS

Stock a full range of timber and landscaping products and produce an excellent range of quality pre-nail framing and trusses. Akarana Timber offers a free estimate on house plans and specialises in house-lot orders. Every sale is backed with unparalleled customer service and advice.

www.akaranatimbers.co.nz

ZETA WINDOW & DOOR

Zeta Window & Door manufactures aluminium joinery utilising the Omega designer system. Zeta designs and manufactures aluminium windows and doors to fit any residential or commercial application. Working closely with Akarana Timbers, Zeta is able to offer outstanding customer service and has built a reputation for quality.

www.zetawindowanddoor.co.nz

IMBMS

IMBMS specialises in providing rebar splicing solutions to large scale construction projects nationwide. The IRON-MAN BMS Rebar coupler system that they supply has been utilised on thousands of high-profile projects worldwide such as the Burj Khalifa (tallest Building in the world) in Dubai, The Marina Bays Sands Integrated Resort in Singapore, the Çanakkale 1915 Bridge in Turkey and the City Rail Link Project in Auckland. With their high-performance system, quick response times, specialist engineering support and excellent reputation, IMBMS are rapidly becoming the No.1 choice for contractors and engineers in NZ.

www.imbms.co.nz

BRANCH

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sales@metpanels.co.nz

MEMBER OF ROOFING ASSOCIATION N.Z.

MRM
NZ METAL ROOFING MANUFACTURERS INC.

Metalcraft Insulated Panels

Metalcraft Insulated Panels are members of the Roofing Association, New Zealand and the New Zealand Metal Roofing Manufacturers Incorporated.

For more information on Metalcraft Insulated Panels visit: www.metalcraftgroup.co.nz.
Metalcraft Insulated Panels is part of United Industries Ltd.
For more information on United Industries visit: www.unitedindustries.co.nz.

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