



ThermaGard Slab

Self-supporting insulated boards with Stoneglass or Cart 90 facings on both sides and a High Index polyisocyanurate (PIR) foam core, suitable for use as insulation material in horizontal and vertical structural elements, both external and internal, in all types of buildings

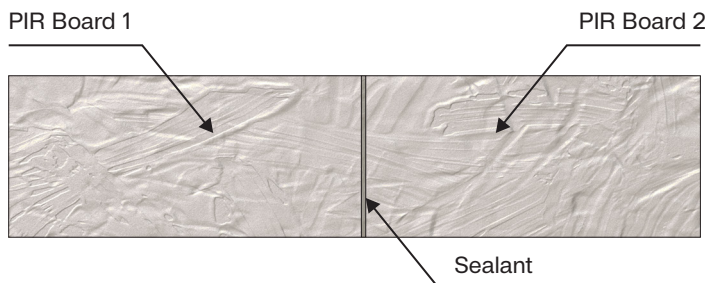


Available in

Effective width 1150mm | Nominal thickness from 30mm to 100mm

Bespoke lengths from 2m to 8m, depending on project requirements

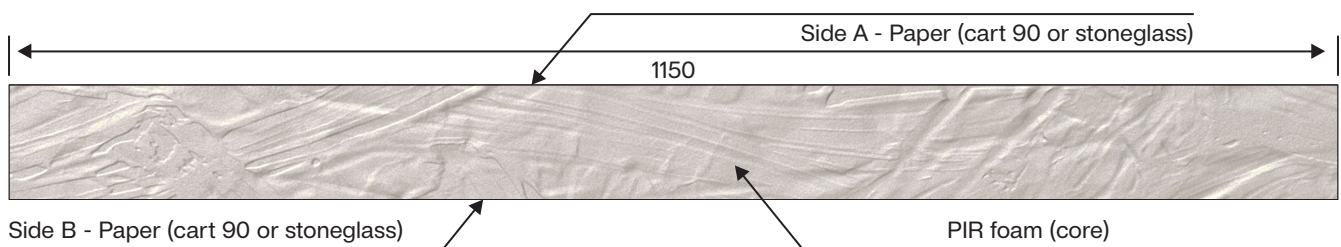
High Index polyisocyanurate thermal insulation boards are used to achieve the energy upgrading and energy saving of buildings. They limit the building's losses and contribute to the reduction of CO₂ emissions into the environment.



They are fixed to the load-bearing structural elements either with adhesive material (glue) or with anchors, plastic or metal.

In all cases, at the joint between the boards, the use of a sealing material is recommended (usually low-expansion polyurethane foam) for sealing the construction.

During the insulation process of horizontal and vertical structural elements, they must be fully supported, as they are not designed to bear loads.



Dimension tolerances

(According to the template EN 13165)

Board length, l Board width, b	$\pm 5 \text{ mm}$ $\pm 7,5 \text{ mm}$ $\pm 10 \text{ mm}$ $\pm 15 \text{ mm}$	$L < 1000 \text{ mm}$ $1000 < L < 2000 \text{ mm}$ $2000 < L < 4000 \text{ mm}$ $L > 4000 \text{ mm}$
Board thickness, d (class T1)	$\pm 3 \text{ mm}$ $\pm 4 \text{ mm}$ $+6, -4 \text{ mm}$	$D < 50 \text{ mm}$ $50 < D < 75 \text{ mm}$ $D > 75 \text{ mm}$
Paragonismus tolerance, Sb	$\leq 5 \text{ mm/m}$	Width or length
Flatness tolerance, Smax	$\leq 5 \text{ mm}$ $\leq 10 \text{ mm}$	$\text{Area} \leq 0,75 \text{ m}^2, L \leq 2,5\text{m}$ $\text{Area} \leq 0,75 \text{ m}^2, L \leq 2,5\text{m}$

External facings

Stoneglass sheet (EN 11925)

- Colour: White
- Class: E (fire resistance)
- Waterproof, with additives that protect it against mould and algae
- Suitable for most types of renders
- Rough surface that enhances adhesion

Cart 90 sheet

- Colour: Black
- Bituminous, for additional waterproofing
- Waterproof, with additives that protect it against mould and algae
- Ribbed for anti-slip protection and enhanced adhesion
- Lightweight and resistant to mechanical stress and low temperatures

Fibreglass-reinforced polyester resin sheet

- Colour: Opal White
- Nominal thickness: From 0.40 mm to 0.50 mm
- Roll width: 1010 mm
- Surface resistant to chemical and bacterial agents
- Surface resistant to UV radiation
- Resistant to contact with urea and ammonia
- Reaction to fire: F-s2-d0

Essential Characteristics of High Index polyisocyanurate (PIR) foam core (Standard EN 13165)

- Density, $\rho \leq 40 \pm 2 \text{ kg/m}^3$
- Thermal conductivity, $\lambda \leq 0.023 \pm 0.001 \text{ W/mK}$
- Adhesion, $\text{adh} \leq 120 \text{ kPa}$
- Compression, $\text{comp} \leq 150 \text{ kPa}$
- Dimensional stability, $\text{dim} \leq 1\%V$ at -20°C
- Dimensional stability, $\text{dim} \leq 1\%V$ at $+70^\circ\text{C}$
- Structure, 90% closed cells
- Water absorption $\leq 3\%$ of mass

Nominal thickness	Weight (W 1150mm)	Thermal transmittance
[mm]	[kg/m ²]	U [W/m ² .K]
30	1,40	[0,76] 1,30
50	2,30	[0,46] 2,15
80	3,70	[0,29] 3,45
100	4,60	[0,23] 4,35

Foam weight and thermal performance were calculated taking into account:

- Core density 40 kg/m^3
- Thermal conductivity $0.023 \text{ W/m}\cdot\text{K}$
- Nominal board thickness

Standards EN 13165, EN 12667 and EN 12939

Maximum permissible load – Load-bearing capacity in kN/m²

High Index polyisocyanurate (PIR) thermal insulation boards are not load-bearing or self-supporting structural elements. They are fully supported insulating elements. They do not bear

loads and cannot take up loads such as bending or shear. Although their compressive strength under a uniformly distributed load reaches 150 kN/m^2 , their bending strength does not exceed 15 kN/m^2 .

Cold rooms

One of the main applications of High Index polyisocyanurate (PIR) thermal insulation boards is the thermal insulation of cold room floors. Advantages such as excellent thermal insulation

capacity, high compressive strength, large dimensions, and easy and convenient handling make them the most suitable insulation for this application.