

suPIR™ panel

LOCALLY MADE FOR LONGER LENGTHS AND QUICKER SUPPLY

suPIR panel is manufactured in New Zealand. This is a great advantage as sheet lengths can be longer than lengths typically associated with imported panel reducing the need of end laps.

Lengths are restricted by transportation to site. If sheet lengths longer than 15m are required, please check with Metalcraft Insulated Panels.

WHO WE ARE

Metalcraft Insulated Panels specialises in the manufacture and supply of insulated panels. All our products are backed by solid warranties and the range of insulated panels, supplied by us can be used in a variety of applications from industrial and commercial coolstore to Agricultural and Architectural buildings.

WHAT IS PIR?

Polyisocyanurate (PIR) board is a thermoset, medium density, high strength foam, which will char when exposed to flame.

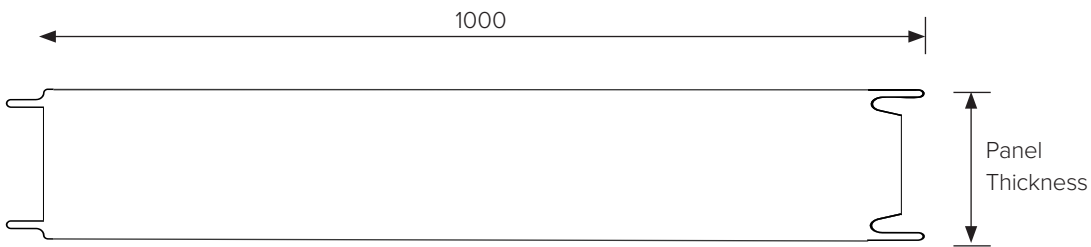
suPIR panel FEATURES & BENEFITS

suPIR panel is a stressed skin sandwich panel, comprised of pre-painted steel skins continuously laminated over a fire retardant PIR core. suPIR panel is available in a range of colours with a variety of profile finishes, providing greater strength in walls and a clean, smooth aesthetic look.

- Fire retardant core
- 200mm Thick suPIR panel has also achieved an FRL Fire resistant rating of - /60/30 when tested to AS 1530.4.2014.
- Longer lengths
- 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

STYLE & PERFORMANCE

PANEL DIMENSIONS



INNER PROFILE OPTIONS

suPIR panel consists of a 0.59mm profiled roofing sheet bonded to a PIR core with a ceiling panel sheet bonded to the underside.

suPIR panel has a fire-retardant core and is available with a range of colour and ceiling profile finishes.

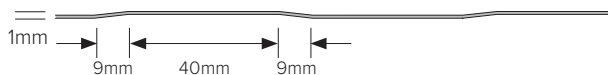
FLAT FINISH



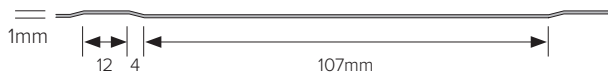
SILKLINE FINISH



MESA FINISH



RIBBED FINISH



COLOURS

suPIR panel is available in 19 standard colours* from New Zealand Steel in trusted brands: COLORSTEEL® ENDURA® and COLORSTEEL® MAXX®. Colour brochures and steel swatches are available on request.

*Excluding Ebony.

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 within a suPIR 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 MRM 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.

THERMAL

For other thicknesses, please consult Metalcraft Insulated Panels.

PANEL THICKNESS (mm)	50	75	100	125	150	200
Mass (Kg/m ²)	11.90	12.85	13.80	14.75	15.70	17.60
Thermal Resistance R Value (m ² K/W)	2.43	3.65	4.87	6.18	7.50	9.49

PRODUCT PROPERTIES	
Core	Polyisocyanurate (PIR) Density 37Kg/m ³
External facing	0.59mm CP Grade Prepainted Galvanised Steel or Colorsteel® Endura® or Colorsteel® Maxx® 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
Cover Width	1000mm
Length	*Manufactured in Auckland. Lengths are restricted by transportation to site. If longer than 15m check with Metalcraft Insulated Panels.
Thickness	50mm, 75mm, 100mm, 125mm, 150mm, 200mm
Fire Rated (FRL)	200mm panel: -/60/30 tested to AS1530.4 2014 Please note special installation details are required and structure is required at 3m centres. Please consult Metalcraft Insulated Panels.

INTERNAL SPREAD OF FLAME

suPIR panel has achieved a group 1S classification.

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

THICKNESS FOR FREEZERS & CHILLERS	
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
-18.0 down to -23.0	150mm
-23.0 down to -30.0	150mm

NOTES:

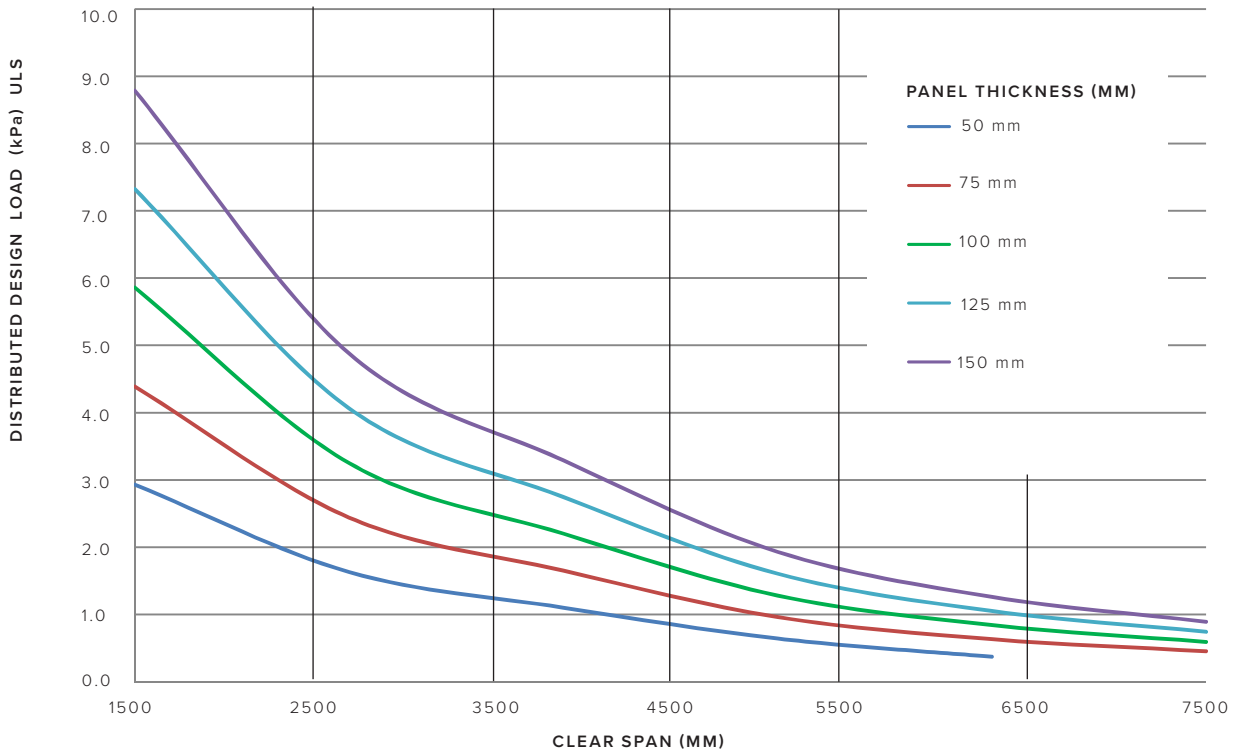
Allow an additional 50mm thickness for walls and roofs exposed to direct sunlight.

Consideration should be given to insulating floor detail.

Values are guides only and are given for cool rooms operating under average ambient conditions.

suPIR panel LOADSPAN TABLE

FOR UNIFORM WIND LOADS



3 STEP PANEL SELECTION

1. Determine thermal performance requirement
2. Determine worst case fully factored design wind load that applies to any roof panel (kPa) in ULS (Ultimate limit state)
3. Select appropriate span versus thickness.

LIMITATIONS TO SPAN TABLE

- The load span chart shown above is suitable only for walls and roofs under wind loading ULS.
- Deflection limit of $\text{Span} / 150$ 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.

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.

NOTES:

1. Always check that adequate fixing capacity is provided.
2. 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.
3. 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).
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 is 0.25 times the maximum span for the given conditions, provided this value does not exceed:
 - 600 mm for 50mm suPIR span
 - 1000 mm for 75mm suPIR span
 - 1200 mm for 100mm or thicker.

Longer cantilevers can be expected on thicker panels and require specific engineered design, please consult Metalcraft Insulated Panels.

BRANCHES

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DISCLAIMER

As part of Metalcraft Insulated panels policy of continued improvement, final specifications may vary from those contained in this publication. The company reserves the right at any time and without notice to change the design, materials or features and withdraw products from the market without incurring any liability whatsoever. This publication is issued as a general guide only and should not be treated as a substitute for technical advice. Contact with your nearest Metalcraft branch is recommended to confirm current specifications and availability.

Image on front is indicative of suPIR panel when installed in a controlled environment.



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