

# Certificate of Conformity

Certificate number: CM40235 Rev1

**Certification Body:**

  
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 JAS-ANZ Accreditation  
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**Certificate Holder:**

**Metecno Pty Ltd**  
 T/A  
 Metecno,Bondor®  
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**THIS IS TO CERTIFY THAT**

**InsulRoof®**

**Type and/or use of product:**

Insulated roof panel.

**Description of product:**

InsulRoof® is an insulated roof sandwich panel with outer steel faces of Colorbond® pre-painted steel G550 and an inner core of EPS-FR (Expanded Polystyrene with fire-retardant) with PUR (Polyurethane Foam) infill of the corrugation. Refer A2 for details.

**COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)**

**BCA 2019**

	Volume One	Volume Two
<b>Performance Requirement(s):</b>	BP1.1(a)&(b)(i), Structural reliability. (ii)&(iii)	P2.1.1(a)&(b)(i), Structural stability and resistance to actions. (ii)&(iii)
<b>Deemed-to-Satisfy Provision(s):</b>	C1.10(a)(ii)&(ix) Fire Hazard Properties—Refer A3.	P2.2.2 Weatherproofing – Roof applications.
	F1.5 Roof coverings.	3.12.1.2 Energy Efficiency – Roofs. Can be used in conjunction with other building elements to achieve a Total R Value. Refer to A3.
	J1.3 Energy Efficiency – Roof and ceiling construction. Can be used in conjunction with other building elements to achieve a Total R Value. Refer to A3.	3.12.1.6 Energy Efficiency – Attached Class 10a buildings. Can be used in conjunction with other building elements to achieve a Total R Value. Refer to A3.
<b>State or territory variation(s):</b>	Not Applicable	Part 3.12 (NSW, NT, Qld, Tas, ACT)

**SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B**

  
 Richard Donarski - CMI

  
 Don Grehan – Unrestricted Building Certifier

**Date of issue:** 16/06/2020

**Date of expiry:** 12/09/2021



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## Limitations and conditions:

1. The InsulRoof® panels are limited to the use in Type C Construction in Class 2 to 9 buildings when being used as external walls.
2. The Group numbers achieved in accordance with AS ISO 9705-2003 as either Group 2 or Group 1 depending on the thickness and construction detail, refer A3.
3. The InsulRoof® panel as a Group 2 fire rated product, is only suitable for use as a ceiling lining as specified in Table 3 of Specification C1.10 of the BCA 2019.
4. The structural support members are designed and engineered separately as per project requirements by building designers and engineers.
5. In the absence of a site-specific performance solution, this product or system must not be used to facilitate the exemptions for a carport specified in Part 3.7.2.6 Open carports of Volume 2 of the BCA 2019.
6. Any penetrations made into the certified products must be in accordance with [Drawing IRE13-RP01-00 ROOF PENETRATIONS - INSULROOF - R0](#). The adequacy of the size, location and spacing of any penetrations outside the scope of this document through the roof panel must be confirmed by a structural engineer.
7. The roof panels will be limited by wind load shown in the manufacturer's specifications on the span certified for the product type, thickness, core density and fixing configuration as per the product's certified span tables, refer A3.
8. It is the responsibility of the building designer to ensure fitness for purpose including, but not limited to, consideration for the corrosion resistance level of the product and the proximity to breaking surf.
9. The use of the certified product/system is subject to these Limitations and Conditions and must be read in conjunction with the Scope of Certification below.

## Building classification/s:

Class 1,2,3,4,5,6,7,8,9 & 10

**Scope of certification:** The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website [www.abcb.gov.au](http://www.abcb.gov.au). This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the Certificate Holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

The NCC defines a Performance Solution as one that complies with the Performance Requirements by means other than a Deemed-to-Satisfy Solution. A Building Solution that relies on a CodeMark Certificate of Conformity that certifies a product against the Performance Requirements cannot be considered as Deemed-to-Satisfy Solution.

This Certificate of Conformity may only relate to a part of a Performance Solution. In these circumstances other evidence of suitability is needed to demonstrate that the relevant Performance Requirements have been met. The relevant provisions of the Governing Requirements in Part A of the NCC will also need to be satisfied.

This Certificate of Conformity is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate of Conformity is outside of this document's scope and the installation of the certified product will not be covered by this Certificate of Conformity. This may result in the product being classified as a non-conforming building product.

**Disclaimer:** The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.

When using the CodeMark logo in relation to or on the product/system, the Certificate Holder makes a declaration of compliance with the Scope of Certification and confirms that the product is identical to the product certified herein. In issuing this Certificate of Conformity, CertMark International has relied on the experience and expertise of external bodies (laboratories and technical experts).

Nothing in this document should be construed as a warranty or guarantee by CMI, and the only applicable warranties will be those provided by the Certificate Holder.

## APPENDIX A – PRODUCT TECHNICAL DATA

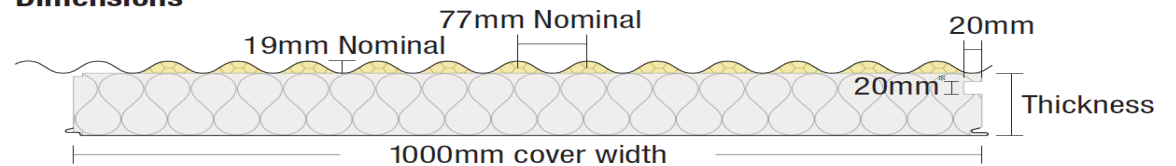
### A1 Type and intended use of product

As per page 1.

### A2 Description of product

Core	EPS-FR, SL or M Grade (Expanded Polystyrene with fire retardant) with PUR (Polyurethane Foam) infill of corrugation.
Width (cover mm)	1000
Thickness (mm)	50, 75, 100, 125, 150 & 200
Length	Up to 12m
External Material	0.42mm G550 Colorbond® pre-painted steel
Internal Material	0.6mm G300 Colorbond® pre-painted steel
Pitch	5° Minimum

### Dimensions



\* Services ducts 30x30mm are available for panel thicknesses 150-200mm.

Source: Certificate Holder

### A3 Product specification

#### Structure Span Tables

In order to maintain compliance with structure, the following Span Tables must be referred to which have been certified by a licensed Professional Engineer.

Document Name	Version
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION A – NON-CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade SL 0.42mm hi-tensile / 0.6mm steel skins</a>	4
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION B – NON-CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade SL 0.42mm hi-tensile / 0.6mm steel skins</a>	4
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION C – CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade SL 0.42mm hi-tensile / 0.6mm steel skins</a>	3
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION D – CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade SL 0.42mm hi-tensile / 0.6mm steel skins</a>	3
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION A –NON-CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade M 0.42mm hi-tensile / 0.6mm steel skins</a>	3
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGION B –NON-CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade M 0.42mm hi-tensile / 0.6mm steel skins</a>	3
<a href="#">INSULROOF® SPAN TABLES FOR WIND REGIONS C &amp; D –CYCLONIC (EXTERNAL ROOFING APPLICATIONS ONLY) EPS-FR Core Grade M 0.42mm hi-tensile / 0.6mm steel skins</a>	1
<a href="#">INSULROOF® Roof Span Table for Housing Application – Non-Cyclonic &amp; Cyclonic Regions EPS-FR Core Grade SL 0.42mm hi-tensile/0.6mm steel skins</a>	5

#### Penetrations

In order to maintain compliance with structure, the following document must be referred to which has been certified by a licensed Professional Engineer; [Drawing IRE13-RP01-00 ROOF PENETRATIONS - INSULROOF - RO](#). The adequacy of the size, location and spacing of any penetrations outside the scope of this document through the InsulRoof® panel must be confirmed by a structural engineer.

#### Fire Hazard Properties

##### AS/NZS 1530.3-1999 Indices when tested to the corrugated face of the panel

Ignitability Index	0	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	0	Range 0-10
Smoke Index	1	Range 0-10

##### AS/NZS 1530.3-1999 Indices when tested to the flat face of the panel

Ignitability Index	0	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	0	Range 0-10
Smoke Index	0-1	Range 0-10

## Material Group Numbers

### Group 1:

Panel up to 250mm thick with steel 'wall-wall' and 'wall-ceiling' angles fixed with steel rivets or screws at maximum 300mm centres is classified as Group 1.

**Smoke Growth Rate Index (SMOGR<sub>RC</sub>) of 2.4m<sup>2</sup>s<sup>-2</sup>.**

### Group 2:

Panel 250mm or less with an aluminium 'wall-wall' and 'wall-ceiling' angles fixed with aluminium rivets or screws at 300mm centres is classified as Group 2. Panel thicker than 150mm requires steel 'wall-wall' and 'wall-ceiling' angles fixed with steel rivets or screws at 300mm centres to be classified as Group 2.

**Smoke Growth Rate Index (SMOGR<sub>RC</sub>) of 12.0m<sup>2</sup>s<sup>-2</sup>.**

*Source: IGNIS Advisory Note, IGNS-6180-02 Issue 01 Revision 2[2018] & CSIRO Report CMIT-(C)-2004-089 dated March 2004.*

### Notes:

- To comply with the Group numbers, mushroom bolts must be provided at no greater than 400mm from the edge of the panel and 2m between centres and steel flashing and edging must be installed.
- To maintain Group 1 classification, all rivets must be steel and joints between the wall and ceiling panels must be secured using 40mm x 40mm galvanised iron angle strips.
- Aluminium angle strips and rivets will achieve Group 2.

## Thermal & Energy Efficiency

**Core: SL Grade EPS, k=0.0407 W/m·K & PUR k=0.037 W/m·K @ 23°C**

Calculated Panel Thermal Resistance						
Nominal (minimum) thickness, mm	50	75	100	125	150	200
<b>Panel Insulation R (m<sup>2</sup>.K/W)</b>						
Insulation R @ 6°C	1.5	2.2	2.8	3.5	4.1	5.4
Insulation R @ 15°C	1.5	2.1	2.7	3.4	4.0	5.3
Insulation R @ 23°C	1.4	2.0	2.7	3.3	3.9	5.1
Insulation R @ 30°C	1.4	2.0	2.6	3.2	3.8	5.0
<b>Total R for Application as Roof Panels (m<sup>2</sup>.K/W)</b>						
Total R @ 6°C (heat flow out)	1.7	2.3	3.0	3.6	4.3	5.6
Total R @ 15°C (heat flow out)	1.6	2.3	2.9	3.5	4.1	5.4
Total R @ 23°C (heat flow out)	1.6	2.2	2.8	3.4	4.0	5.3
Total R @ 30°C (heat flow in)	1.6	2.2	2.8	3.4	4.0	5.2

The temperatures are the average for the insulation material

### Notes:

- Determinations based upon AS/NZS 4859:2018, Materials for the thermal insulation of buildings.
- Insulation R adjusted for temperature per AS/NZS 4859.2:2018 Clause 5.
- The Total R values for insulation average temperatures of 6°C correspond to surface temperatures of -6° outdoors for 18° indoors.
- The Total R values for insulation average temperatures of 15°C correspond to surface temperatures of 12° outdoors for 18° indoors.

The Total R values for insulation average temperatures of 30°C correspond to surface temperatures of 36° outdoors for 24° indoors.

### The following are assumed:

- 0.42mm steel outdoor and 0.6mm steel indoor skins, k=45 W/m·K.
- Indoor surface is painted.

**Core: M Grade EPS, k=0.0380 W/m·K @ 23°C & PUR k=0.037 W/m·K @ 23°C**

Calculated Panel Thermal Resistance						
Nominal (minimum) thickness, mm	50	75	100	125	150	200
<b>Panel Insulation R (m<sup>2</sup>.K/W)</b>						
Insulation R @ 6°C	1.6	2.3	3.0	3.7	4.4	5.8
Insulation R @ 15°C	1.6	2.3	2.9	3.6	4.3	5.6
Insulation R @ 23°C	1.5	2.2	2.8	3.5	4.2	5.5
Insulation R @ 30°C	1.5	2.1	2.8	3.4	4.1	5.4
<b>Total R for Application as Roof Panels (m<sup>2</sup>.K/W)</b>						
Total R @ 6°C (heat flow out)	1.8	2.5	3.2	3.9	4.6	5.9
Total R @ 15°C (heat flow out)	1.7	2.4	3.1	3.7	4.4	5.8
Total R @ 23°C (heat flow out)	1.7	2.3	3.0	3.7	4.3	5.6
Total R @ 30°C (heat flow in)	1.7	2.3	3.0	3.6	4.3	5.6

The temperatures are the average for the insulation material

### The Total R assumes still air within the room and the following air film resistances:

- Outdoor air film, R=0.04 m<sup>2</sup>.K/W.
- Winter indoor air film, R=0.11 m<sup>2</sup>.K/W.
- Summer indoor air film, R=0.16 m<sup>2</sup>.K/W.



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## A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact Certificate holder for manufacturing locations.

## A5 Installation requirements

Installation requirements are outside the scope of this certificate and subject to project specific engineering advice. The minimum fixing requirements are outlined in the Span Tables referenced in A3 of this Certificate of Conformity.

## A6 Other relevant technical data

No other relevant technical data.

## APPENDIX B – EVALUATION STATEMENTS

### B1 Evaluation methods

1. Fire Safety Provisions A5.2(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
2. Structural Provisions A5.2(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
3. Thermal Provisions A5.2(1)(e). Reports from a professional engineer.
4. Weatherproofing Provision A5.2(1)(e). Reports from and a professional engineer.

### B2 Reports

1. AWTA Textile Testing; NATA Accreditation No. 1356; Report No. 7-599058-CQ; Testing InsulRoof® corrugated face panel in accordance with AS/NZS 1530.3-1999; Dated 29/08/2014.
2. AWTA Textile Testing; NATA Accreditation No. 1356; Report No. 7-599072-CQ; Testing InsulRoof® flat face panel in accordance with AS/NZS 1530.3-1999; Dated 29/08/2014.
3. Bligh Tanner; Report No. 2017.0493; Certification of InsulRoof® Span Tables compliance with F1.5 of NCC Vol 1 and P2.2.2 of NCC Vol 2; Dated 26/05/2020.
4. CSIRO; Report No. CMIT-(C)-2004-089; Assessment of the performance of sandwich panels; Dated March 2004.
5. Ignis Solutions; Evaluation No. IGNS-6180-02 I03R07; Product Evaluation – InsulRoof® Group Number Evaluation; Dated 13/06/2020.
6. James M Fricker; Report No. i265c; Thermal performance calculations; Dated 23/04/2020.

The Certificate Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial in confidence.