



# ISO<sup>2</sup> PRODUCT TECHNICAL STATEMENT

## GROUP 2 MODIFIED POLYISOCYANURATE RIGID THERMAL INSULATION PANEL

### PRODUCT INFORMATION

**PIRMAX ISO<sup>2</sup> 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 ISO<sup>2</sup> 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 ISO<sup>2</sup>** is designed to be mechanically fixed into concrete or masonry substrates in accordance with the installation instructions.

### 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 ISO<sup>2</sup> 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 ISO<sup>2</sup>** 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 ISO<sup>2</sup>** achieves **Group 2** with a smoke growth rate index (**SMOGR<sub>RC</sub>**)  $\leq 100\text{m}^2/\text{s}^2 \times 1000$ .

##### Specification C1.10.7 Other materials

When tested in accordance with **AS/NZS 1530.3** **PIRMAX ISO<sup>2</sup>** 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 ISO<sup>2</sup> 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 ISO<sup>2</sup> 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 ISO<sup>2</sup> 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 <sub>ARC</sub>	Classification (1-4) ≤ 100 m <sup>2</sup> /s <sup>2</sup> x 1000	2 ≤ 100 m <sup>2</sup> /s <sup>2</sup> x 1000
	California Specification 01350	Volatile Organic Compounds (VOC)	<0.5 mg/m <sup>3</sup>	<0.01 mg/m <sup>3</sup>
		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><b>LICENCE No:</b> PIR:PA01:2022:GR</p>	<p><b>Green Star® 'Buildings v1 .0' Rating Tools Credits:</b> <b>Credit 9:</b> Responsible Finishes</p>
	<p><b>Green Star® 'Design &amp; As Built v1 .3' and 'Interiors v1 .3' Rating Tools Credits:</b> Sustainable Products</p>
	<p><b>Green Star® 'Performance v1 .2' Rating Tool Credit:</b> <b>Credit 21:</b> Procurement and Purchasing (Refurbishment Materials)</p>

<p><b>LICENCE No:</b> PIR:PA01:2022:PH</p>	<p><b>PHD SUMMARY</b> Percentage Assessed: <b>100%</b></p>	<p><b>INVENTORY THRESHOLD:</b> 100ppm Product Level</p>	<p><b>INVENTORY METHOD:</b> Nested Materials</p>																		
	GreenTag Banned List Compliant																				
	GreenTag PHD recognized by <b>WELL™ &amp; LEED®</b> Material Transparency & Optimisation credit included below:																				
	Meets <b>Green Star® 'Buildings v1.0'</b> ~ Credit 9: Responsible Finishes																				
	Meets <b>IWBI® WELL™ v1.0</b> 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 <b>IWBI® WELL™ v2.0</b> 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 <b>USGBC LEED® v4.0</b> 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><b>INGREDIENT HAZARD DISCLOSURE, RISK ASSESSMENT, &amp; IN USE HEALTH, % by mass (see below)</b></p> <table border="1"> <tr> <td><b>INGREDIENT HAZARD DISCLOSURE</b></td> <td>55.9%</td> <td>10.1%</td> <td>0.1%</td> <td>20.2%</td> <td>13.7%</td> </tr> <tr> <td><b>RISK ASSESSMENT</b></td> <td colspan="5">54.9% 0.3% 1%</td> </tr> <tr> <td><b>IN USE HEALTH (INCL VOCS): HEALTHRATE</b></td> <td colspan="5">100%</td> </tr> </table>				<b>INGREDIENT HAZARD DISCLOSURE</b>	55.9%	10.1%	0.1%	20.2%	13.7%	<b>RISK ASSESSMENT</b>	54.9% 0.3% 1%					<b>IN USE HEALTH (INCL VOCS): HEALTHRATE</b>	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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## GROUP 2 MODIFIED POLYISOCYANURATE RIGID THERMAL INSULATION PANEL

<p><b>Declare.</b></p> <p><b>DECLARE ID:</b> PRX-0001</p>	<p>ISO<sup>2</sup> is a <b>RED LIST FREE</b> product ingredients are 100% disclosed to <b>100 ppm</b> 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. ISO<sup>2</sup> does not exceed maximum limits as defined by <b>CDPH Standard Method v1.2-2017</b>.</p>
	<p>Products meet the requirements of the <b>WELL Specification AE-ES-SPS-003</b> relating to <b>WELL X11 Long Term Emission Control</b> and <b>WELL X12 Short Term Emission Control</b></p>



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

### 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<sub>RC</sub>** ratings, the installation must comply with the system installation recommendations.

### ISO<sup>2</sup> RANGE

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

### 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



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### SPECIFICATION NOTES

When specifying, state the following:

Product Name: **PIRMAX ISO<sup>2</sup> 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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