



Metalcraft
Insulated Panels



METECNO
SPAN®



ABOUT US

METALCRAFT INSULATED PANELS SPECIALISES IN THE MANUFACTURE AND SUPPLY OF INSULATED PANELS. ALL OUR PRODUCTS ARE BACKED BY SOLID WARRANTIES,

METECNOSPAN® IS MANUFACTURED USING STEEL FROM BLUESCOPE STEEL.

WE PRIDE OURSELVES ON BEING EXPERTS IN THIS INDUSTRY.

METECNOSPAN®

MINIMUM PITCH

MetecnoSpan® is a through fixed system suitable for roof pitches of 3 degrees or more. It is available in sheet lengths to a maximum of 11.9m. For projects with longer roof runs, it can be either “end lapped” in one plane or “stepped” forming a superior expansion joint.

Design roof pitches can often suffer structural steel deflection. Our minimum pitch of 3 degrees refers to the actual pitch achieved after any deflection.

MetecnoSpan® is made using steel from BlueScope -Colorbond® with the top sheet being 0.42mm hi-tensile steel, a standard upheld by all reputable, Australasian steel roofing product manufacturers.

MetecnoSpan® is suitable for a wide range of developments including supermarkets, bulk goods, fast food and retail outlets as well as commercial and industrial premises. It is ideal where superior thermal performance and FM approval for insurance purposes is required.

FM CERTIFICATION

MetecnoSpan® is manufactured by our sister company: Metecno in Brisbane who is the FM Approved product owner.

FM 4880 Approved Class 1 - Unlimited Height.
FM 4881 Approved Class 1 - Unlimited Height.
FM 4471 Approved Class 1 - External roof and wall endurance standard.



MINIMUM ORDER QUANTITIES

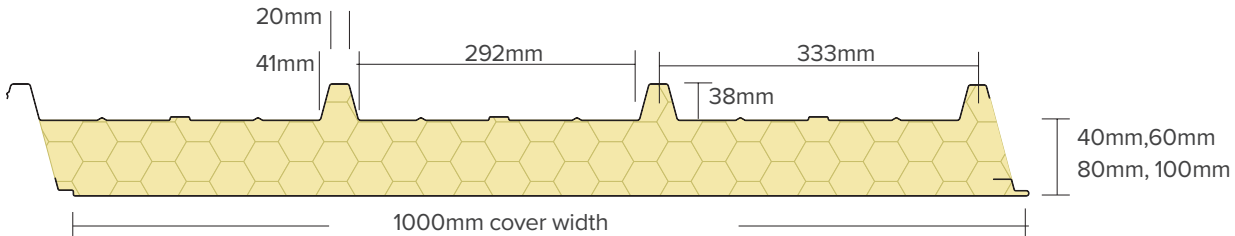
Please ask Metalcraft Insulated Panels if the inner skin you prefer is available for your project as minimum order quantities might apply.



PRODUCT PROPERTIES

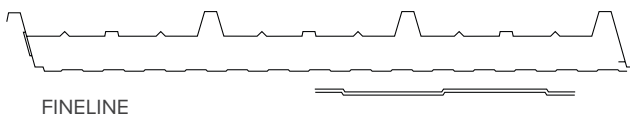
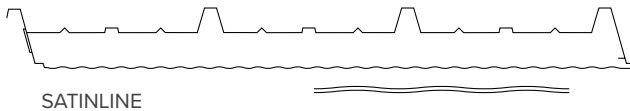
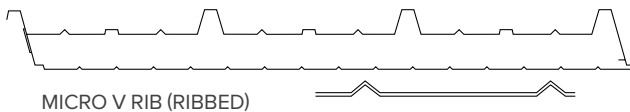
PANEL DIMENSIONS

All dimensions are nominal



INNER PROFILE OPTIONS

MetecnoSpan® is available with different inner skins.



WIDTH AND AVAILABLE LENGTHS

MetecnoSpan® is 1000mm wide and available with different inner skins. The maximum length of panels are restricted to 11.9m without a lap or jointing detail.

PRODUCT PROPERTIES

Core	Unlimited height Fire-retardant polyisocyanurate (PIR) foam. FM Approved.
External facing	0.42mm high tensile COLORBOND® steel.
Internal Facing	0.50mm G300S, Z275 coated steel to AS 1397 formed with Micro V Rib, Satinline or Finline inner skin.
Width	1000mm
Length	As required, determined by handling and design 11.9m max. For longer sheets either use end laps or a "stepped" joint.
Pitch	Minimum 3 degrees after deflection.
Thickness	40mm, 60mm, 80mm, 100mm

ROOF NOISE

Homeowner's and Designers 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.

FIRE HAZARD PROPERTIES

AS/ISO 9705 - BCA GROUP NUMBER (SPEC C1.10A)

AS 1530.3 INDICES

Ignitability Index	0
Spread of Flame Index	0
Heat Evolved Index	0
Smoke Index	1

MetecnoSpan® PIR steel skinned insulated building panels conform to the requirements of the BCA Specification C1.10a as Group 2. This has been approved by a NZ engineer who has given it a Group 2S for the New Zealand Building Code.

GROUP 2S - NZBC

Panel up to 200mm or less with an aluminium 'wall-wall' and 'wall-ceiling' angles (1.5mm) fixed with aluminium rivets or screws is classified as Group 2S. Panel up to 200mm or less with an aluminium 'wall-wall' and 'wall-ceiling' angles (0.5mm) fixed with steel rivets or screws is classified as Group 2S.

THERMAL

PIR thermal conductivity has been tested in accordance with ASTM C518-04 and assessed in accordance with relevant Australian Standard and BCA provisions, including, AS/NZS 4859.1:2002 "Materials for the thermal insulation of buildings". The test condition is 23°C. Thermal Performance based on NATA endorsed test report and using ISO 10456, for the calculation of the initial k – values. k = 0.020355 W/mK at 23 degrees.

Panel Thickness (mm)	40	60	80	100
'R' (mK/W)	2.25	3.21	4.16	5.11
'U' (m ² k/W)	0.44	0.31	0.24	0.19
Mass (Kg/m ²)	9.96	10.72	11.48	12.24

ACOUSTIC

Acoustic testing of MetecnoSpan® has been performed in compliance with the requirements of AS 1191-2002 "Acoustics – Method for Laboratory Measurement of Airborne Sound Insulation of Building Elements".

Freq Hz	100	160	200	250	315	400	630	800	1000	1250	1600	2000	2500	3150	5000	STC	R _w
(a) 40mm	16.0	16.8	19.6	19.8	21.4	22.4	23.7	24.5	24.0	20.3	20.3	28.5	30.4	33.4	36.6	24	25
(b) 100mm	16.4	16.6	19.0	20.4	20.9	19.4	17.7	16.2	23.9	30.7	35.0	34.4	32.9	35.3	39.9	22	24

LOADSPAN

3 STEP PANEL SELECTION

- 1 - Determine thermal and fire performance requirement (If FM Approval is required -maximum span is 1830mm)
- 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 for single or multi-span from tables. Note spans can be reduced at building edges by appropriate building design.

SINGLE SPAN -NON-CYCLONIC REGION A&B (ROOF APPLICATIONS ONLY)

Single span, wind pressure acting outwards
Maximum uniformly distributed load (kPa) for the given span:

SPAN (mm)	SINGLE SPAN Wind pressure acting outwards			
	40	60	80	100
1500	4.99	6.94	8.56	9.83
1800	4.17	5.80	7.15	8.21
2100	3.50	4.63	5.83	7.06
2400	2.70	3.57	4.49	5.43
2700	2.15	2.84	3.57	4.31
3000	1.76	2.32	2.91	3.51
3300	1.47	1.93	2.42	2.92
3600	1.25	1.64	2.05	2.47
3900	1.08	1.41	1.76	2.12
4200	0.94	1.23	1.53	1.85
4500	0.83	1.08	1.35	1.62
4800	0.74	0.96	1.20	1.44
5100	0.67	0.86	1.07	1.29

MULTI SPAN-NON-CYCLONIC REGION A&B (ROOF APPLICATIONS ONLY)

Multi-span, wind pressure acting outwards
Maximum uniformly distributed load (kPa) for the given span:

SPAN (mm)	MULTI SPAN Wind pressure acting outwards			
	40	60	80	100
1500	4.01	5.57	6.87	7.31
1800	3.36	4.66	5.74	6.11
2100	2.89	4.01	4.93	5.25
2400	2.54	3.52	4.33	4.61
2700	2.27	3.14	3.86	4.11
3000	2.05	2.83	3.48	3.71
3300	1.87	2.58	3.18	3.38
3600	1.72	2.38	2.92	3.11
3900	1.48	2.20	2.70	2.88
4200	1.29	2.02	2.52	2.68
4500	1.14	1.77	2.32	2.51
4800	1.01	1.57	2.05	2.63
5100	0.9	1.40	1.83	2.20

Notes:

1. Pressures specified are for wind gusts only per AS/NZS 1170.
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. Distributed live load of 0.25kPa has been allowed for (as per AS/NZS 1170.1:2001). MetecnoSpan® tests comply with details outlined in AS4040, AS1562 and AS/NZS 1170.
5. Deflection limit of span/150 applies, and in accordance with Serviceability Limit State criteria per AS/NZS 1170.0 – TABLE C1.
6. Fixing with 14g tek screws (or equivalent) at each rib are required.
7. Min. roof slope of 3 degree applies.
8. Extended span tables including cyclonic regions C&D and spans for wind pressure acting inwards are also available.
9. For FM Approved applications,
 - a) a max. span of 1830mm applies.
 - b) approved fasteners must be used.
 Refer Metalcraft Insulated Panel Systems.

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For more information on Metalcraft Insulated Panels visit:
www.metalcraftgroup.co.nz.

Metalcraft Insulated Panels is part of United Industries Group Limited. www.unitedindustries.co.nz.

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.



www.metalcraftgroup.co.nz

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