



ISO² PRODUCT TECHNICAL STATEMENT

GROUP 2 MODIFIED POLYISOCYANURATE RIGID THERMAL INSULATION PANEL

PRODUCT INFORMATION

PIRMAX ISO² PANEL- with Silver Foil Facing is an Australian made modified Polyisocyanurate (PIR) rigid thermal panel that can be used in many applications. A light weight closed cell PIR consisting of a foam inner core, thermoset between two layers of embossed aluminum foil facings. Designed to achieve excellent thermal performance where minimal cavity is available.

APPLICATION

PIRMAX ISO² PANEL is designed to be used in exposed wall or ceiling/soffit applications typically in commercial or multi-residential use, however can be used in residential applications. The **PIRMAX ISO²** is designed to be mechanically fixed into concrete or masonry substrates in accordance with the installation instructions. **PIRMAX ISO²** is an industrial insulation product and designed for insulating purposes only.

NCC 2019 VOL 1 COMPLIANCE

When installed in accordance with the installation guide and applicable Australian Standards. The Australian Standards that are referenced are assumed to be the version current with **NCC 2019**.

SECTION C – FIRE RESISTANCE

PART C1.10 – FIRE HAZARD PROPERTIES

PIRMAX ISO² PANEL is suitable for use in applications where the product is considered a ceiling or wall internal lining and subject to **Part C1.10.a**, it therefore must comply with **Specification C1.10 Clause 4**. **PIRMAX ISO²** is also considered as an insulation and must comply with **Specification C1.10 Clause 7**.

SPECIFICATION C1.10 - FIRE HAZARD PROPERTIES

Specification C1.10.4 Wall and ceiling linings

When tested in accordance with **AS 5637.1** and its referenced test method **AS ISO 9705**, **PIRMAX ISO²** achieves **Group 2** with a smoke growth rate index (**SMOGR_{RC}**) $\leq 100\text{m}^2/\text{s}^2 \times 1000$.

Specification C1.10.7 Other materials

When tested in accordance with **AS/NZS 1530.3** **PIRMAX ISO²** does not exceed the *Spread-of-Flame* or *Smoke-Developed* indices of **Specification C1.10 Clause 7**.

SECTION J – ENERGY EFFICIENCY

PART J1.2 – THERMAL CONSTRUCTION

PIRMAX ISO² PANEL has been tested in accordance with **AS/NZS 4859.1** and satisfies the requirements of a required insulation product.

LIMITATIONS

PART C1.9 – NON-COMBUSTIBLE BUILDING ELEMENTS

PIRMAX ISO² PANEL, when considered as a building element or component, is not suitable for use in *Type A or B* construction in an *external wall*, *common wall* or *non-loadbearing internal walls* where they are *required* to be *fire-resisting*. In accordance with **Table C1.1**, for **Class 5,6,7** and **8** this excludes use from those area of a rise of storey 3 or more. For **Class 2,3** and **9**, these same excluded uses are for a rise of storey 2 or more.



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NCC 2019 VOL 2 COMPLIANCE

When installed in accordance with the installation guide and applicable Australian Standards. The Australian Standards that are referenced are assumed to be the version current with **NCC 2019**.

PART 3.12– ENERGY EFFICIENCY

PART 3.12.1 – BUILDING FABRIC

PIRMAX ISO² PANEL has been tested in accordance with **AS/NZS 4859.1** and satisfies the requirements of a required insulation product.

LIMITATIONS

PART 3.10.5 – CONSTRUCTION IN A BUSHFIRE PRONE AREA

For construction in a bushfire prone area please seek technical support from PIRMAX.

EVIDENCE OF SUITABILITY

Test Standard	Test Type	Report
AS/NZS 4859.1:2018	Thermal	CSIRO Report XC3715/R4a
AS/NZS 4859.1:2018 Appendix E	Surface Corrosion and Delamination	AWTA Report 21-005519
ASTM E 408-71	Emissivity	AWTA Report 19-002613
AS/NZS 1530.3:1993	Fire (Indices)	AWTA Report 20-003292 – 40mm product
AS/NZS 1530.3:1993	Fire (Indices)	AWTA Report 21-001447 - 50mm product
AS 5637.1:2015	Fire (Group Number)	BRANZ Report F113054-001 – 60mm product
AS 5637.1:2015	Fire (Group Number)	BRANZ Report F114361-01-1 – 100mm product
AS 2122.1-1993	Flame Propagation- Vertical Surface Ignition	AWTA Report 22-001265

SUMMARY OF TESTING RESULTS

NCC Clause(s)	Test Standard	Test Type	Requirement	Reported Value
Part J1.2 Part 3.12.1	AS/NZS 4859.1:2018	Thermal	Classification	Refer to range table
Part J1.2 Part 3.12.1	ASTM E 408-71	Emittance	Classification	0.05
Part J1.2 Part 3.12.1	AS/NZS 4200.1:2017	Emittance	Classification	IR Reflective
Specification C1.10.7	AS/NZS 1530.3:1993	Ignitability Index Spread of Flame Index Heat Evolved Index Smoke Development Index	≤ 20 ≤ 9 ≤ 10 ≤ 8	0 0 0 0-1
Specification C1.10.4	AS 5637.1:2015	Group Number SMOGR _{Arc}	Classification (1-4) ≤ 100 m ² /s ² x 1000	2 ≤ 100 m ² /s ² x 1000
	California Specification 01350	Volatile Organic Compounds (VOC)	<0.5 mg/m ³	<0.01 mg/m ³
		Maximum Service Temp.	Classification	200 °C
	AS 2122.1-1993	Flame Propagation- Vertical Surface Ignition	Classification	Median Flame Duration Time: 0.67 sec Eighth Value of Flame duration: 0.71 sec Standard Deviation of Flame Duration: 0.03 Median Mass retained: 96.28% Eighth value in Mass: 95.91%



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OTHER ACCREDITATIONS

<p>LICENCE No: PIR:PA01:2022:GR</p>	<p>Green Star® 'Buildings v1 .0' Rating Tools Credits: Credit 9: Responsible Finishes</p>
	<p>Green Star® 'Design & As Built v1 .3' and 'Interiors v1 .3' Rating Tools Credits: Sustainable Products</p>
	<p>Green Star® 'Performance v1 .2' Rating Tool Credit: Credit 21: Procurement and Purchasing (Refurbishment Materials)</p>

<p>LICENCE No: PIR:PA01:2022:PH</p>	<p>PHD SUMMARY Percentage Assessed: 100%</p>	<p>INVENTORY THRESHOLD: 100ppm Product Level</p>	<p>INVENTORY METHOD: Nested Materials</p>																								
	GreenTag Banned List Compliant																										
	GreenTag PHD recognized by WELL™ & LEED® Material Transparency & Optimisation credit included below:																										
	Meets Green Star® 'Buildings v1.0' ~ Credit 9: Responsible Finishes																										
	Meets IWBI® WELL™ v1.0 as Recognised for ~ Feature 26 (Part 1); Feature 97 (Part 1); as a Compliant Technical Document (Audited) for ~ Feature 04 (Part 4, 5), and meets IWBI® WELL™ v2.0 as Recognised for ~ X07 (Parts 1, 3); X08 (Part 2); as a Compliant Technical Document (Audited) for ~ X01 (Part 1, 2, 3); X05 (Part 1, 2); (Part 1, 2); X07 (Part 2); X08 (Part 1)																										
	Meets USGBC LEED® v4.0 and v4.1 Rating Tool Credit, MR Credit: Building Product Disclosure and Optimisation - Material Ingredients – Option 1 : Material Ingredient Reporting, Option 2 : International ACP – REACH Optimisation																										
	Highly unlikely worker, user, and environmental exposure to Carcinogens, Mutagens, Reproductive Toxicant or Endocrine Disruptors																										
<p>INGREDIENT HAZARD DISCLOSURE, RISK ASSESSMENT, & IN USE HEALTH, % by mass (see below)</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Value 1</th> <th>Value 2</th> <th>Value 3</th> <th>Value 4</th> <th>Value 5</th> </tr> </thead> <tbody> <tr> <td>INGREDIENT HAZARD DISCLOSURE</td> <td>55.9%</td> <td>10.1%</td> <td>0.1%</td> <td>20.2%</td> <td>13.7%</td> </tr> <tr> <td>RISK ASSESSMENT</td> <td>54.9%</td> <td>0.3%</td> <td>1%</td> <td></td> <td></td> </tr> <tr> <td>IN USE HEALTH (INCL VOCS): HEALTHRATE</td> <td>100%</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Category	Value 1	Value 2	Value 3	Value 4	Value 5	INGREDIENT HAZARD DISCLOSURE	55.9%	10.1%	0.1%	20.2%	13.7%	RISK ASSESSMENT	54.9%	0.3%	1%			IN USE HEALTH (INCL VOCS): HEALTHRATE	100%				
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For more information on Global GreenTag use the QR code to go to the Global GreenTag PIRMAX page link



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<p>DECLARE ID: PRX-0001</p>	<p>ISO² is a RED LIST FREE product ingredients are 100% disclosed to 100 ppm and do not contain any Red List chemicals. They have been shown to meet the Materials Petal requirements of the Living building Challenge and emissions testing criteria for Health + Happiness Petal. ISO² does not exceed maximum limits as defined by CDPH Standard Method v1.2-2017.</p>
	<p>Products meet the requirements of the WELL Specification AE-ES-SPS-003 relating to WELL X11 Long Term Emission Control and WELL X12 Short Term Emission Control</p>

For more information on the PIRMAX Declare Label use the QR code to go to the Living Future PIRMAX page link

CODEMARK
Australia

CERTIFICATE
CM20328

For more information on the PIRMAX Codemark certificate use the QR code to go to the JASANZ PIRMAX page link

COMPLIES WITH THE FOLLOWING NCC 2023 PROVISIONS AND STATE AND TERRITORY VARIATIONS

Performance Requirement(s) Deemed-to-Satisfy Provision(s):	Volume One		Volume Two	
	N/A	N/A	N/A	N/A
State or territory variation(s):	<p>C1.10(a)(ii) including Spec. C1.10 Clause 4 & Clause 7</p> <p>J1.2</p>	<p>Fire Hazard Properties - Wall and ceiling linings Other Materials</p> <p>Building Fabric – Thermal construction — general (must be used in conjunction with other building elements to achieve a total R value outlined in clause J1.3 'Roof and ceiling construction', J1.5 'Walls and Glazing' & J1.6 'Floors') subject to state and territory variations.</p>	<p>3.12.1.1</p> <p>NSW-3.12</p> <p>NT-3.12</p> <p>SA-3.12</p> <p>QLD-3.12</p> <p>ACT-3.12</p>	<p>Building fabric - Building fabric thermal insulation. (must be used in conjunction with other building elements to achieve a total R value outlined in clause 3.12.1.2 'Roofs', 3.12.1.4 'External Walls' & 3.12.1.5 'Floors') subject to state and territory variations.</p> <p>ENERGY EFFICIENCY In New South Wales, Part 3.12 does not apply. Note: The New South Wales Additions contain energy efficiency measures that apply in New South Wales to support and complement BASIX.</p> <p>In the Northern Territory, Part 3.12 is replaced with BCA 2009 Part 3.12.</p> <p>In South Australia, for the purposes of this Part, a sunroom or the like is deemed to be a Class 10a building and must comply with 3.12.1.6.</p> <p>In Queensland, building work for the energy efficiency of Class 1 buildings is also regulated by the Building Act 1975 and the Queensland Development Code MP 4.1—Sustainable buildings.</p> <p>In the Australian Capital Territory, see the ACT Appendix for further information on application to building work on new buildings and additions to existing buildings in the ACT.</p>
	<p>NSW Spec. C1.10 NSW 7</p> <p>NSW Section J</p> <p>NT Section J</p> <p>QLD Section J</p>	<p>Fire hazard properties Other materials</p> <p>Section J is replaced with NSW Section J which consists of two (2) subsections:</p> <ul style="list-style-type: none"> J(A) Energy Efficiency – Class 2 buildings & Class 4 part (BASIX) J(B) Energy Efficiency – Class 3 & Class 5 to 9 buildings <p>For a Class2 building and a Class4 part of a building, Section J is replaced with Section J of BCA 2009. Section J does not apply to Class 3 and 5-9 buildings.</p> <p>In Queensland, for a Class 2 building, Section J is replaced with Section J of BCA 2009</p>		

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

<p>Limitations and conditions:</p> <ol style="list-style-type: none"> This product must be installed as per the documented information in section A5 of this certificate. PIRMAX ISO² PIR Panel has not demonstrated compliance with BCA clause C1.9, therefore in Type A and Type B construction is not suitable for use: <ol style="list-style-type: none"> on external walls or common walls, or internal non-loadbearing walls required to be fire resisting. PIRMAX ISO² PIR Panel has been tested and achieved Material Group number 2 when assessed in accordance with the requirements of AS5637.1-2015. 	<p>Building classification/s:</p> <p>Volume 1 – Class 2 to Class 9 buildings</p> <p>Volume 2 – Class 1 and Class 10a buildings</p>
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SPECIFIC DESIGN OR INSTALLATION INSTRUCTIONS

- ◆ Ensure power is isolated before installation
- ◆ **WARNING** : Aluminium foil faced materials conduct electricity. Ensure these materials or conductive fasteners used to anchor this product, are not in contact or near electrical wiring during installation, to avoid electrocution.
- ◆ The foil material should not be creased, crushed, sharply folded or dragged over the building structure during installation.
- ◆ **CONDENSATION**: When installed on the cold side of the structure, the foil face may increase the risk of condensation within the compartment. Many factors can contribute to condensation risk, PIRMAX highly recommends that designers consider the risks and take precaution to further reduce any condensation issues that may occur.
- ◆ **CAUTION** : Electrical cables and equipment partially or completely surrounded with bulk insulation may overheat and fail.
- ◆ Insulation should be installed as a continuous layer, except for areas where it meets against structural members, or for gaps around services and fittings. Nominal thickness should be installed, unless meeting and crosses structures, services and fittings.
- ◆ Stated thermal performance is based on the insulation board only – reflective R-Values are construction-dependant upon the adjacent airgap and must be determined in accordance with **AS/NZS4859.2**.
- ◆ Do not allow insulation to get wet after installation.
- ◆ Projects requiring Group Number and **SMORGA_{RC}** ratings, the installation must comply with the system installation recommendations.

ISO² RANGE

NOMINAL THICKNESS (mm)	DECLARED R-VALUE (m ² K/W)	NOMINAL LENGTH (mm)	NOMINAL WIDTH (mm)
25	R _d 1.05	2400	1200
30	R _d 1.30	2400	1200
40	R _d 1.90	2400	1200
50	R _d 2.35	2400	1200
60	R _d 2.85	2400	1200
70	R _d 3.30	2400	1200
75	R _d 3.55	2400	1200
80	R _d 4.00	2400	1200
90	R _d 4.50	2400	1200
95	R _d 4.75	2400	1200
100	R _d 4.85	2400	1200

Other thicknesses available upon request, MOQ apply

CONDITIONS OF USE, STORAGE & MAINTENANCE

- ◆ Store in its original packaging in a cool, dry area, away from foodstuff. Ensure packages are adequately labelled, protected from physical damage, and sealed when not in use. Avoid packaging being stored under UV light (direct sunlight).
- ◆ The aluminium foil facing of the product should not come into contact with wet concrete, or alkaline materials
- ◆ Do not pressure clean or use mineral based cleaners on the facing product

SPECIFICATION NOTES

When specifying, state the following:

Product Name: **PIRMAX ISO² PANEL** _____mm

The insulation to be installed shall be **PIRMAX ISO2 Panel System**, supported by a **15 Year System Warranty**. **Group 2 AS ISO 9705:2003 (R2016)** and **AS 5637.1:2015** fire classification and an R value of _____. All insulation panels shall be **Global GreenTag GreenRate™ Level A** certified with a **Global GreenTag Product Health Declaration™ (GreenTag PHD™)** and a **Global GreenTag™ PlatinumHEALTH™ HeathRATE™** certification outcome. Must be **Declare Certified** and **RED LIST FREE**. Product is Australian Made, manufactured by PIRMAX PTY LTD, and shall be installed in accordance with manufacturers installation instructions.



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