

TECHNICAL CARD

termPIR® AL INSULATION BOARDS



Description of board:

The termPIR® AL insulation boards comprise of a PIR rigid foam thermal insulation core. The boards are protected on both sides with a gas tight lining layer composed of aluminium (AL), paper and polyethylene.

- ▷ National Institute of Hygiene
- ▷ Board in the product base: **EPDM** and **SVT**
- ▷ Tests of thermal properties: **ITB**
- ▷ Fire classifications: **ITB, Fires**
- ▷ Keymark certificate and quality label
- ▷ **ISO 9001, ISO 14001** system certificates
- ▷ Compatibility with **EN 13165+A2** and **EN 13172**
- ▷ Admitted to trading in the **EU**

- ▷ Determination for parameters with DoP:



021-IMBIGS-001



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Visualisation of boards with available joint types:



Joint types:

FIT (flat milling)**LAP** (stepwise milling)**TAG** (tongue and groove)

Information about product safety:

Information about substances contained in the product referred to in Art. 31 and 33 of the Regulation (CE) No.1907/2006 (REACH): Not applicable.

Instruction:

Boards can be installed in one or multiple layers in an interlocking manner. Boards should fit tightly to each other. The substructure needs to be stable. Install mechanically with fasteners, glue or suspend - depending on the kind of substructure and type of waterproofing. Prevent from pulling the fasteners through the board. Secure against the impact of weather conditions. The boards are not load-bearing elements. Additional information is available in the Technical Catalogue at the website www.termpir.eu

Buildings:

Intended use of the board:

▷ residential, high density housing	▷ on rafter insulation system on pitched roofs	■
▷ residential	▷ under rafter insulation system on pitched roofs	■
▷ residential, retail and industrial	▷ build Up Roofs [BUR] - Flat & Green roofs, mechanically fastened	■
▷ residential, retail and industrial	▷ build Up Roofs [BUR] - Flat & Green roofs, adhesive or glued systems	■
▷ residential, retail and industrial	▷ triple layered external walls - cavity walls	■
▷ residential, retail and industrial	▷ double layered external walls - ETICS system	■
▷ residential, retail and industrial	▷ basement and foundation walls	■
▷ residential, retail and industrial	▷ partition walls	■
▷ residential, retail and industrial	▷ slabs between floors	■
▷ residential, retail and industrial	▷ ground floor slabs	■
▷ livestock, industrial	▷ suspended ceilings - high pressure washable	■
▷ existing, historic, stair-cores	▷ Internal wall insulation	■
▷ prefabricated concrete walls	▷ highly resistant to corrosion caused by concrete	■

Key: ■ the board recommended for use ■ boards that can be used

Performance:		Values / Classes:													
Length / Width:		2,4 m / 1,2 m; 1,2 m / 1,2 m; 0,6 m / 1,2 m; (minus the depth of the joint) Other lengths also available on request													
Nominal thickness:		$d_n = (20 - 250)$ mm													
Declared heat transfer coefficient for lining, λ_D :		for $(20 \leq d_n \leq 250)$ mm: 0,022 [W/m-K]													
	Coefficient U [W/m ² -K], accord. to $U = 1 / (R_e + R_o + R_i)$														
For a given nominal thickness [mm]: Thermal resistance: R_o [m ² -K/W]	for wall	20	0,93	30	0,66	40	0,50	50	0,40	60	0,34				
	for roof		0,96		0,67		0,50		0,41		0,35				
	for floor		0,90		1,35		0,50		2,30		0,40	2,75	0,34		
For a given nominal thickness [mm]: Thermal resistance: R_o [m ² -K/W]	for wall	70	0,29	80	0,26	90	0,23	100	0,21	110	0,19				
	for roof		0,29		0,26		0,23		0,21		0,19				
	for floor		3,25		0,29		3,70		0,26		4,15	0,23	4,65	0,21	5,10
For a given nominal thickness [mm]: Thermal resistance: R_o [m ² -K/W]	for wall	120	0,17	130	0,16	140	0,15	150	0,14	160	0,13				
	for roof		0,18		0,16		0,15		0,14		0,13				
	for floor		5,55		0,17		6,05		0,16		6,50	0,15	6,95	0,14	7,45
For a given nominal thickness [mm]: Thermal resistance: R_o [m ² -K/W]	for wall	170	0,12	180	0,12	190	0,11	200	0,11	210	0,10				
	for roof		0,12		0,12		0,11		0,11		0,10				
	for floor		7,90		0,12		8,35		0,12		8,85	0,11	9,30	0,11	9,75
For a given nominal thickness [mm]: Thermal resistance: R_o [m ² -K/W]	for wall	220	0,10	230	0,09	240	0,09	250	0,08	-	-				
	for roof		0,10		0,09		0,09		0,08		-				
	for floor		10,25		0,10		10,70		0,09		11,15	0,09	11,65	0,08	-
Compressive strenght at 10% of deformation, σ_{10} :		for $(20 \leq d_n < 30)$ mm): ≥ 120 kPa , CS(10/Y)120					for $(30 \leq d_n \leq 250)$ mm): ≥ 150 kPa , CS(10/Y)150								
Tensile strength perpendicular to faces:		≥ 40 kPa / TR40													
Flatness after one-sided moisting:		≤ 10 mm / FW2													
Long-term absorption upon complete immersion:		≤ 2 % [kg/kg] / WL(T)2													
Water absorption upon short-term diffusion:		≤ 0,5 % for $(100 \leq d_n \leq 250)$ mm):													
Water vapour transmission: Z resistance, coefficient Sd and μ :		Z coefficient: for 20 mm: 6,3 [m ² -h-Pa/mg]; for 250 mm: 89,6 [m ² -h-Pa/mg]; / Z 5-100 Sd coefficient: for 20 mm: 4,5 [m]; for 250 mm: 64 [m]; $\mu = 205-275$													
Dimensional stability:		for $(20 \leq d_n < 50)$ mm): DS(70,-)1					for $(50 \leq d_n \leq 250)$ mm): DS(-20,-)2 / DS(70,90)3								
Apparent PIR core density:		30 kg/m ³													
Reaction to fire (of the product as placed on the market):		20-49: F class, 50-250: E class													
Reaction to fire (end of use) Fire spread:		B-s2,d0 ; "non-fire spreading product" (on a substructure from trapezoidal sheets)													
External fire performance:		Broof(t1) ; "non-fire spreading product"													
		Structure: - base: wood, trapezoidal sheets, concrete - apour barrier: PE foil, bituminous sheeting - termPIR® AL: 20-250 mm - waterproofing: PVC, tar sheets two layers.					Plyty termPIR® AL boards have a classification for the traditional and glued system. Conditions of use as per ITB classification.								
Fire resistance:		REI 30 / REI 20 / REI 15													
		Structure: - base: trapezoidal sheet, concrete; - vapour barrier: PE foil, bituminous sheeting or no vapour barrier; - termPIR® AL: at least 120 mm (REI 30), at least 100 mm (REI 15), 70 mm (REI 30); - waterproofing: PVC, EPDM, TPO, tar sheets, steel, alu. and titanium-zinc sheets; - possible counter-slope wedges with PIR, EPS, WM. termPIR® AL boards have a classification for the traditional and glued system. Conditions of use as per Fires and ITB classification													