



Modified Polyisocyanurate Rigid Thermal Insulation



AUSTRALIAN MADE AND TESTED PRODUCT

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Description

PIRMAX HR panel is a Polyisocyanurate (PIR) insulation panel bound by aluminium foil facings on the upward and downward facing surfaces. The insulation is available in set thickness as listed by Table 1 and various lengths. The product may be visually described as an embossed aluminium face on both sides (dimpled patterned texture), with a yellowish foam core.

Table 1 – Available Product thicknesses

Product Thickness	Product R-Value (m ² .K/W)	Length (mm)	Product ID
PIRMAX HR-Panel 20mm	R0.89	2270	HR-20
PIRMAX HR-Panel 25mm	R1.05	2270	HR-25
PIRMAX HR-Panel 30mm	R1.30	2270	HR-30
PIRMAX HR-Panel 40mm	R1.90	2270	HR-40
PIRMAX HR-Panel 50mm	R2.35	2270	HR-50
PIRMAX HR-Panel 60mm	R2.85	2270	HR-60
PIRMAX HR-Panel 70mm	R3.30	2270	HR-70
PIRMAX HR-Panel 75mm	R3.55	2270	HR-75
PIRMAX HR-Panel 80mm	R4.00	2270	HR-80
PIRMAX HR-Panel 90mm	R4.50	2270	HR-90
PIRMAX HR-Panel 95mm	R4.75	2270	HR-100

Manufacturer

This product is manufactured by PIRMAX Australia, 9/170 Boundary Road, Braeside VIC 3196.

Date of Issue

This product technical statement is correct as of 01Mar21 and references the following documents.

- PIRMAX AS/NZS 3837-1988 test report AWTA 18-001500, issue 29Mar2018
- Huntsman 1366.2 evaluation, issue 20 Apr 2017
- CSIRO thermal Value summary report for PIRMAX ISO2 PIR XC3715/R4

Scope of use

PIRMAX HR is designed and tested for use as an insulation product in concealed applications such as; concrete wall, lined with PIRMAX HR with a plasterboard internal lining. Where the product is used in an external wall and the external wall is closer than 1m to the relevant boundary, the other material of the external wall must provide protection from ignition when subjected to a radiant flux of 30kW/m² for:

- 30 minutes for a building of importance level 3 and 4
- 15 minutes for a building of importance level 1

Exclusions of Use

- In exposed applications where there is no internal lining material present and the PIRMAX HR product acts as the internal lining for either walls, roofs, soffits, or floors.
- In applications whereby the product is used in an external wall and that wall is 1m to the relevant boundary AND
 - The additional components of the external wall are unable to provide protection from ignition when subjected to a radiant flux 30kW/m² for a minimum of:
 - 30 minutes for a building of importance level 3 and 4
 - 15 minutes for a building of importance level 1
- Must not be in proximity to a fixed appliance using controlled combustion and other fixed equipment where that piece of equipment would cause the PIRMAX HR product to exceed 90°C.
- Must not be used as, or part of, an external cladding material other than risk group SI.

New Zealand Building Code Clauses applicable to this product.

Applicable to inclusions

B2 Durability

2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:

- (a) The life of the building, being not less than 50 years, if:
 - ii. Those building elements are difficult to access or replace, or

Where the building is maintained so that the provisions of NZBC E2 and E3 are met, the PIRMAX HR product can be expected to have a serviceable life of at least 50 years.

C2 Protection from fire

C/AS2 5.8.2- For buildings containing risk group SI, where external walls are located more than 1.0 m from a relevant boundary, cladding materials shall be:

- b) Tested in accordance with the relevant standard test in Appendix C C7.1 and achieve a Type A or Type B classification.

PIRMAX HR has been tested in accordance with AS/NZS 3837-1998 (AWTA 18-001500) and achieves a mean:

- Peak heat release of 92.7kW/m² (maximum from samples, 100kW/m²)
- Total heat released 30MJ/kg (maximum 30.7 MJ/m²)

This consistent with a Type B classification in C/AS2 Table C1.3

C/AS2 4.17.2 If foamed plastics building materials or combustible insulating materials form part of a wall or ceiling system, the completed system shall achieve a Group Number as specified in Table 4.3 and the foamed plastics shall comply with the flame propagation criteria as specified in AS 1366 Parts 1–4 for the material being used. This requirement does not apply to building elements listed in Paragraph 4.17.6.

PIRMAX (a foamed plastic) has been tested to AS 1366.2 sub reference AS2122.1 as to the flame propagation of the material. Results as shown.

Flame propagation		
• Median flame duration, Eighth value	0	s
• Median mass retained, Eighth value	>90%	%
	>85%	%

E3 Internal Moisture

3.3.1. An adequate combination of thermal resistance, ventilation, and space temperature must be provided to all habitable spaces, bathrooms, laundries, and other spaces where moisture may be generated or may accumulate. (These requirement o not apply to Communal Non-residential, Commercial, Industrial, Outbuildings, or Ancillary Buildings.

PIRMAX HR will contribute to meeting these requirements.

Roofs and walls of housing complying with the Schedule Method for Compliance with Clause H1.3.2 E will have adequate thermal resistance. Other buildings may require more thermal insulation to satisfy the requirements of NZBC Acceptable Solution E3/AS1 than that to satisfy the energy efficiency provisions alone.

Clause F2 Hazardous Building Materials

2.3.1

The quantities of gas, liquid, radiation, or solid particle emitted by a material used in the construction of a building, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.

PIRMAX HR meets these requirements.

H1 Energy Efficiency

1.3.1

The building envelope enclosing spaces where the temperature or humidity (or both) are modified must be constructed to—

- (a) provide adequate thermal resistance; and
- (b) limit uncontrollable airflow

PIRMAX HR will contribute to meeting these requirements. Evidence CSIRO report XC3715/R4

1.3.2E

Buildings must be constructed to ensure that their building performance index does not exceed 1.55.

PIRMAX HR will contribute to meeting these requirement

2.3.1

Acceptable methods for determining the thermal resistance (R-values) of insulation materials are contained in AS/NZ 4859.1.

PIRMAX HR will meet these requirements. Evidence CSIRO report XC3715/R4

Applicable to exclusions

c2.2 The maximum surface temperature of combustible building materials close to fixed appliances using controlled combustion and other fixed equipment when operating at their design level must not exceed 90°C

C3.2 Buildings with a building height greater than 10 m where upper floors contain sleeping uses or other property must be designed and constructed so that there is a low probability of external vertical fire spread to upper floors in the building.

c3.3 Buildings must be designed and constructed so that there is a low probability of fire spread to other property vertically or horizontally across a relevant boundary.

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c3.5 Buildings must be designed and constructed so that fire does not spread more than 3.5 m vertically from the fire source over the external cladding of multi-level buildings.

(b) for buildings in importance levels 3 and 4, be constructed from materials that, when subjected to a radiant flux of 30 kW/m², do not ignite for 30 minutes, or (c) for buildings in Importance Levels 1 and 2, be constructed from materials that, when subjected to a radiant flux of 30 kW/m², do not ignite for 15 minutes.

General Limitations

This Product Technical Statement intends to cover the most common applications of the PIRMAX HR product. This document is not intended, and cannot cover all possible applications of this product, where there is any doubt over the suitability of this product for a specific application always gain approval from the appropriate authorities prior to purchase or installation.

Design, Construction and Installation Instructions

This Product Technical Statement must be read in conjunction with the relevant installation guide. Please refer to our website at www.pirmax.com.au/products

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