

## IKO Enertherm ALU

- High performance, rigid thermoset PIR insulation.
- 95% closed cell with micro- cell technology (MCT).
- CFC / HFFC / HFC free manufacture.
- NZBC compliant.
- High thermal efficiency / R- values.
- Excellent fire performance.
- Continuous layer of insulation reduces thermal bridging.

### Facts

- New Zealand's insulation requirements are very low compared with other similar countries.
- It is not possible to reach international levels with New Zealand's standard products and building methods.
- Most properties built today waste energy due to thermal bridges, air flow and insulation gaps.
- Moisture continues to accumulate in properties due to insufficient condensation control.

## Insulation Example: Exterior Wall

Continuous insulation outside the building structure is demonstrably superior to lofted insulation between framing.

In a wall assembly the following elements must all be controlled - rain, air, vapour & thermal.

Using continuous IKO Enertherm PIR is the optimal way to deal with all these factors.


### System Build-Up


- Building structure which may be any standard material such as timber, steel or concrete.
- Building wrap or RAB can be selected to protect the structure during the build, provide structural bracing and/or a vapour barrier.
- IKO Enertherm PIR T&G installed to provide unbroken insulation and an air barrier.
- Exterior cladding on battens to provide a rain screen and drainage pathway.


This 'perfect wall' manages all four elements to produce the best wall system possible.

## Applications

 **Rooftop:** flat roof insulation.

 **Exterior Wall:** outside wall insulation.

 **Floor:** floor insulation.

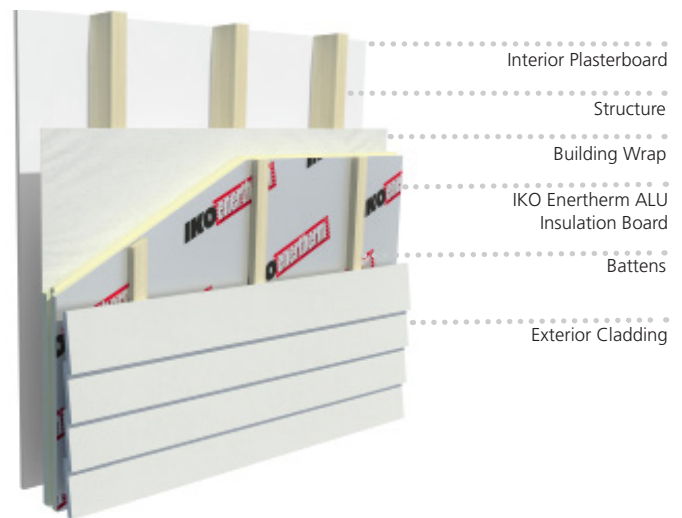
 **Tricore:** pitched roof insulation between metal.

 **Cavity Wall:** outside wall insulation.



### Solutions

- All planes in a building envelope should have continuous insulation to eliminate gaps.
- Insulation should be placed outside the structure to control moisture and effectively insulate - "Outsulation".
- Reduces thermal bridging to improve overall performance of insulation.



Outright Typical Wall Application

Interior Plasterboard  
Structure  
Building Wrap  
IKO Enertherm ALU  
Insulation Board  
Battens  
Exterior Cladding

## Product Overview

IKO Enertherm ALU is a 100 % CFC, HCFC or HFC-free insulation board with a rigid polyisocyanurate foam core, clad on both sides with a multi-layer gastight aluminium foil. This high-quality reflecting ALU foil facer consists of no fewer than seven layers combined into a single sheet.

The board has been tested under extreme conditions for water absorption, mechanical properties, corrosion resistance and emissivity.

## Technical details

- Bulk density:  $\pm 32$  kg/m<sup>3</sup>
- Compressive strength at 10% deformation: 175 kPa (17,5 ton/m<sup>2</sup>)
- Behaviour under uniformly distributed loading: class C ( $\leq 5$  % deformation at 80 °C and 40 kPa loading)
- Closed cells: more than 95%
- Water vapour diffusion: PIR foam:  $\mu = 60$  - ALU facing:  $\mu > 100,000$
- Moisture Absorption Rate:  $< 1\%$

## Thermal performance

Thermal conduction coefficient: (EN 13165) D: 0,022 W/(m.K)

## Fire properties

NZBC Clause C/ AS2 Part 4.

- Group Number 1-S on 0.75mm NPM900 metal tray deck (Fire class 'end use' according to 13501-1: B-s2,d0 (steeldeck).
- Group Number 4 (Class E fire resistance in accordance with EN-13501-1).
- Flame Propagation: The insulation complies to NZ 2122.1-1993.

IKO Enertherm PIR is suitable for buildings meeting the requirements of NZ3604:2011, up to a maximum height of 10m. Other buildings require specific design for structure, fire engineering and cladding. Please contact a technical advisor for details.

## Enertherm R Values (m<sup>2</sup>.K/W)

IKO Enertherm ALU (mm)	30mm	40mm	50mm	60mm	70mm	80mm	100mm
1200 x 600	1.36	1.82	-	-	-	-	-
2270 x 1200	-	-	2.27	-	3.18	3.64	4.55
ALU TAP (1200 x 1200)	Thickness						
1:60 (1.67)	40- 60	60- 80	80-100	100-120			

\* New Zealand stock holdings will fluctuate. Other sizes are available by order. R- value is a measure of thermal resistance. The stated R-values are true long term values based on an accumulated life cycle of 25 years.

Outright Continuous Insulation reserves the right to alter information, formulation or parameters at any time without notice. The information



## Edge Finish

Straight Edge



Tongue and Groove (T&G)



## Outright Accessories

- Iko Fix Gun
- Low Foaming PU
- ALU Tape
- Pro PU GLue
- Thermal Fix Flanges

## Product Safety

Outright products are chemically safe to use. If these boards are being installed during bright and sunny weather, it is advisable to wear UV protective sunglasses or goggles. Protect skin with a sunblock if exposed to reflected sunlight for a significant period of time.

