



## ENERTHERM INSULATION Technical Brochure

### Product Description

#### IKO enertherm ALU

##### Product description:

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 complex. This high-quality reflecting ALU cladding consists of no fewer than seven layers, combined into a single complex. It is tested under extreme conditions in respect of water absorption, mechanical properties, corrosion resistance and emissivity. It also is an ideal surface for fixing internally or externally, and prevents outgassing so the panel is thermal conduction coefficient.

##### Application:

- Rooftop: flat roof insulation for timber, concrete and steel deck
- Sarking: pitched roof insulation (type nF with neutral felt)
- Floor: floor insulation (underfloor heating and concrete floors)
- Wall: cavity wall insulation
- Wrap: outside wall insulation (closed joints)
- Comfort: loft insulation

##### Edge finish:

Straight



Tongue and groove  
(special order)



##### Thermal performance:

Thermal conduction coefficient: (EN 13165)

$\lambda D: 0,022 \text{ W/(m.K)}$



IKO enertherm is used for the thermal insulation of building structures

##### Benefits:

- Lightweight boards and therefore easier to handle
- Less volume for the same insulation value
- Fit for walking on during the work and after
- Can be installed quickly and easily
- High dimensional stability and compressive strength



IKO Enertherm ALU

**NURALITE**  
THE FLAT ROOF EXPERTS



## Technical details:

- Bulk density: **± 32 kg/m<sup>3</sup>**
- Compressive strength at 10% deformation: **175kPa (17,5 ton/m<sup>2</sup>)**
- Behavior under uniformly distributed loading: **class C** (≤ 5 % deformation at 80 °C and 40 kPa loading)
- Closed cells: **more than 95%**
- Water vapour diffusion: PIR foam: **μ = 60** - ALU facing: **μ > 100,000**

Enertherm Insulation is 100% CFC, HCFC or HFC- Free, manufactured in a ISO 14001 accredited factory.

## Technical approvals:

**Europe:** CE – EN 13165: T2-DS(70,90)3-DS(-20,-)1-DLT(2)-TR80- CS(10Y)175-WL(T)1

**Belgium:** ATG 2726 – ATG 2727 – ATG H867

**France:** Certificat Acermi N° 06/103/434 DTA 5/13-2350

**Netherlands:** Komo Attest met Productiecertificaat CTG 485 Komo CTG

**Germany:** Bauaufsichtliche Zulassung Z 23.15-1611

**USA:** FM Factory Mutual

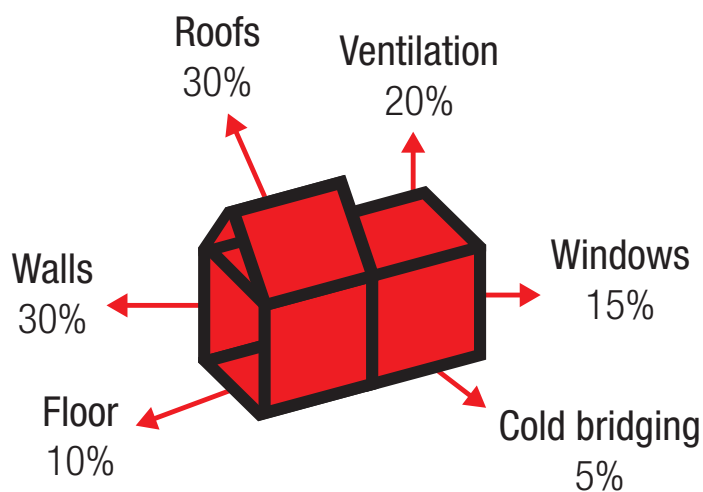
**NZ:** CodeMark (Nuratherm Warm Roof)

## Sustainable Insulation

Thanks to special properties (moisture and mould resistance, dimensional stability) IKO Enertherm insulation boards have a very long service life while retaining all their energy performance. IKO Enertherm boards are more thermally efficient than their counterparts on the market, therefore the level of thickness can be minimised whilst still achieving the same level of protection. The thickness of the boards ensure heat is not lost in the colder months, yet is still breathable in the summer months.

Other sustainable characteristics include the Enertherm boards resistance to fire. The product also doesn't melt and release large amounts of toxic smoke like other boards, it merely hardens and chars remaining in a similar state to its original form.

## Energy loss from an uninsulated house



New legislation now requires retrofitting of ceiling and underfloor insulation in rental homes over the next four years. The requirement applies from the 1st of July 2016 for social housing that is heavily subsidized by Government, and from the 1st of July 2019 for other rental housing, including boarding houses. There are exemptions, such as where it is physically impractical to retrofit insulation due to limited space underfloor or inaccessible raked ceilings.

## Thermal Capability Table (R-Value)

ALU (mm)	30	40	50	60	70	80	85	90	100	110	120	140	160	180	200
1200x600 TG	-	1,80	2,25	2,70	3,15	3,60	-	4,05	4,50	-	5,45	6,35	7,25	-	-
1200x1000	1,35	1,80	2,25	2,70	3,15	3,60	-	4,05	4,50	-	5,45	6,35	-	-	-

ALU Slope (1200 x 1200mm)	Thickness (mm)			
1/60 = 1°	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 the thermal resistance, of the Enertherm insulation board.

The stated R-Values are true long term values based on 25 years.

## Things to consider

### Reduction of Energy Consumption

High-performance insulation for homes, offices and other buildings is the most immediate and efficient solutions for making savings in energy consumption. Lower energy consumption means lower CO2 emissions, which are responsible for global warming. Good insulation in turn makes a positive contribution to the environment.

### Sustainable Insulation

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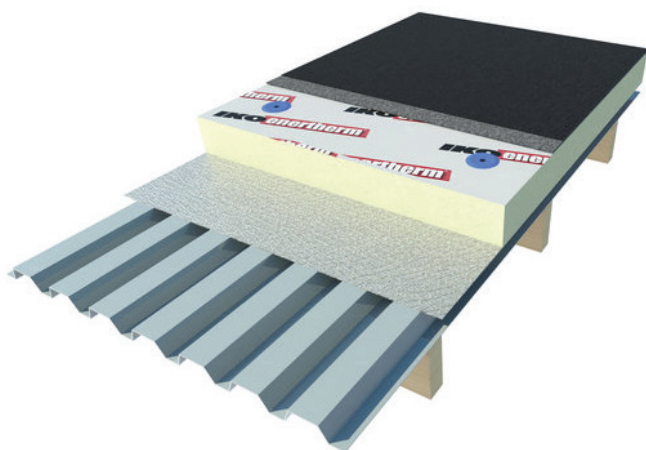
The use of renewable raw materials is significant. PET bottles, for example, are recycled and used in the PIR insulation production process.

### Less Wasteful

In the IKO Enertherm insulation production process, the cutting and sawing of waste is processed into briquettes, which are used as additives in concrete.

### IKO Enertherm ALU Carries DUBOkeur® Quality Label

The DUBOkeur® is awarded by the Netherlands Institute for Building Biology and Ecology (NIBE). This is an advice and research agency in the field of healthy and sustainable building, and is a leader in the field of building material certification. The DUBOkeur® proves that IKO Enertherm ALU is one of the most environmentally-friendly choices.







## Fire Properties:

- Fire class according to EN 13501-1: Class E
- Fire class 'end use' according to 13501-1: B-s2, d0 (steel deck)
- Fire class according to KB 19/12/1997: A1 (Belgium)

## Available Accessories:

- IKO ALU tape AS: 50 mm 50 m
- IKO ALU tape 150 m x 50 m
- IKO pro flex PU foam
- IKO pro fix PU adhesive
- IKO pro sarking screws
- IKO pro fix cavity anchors
- IKO pro fix flat roof screws
- IKO pro fix thermly broken fixings



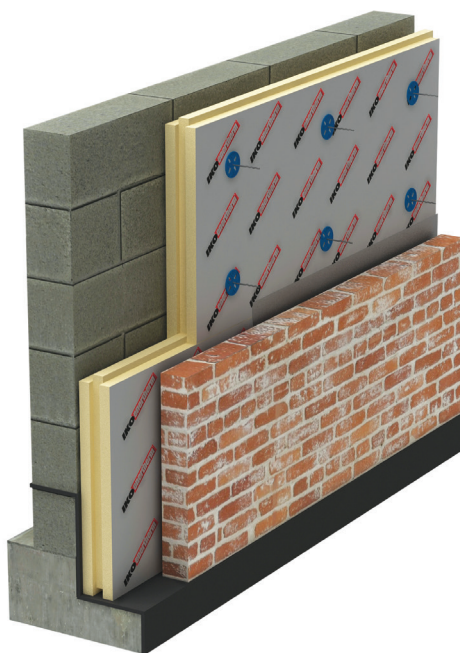
## Warranty and Building Code Verification

Nuralite warrants the Enertherm insulation against material defects for 20 years from the date of purchase.



CodeMark is a product certification system administered by the Ministry of Business Innovation and Employment (MBIE) which must be accepted by Councils so long as the product or system is designed and used within the scope of the CodeMark certificate.

When used as part of the Nuratherm Warm roof system, the system is CodeMark certified.



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