

ALMA VERT



**STRUCTURAL INSULATION PANELS
FOR REDUCING THERMAL BRIDGING.**



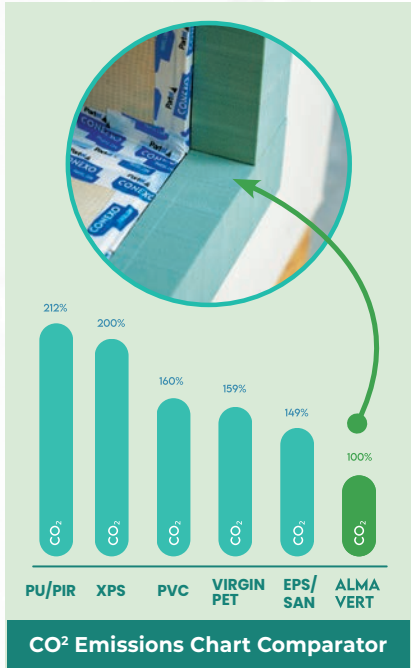
Alma Vert is an innovative solution for both retrofit and new construction projects, designed to significantly reduce heat loss at critical junctions where structural elements are present. It's the smart choice for reducing energy consumption & enhancing building performance.

By providing a continuous layer of insulation, Alma Vert enhances the building's thermal envelope and improves overall energy efficiency.

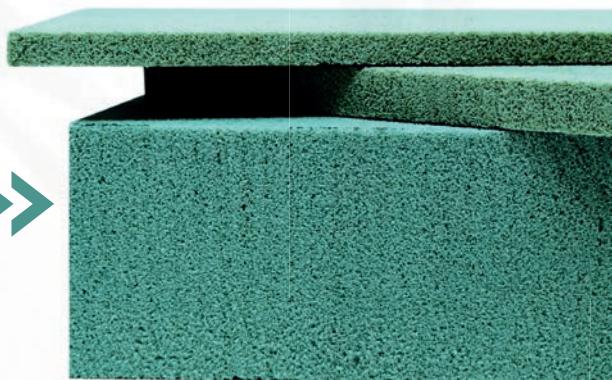
VERSATILE, LIGHTWEIGHT, AND STRONG.

LOWEST CO² EMISSION PROCESS TECHNOLOGY >>>

These panels leverage high-tech, eco-friendly materials to significantly reduce CO₂ emissions while meeting stringent industry standards for recyclable, lightweight, and durable composite structures that excel in reducing thermal bridges.



5000
plastic bottles =
1M³ of Almavert

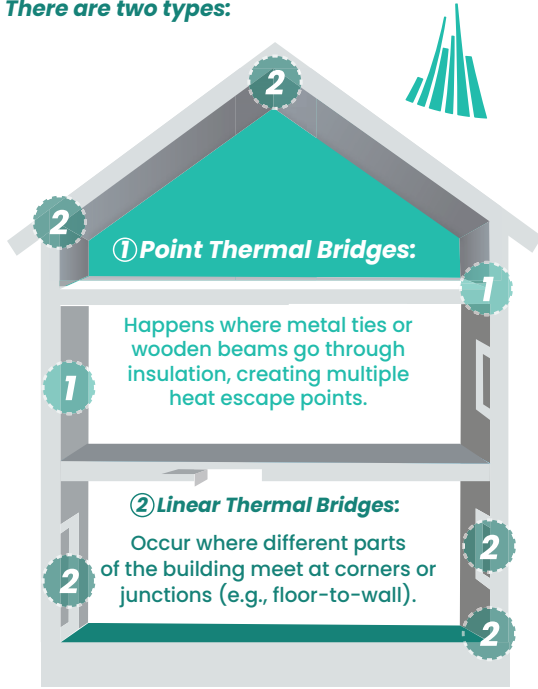


**CONSTRUCTED FROM UP TO 100% RECYCLED MATERIALS, ALMA VERT IS NOT ONLY DURABLE,
BUT ALSO AN ENVIRONMENTALLY RESPONSIBLE CHOICE FOR MODERN CONSTRUCTION.**

What Are Thermal Bridges?

Thermal bridges are areas of the building envelope where the heat loss differs to that of the immediate surrounding elements.

There are two types:



Why Are They Important?

Heat Loss: As we increase the insulation levels to our new and retrofitted homes the significance of those bridges increases proportionally, sometimes accounting for up to 30% of a home's heat loss!

Cold Spots: If unaddressed these thermal bridges can create a significant cold spot in the building envelope not only providing discomfort for the occupants but more worryingly increasing the risk of mould and condensation

Element losses occur as heat escapes through walls, roofs, and floors, while thermal bridge loss happens in areas with weak insulation (U-value), such as at corners and joints, creating pathways for heat to escape more easily.

Using Alma Vert panels in key spots—like floor-to-wall joints and around windows and doors—reduces heat loss, boosts energy efficiency, and enhances comfort, helping buildings meet UK & Irish energy standards.

ELEMENT LOSSES

U-VALUE



THERMAL BRIDGE LOSSES

Y-VALUE



ELEMENT AREAS

70%-80% OF FABRIC HEAT LOSS



THERMAL BRIDGE

20%-30% OF FABRIC HEAT LOSS



TOTAL FABRIC HEAT LOSS

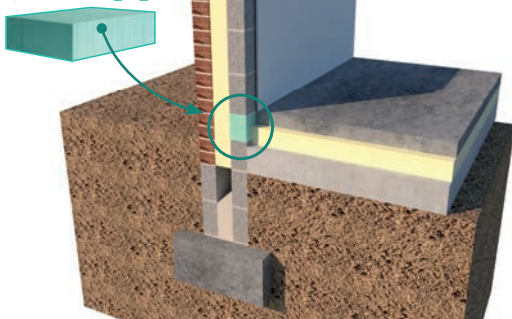
One of the most significant thermal bridges we can come across is the Wall to Ground Floor Junction. Here are two models, one of a typical build up for this detail along with the same detail modelled with the addition of Almavert at the floor insulation/inner leaf intersection:

BEFORE ALMA VERT



Typical Ground Floor to Wall Junction –
PSI ψ Value = 0.135 W/mK & Minimum Internal
Surface Temperature 17.12 °C

ALMA VERT



AFTER ALMA VERT



Same Detail with the addition of Almavert –
PSI ψ Value = 0.04 W/mK & Minimum Internal
Surface Temperature 18.8 °C

The simple addition of Almavert to this detail reduces the heat loss at this junction by over 70% which will have a significant impact on the overall fabric efficiency of this dwelling.

In addition, the minimum internal surface temperature increases by over 1.5°F (about 0.8°C), lessening the risk of surface condensation or mould growth at this detail.

ALMA VERT FEATURES



Highly efficient
thermal break



Excellent
mechanical strength



High compressive
strength



Permeable to water
vapor diffusion



Excellent thermal
conductivity /
R-value



Lightweight
composite
structure



Low water
absorption



Environmentally-friendly
core material
(100% recyclable)

CHOOSE THE CORRECT PANEL

*ALMA VERT is
manufactured in
3 different density
classes:*

- 115 kg/m³ 50 & 75mm
2" & 3"
- 200 kg/m³ 25, 50 & 75mm
1", 2", 3"
- 350 kg/m³ 10, 15 & 25mm
0.4", 0.6" & 1"

STANDARD DIMENSIONS

*1220 x 1005 x 50mm
4' x 3'4" x 2"

*1220 x 1005 x 75mm
4' x 3'4" x 3"

*1220 x 1005 x 25mm
4' x 3'4" x 1"

Property	Class	Measurement	Density		
			115 kg/m ³	200 kg/m ³	350 kg/m ³
Thermal Conductivity at 23°C W/at 73.4°F	ISO 845	W/(m·K)	0.034	0.043	0.057
		BTU.in/FT ² .hr.°F	0.236	0.298	0.395
Compressive Strength	ISO 844	MPa	1.8	4.0	7.0
		psi	260	580	1015
Shear Strength	ISO 1922	MPa	0.95	1.75	2.1
		psi	140	255	305
Compressive Modulus	ISO 844	MPa	175	230	320
		psi	25'380	33'360	46'410
Shear Modulus	ISO 1922	MPa	26	51	90
		psi	3'770	7'395	13'050
Bending Strength (Lengthwise)	EN 310	N/mm ²	1.5	3.1	3.5
Bending Strength (Crosswise)	EN 310	N/mm ²	1.2	2.5	3.0
Tensile Strength	ASTM C 297	N/mm ²	1.9	3.0	15.0
Vicat Softening Temperature On weld lines	EN ISO 306	°C	80	80	80
			73	73	73
Between weld lines					
Thermal Expansion Coefficient Thickness Length/Width range -20°C to + 60°C	DIN 53752	10 ⁻⁶ /K	69.3	67.8	70.0
			74.6	69.3	N/A
Water Vapour Diffusion (15mm thickness)	EN 12086	SD	16.8	38.3	40.0
Water Vapour Diffusion (50mm thickness)	EN 12086	SD	56.2	74.0	80.0
Resistance to Axial Withdrawal of Screws (N) 1) Screw-in depth 15 mm 2) Screw-in depth 20 mm 3) Screw-in depth 30 mm 4) Screw-in depth 40 mm	EN 320 (referring to)	P	1) 190	1) 400	1) 690
			2) 290	2) 520	2) 840
			3) 470	3) 830	3) 1330
			4) 630	4) 1080	4) 1710
Recycling PET Ratio	-	(%)	95	95	95
Water Absorption	Internal	(Vol.-%)	Ca. 2,0	Ca. 2,0	Ca. 2,0
Swelling in Thickness (%)	Internal	(Vol.-%)	< 0,5	< 0,5	< 0,5
Fire Behaviour	EN 13501-1	n/a	CLASS E ¹	CLASS E ¹	CLASS E ¹
Shear Strain	ISO 1922	%	10	5	2

Density of 115 obtain tolerances: +/- 5 kg/m³, +/- 0.3 lb/ft. Densities of 200 & 350 have tolerances: +/- 5 %. Tested according to EN ISO 11925-2 at a thickness of 25 mm / 0.98 inch. Further information available on request. All data and technical information provided are based on results achieved under specific conditions defined according to the referenced testing standards. Despite taking every precaution to ensure the accuracy and completeness of this data and technical information, Partel makes no representation or warranty, express or implied, regarding its accuracy, content, or completeness. Partel also assumes no liability for any person's use of this data or technical information. Partel reserves the right to revoke, modify, or amend this document at any time. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. This document does not constitute, nor is it part of, a legal offer to sell or to contract. At Partel, we value your trust, and we want to ensure transparency about the information we collect and why we collect it. To learn more about how we process your data, please refer to our Data Protection Policy. © Partel, 2024. All rights reserved. ® is a trademark of the Partel Group. All values are average production figures. Minimum values on request. Our products are CFC / HFC free. Physical properties are not affected by variances in colour.