



TECHNICAL DATA

ArmaPET® Eco50

ArmaPET Eco50 structural insulated panels looks beyond product performance and supports energy-efficient, sustainable solutions with improved comfort and safety.

- // Reliable lifetime insulation performance
- // 100% recycled material supports environmental directives
- // Fully recyclable foams
- // Prevents degradation by moisture, rodents and insects
- // Robust material allows fast and easy handling
- // Thickness up to 200 mm and flexible dimensions
- // Superior chemical compatibility

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 **armacell®**
ArmaPET®

STRUCTURAL INSULATED PANELS

ARMAPET ECO50

FROM EMPTY BOTTLE TO INSULATING FOAM

ArmaPET Eco50 is made using Armacell's unique and patented process technology, which enables the production of PET foam materials based on 100% recycled PET.

This is how the conversion takes place: After collection (1), the PET bottles are sorted and then crushed into flakes (2). This is followed by a granulation process (3) and, finally, by production of the ArmaPET Eco50 foam boards (4). In this way, single-use plastic bottles are converted into a sustainable building material (5). After its service phase, spanning several decades, ArmaPET Eco50 can again be fully recycled (6).

Instead of having a service life of just a few weeks, single-use plastic bottles become a lifetime-long, high-value material in the economy.



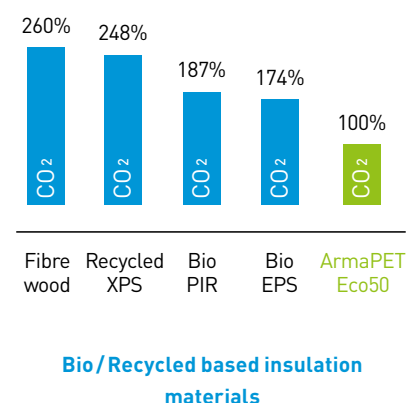
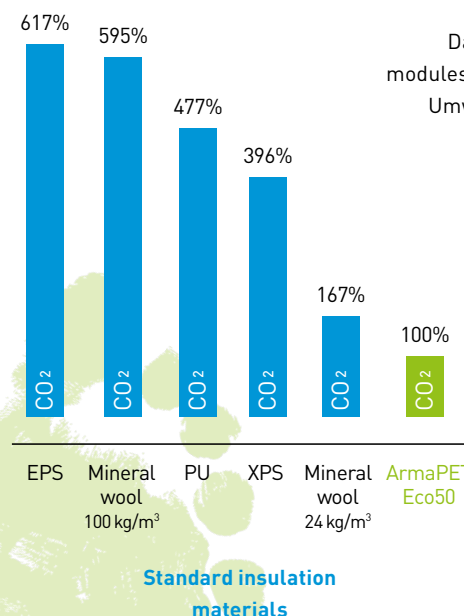
FOR A BETTER CARBON FOOTPRINT

Using 100% recycled PET plastic as the raw material base for ArmaPET Eco50 results in a much lower level of CO₂ emissions than that of other polymeric insulating foams. In addition, it is 100% recyclable. In plastic waste terms, this is probably its greatest benefit. Installation waste and demolition scrap management is easier than for the main rival materials. And it does not contain any halogenated compounds or CFCs/ HFCs that could negatively impact its disposal or recycling scenarios.

Weighted GWP times lambda for all different insulation materials.

ArmaPET Eco50 with best performance

Data comes from EPD (calculated based on LCA modules A to D) and certified by the Institut Bauen und Umwelt e.V. (IBU). CE marking under ETA-21/0623



Technical Data

Preliminary Nominal Values

Density	EN 1602	kg/m ³	50 +/- 10
Compressive Strength	EN 826	kPa	>150
Tensile Strength perpendicular to the faces ⁽¹⁾	EN 1607	kPa	50 mm: 400 100 mm: 250
Bending Strength ⁽¹⁾	EN 12089 method B	kPa	50 mm: >500 100-200 mm: >400
Deformation at 40-kPa load and 70°C for 168 hours	EN 1605	%	≤5
Water Vapour Transmission	EN 12086	μ	>1000
Water Absorption 24h partial immersion	EN 1609 method A	kg/m ²	≤0.2
Water Absorption long-term, total immersion	EN 12087 method 2A	vol%	≤3
Dimensional Stability at 70°C and 90% RH	EN 1604	%	<5
Service Temperature		°C	-40 to 150°C
Reaction to fire	EN 13501-1	Class	E
Chemical Stability	DIN 534282		Results available in B&C brochure

⁽¹⁾ Preliminary values based on 50 mm extrusion thickness.

BOARD DIMENSIONS at room temperature

Length

500 mm	+/- 8 mm
600 mm	+/- 8 mm
2448 mm	+/- 10 mm
3000 mm	+/- 10 mm

Width

500 mm	+/- 8 mm
600 mm	+/- 8 mm
1000 mm	+/- 8 mm
1220 mm	+/- 8 mm

Thickness ⁽²⁾

20 mm	+/- 1mm
50 mm	+/- 1mm
100 mm	+/- 1mm
150 mm	+/- 1mm
200 mm	+/- 1mm

⁽²⁾ Further thicknesses in the range (20 to 200) are available on request.

THERMAL CONDUCTIVITY & RESISTANCE

MEASURED according to EN 12667:

$\lambda = W/m \cdot K$	20-200 mm	$R = (m^2 \cdot K)/W$	20 mm	50 mm	80 mm	100 mm	150 mm	200 mm
λ at 10°C	0.030	R at 10°C	0.67	1.67	2.67	3.33	5.00	6.67
λ at 23°C	0.028	R at 23°C	0.71	1.79	2.86	3.57	5.36	7.14
λ at 40°C	0.027	R at 40°C	0.74	1.85	2.96	3.70	5.56	7.41

DECLARED according to EN 13164 and EN 12667:

$\lambda_D = W/m \cdot K$	20-200 mm	$R_D = (m^2 \cdot K)/W$	20 mm	50 mm	80 mm	100 mm	150 mm	200 mm
λ_D at 10°C	0.035	R_D at 10°C	0.55 ⁽³⁾	1.40 ⁽³⁾	2.30 ⁽³⁾	2.85 ⁽³⁾	4.25 ⁽³⁾	5.70 ⁽³⁾

⁽³⁾ Rounded downwards to the nearest of 0.05 (m²•K)/W.

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ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With more than 3,300 employees and 25 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

For more company information, please visit:
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