

# LINZMEIER

Insulate with system



## Price list 1/2023

LINITHERM, LITEC, LINIREC

Prices for retailers (not for end consumer)

Valid from april 15<sup>th</sup> 2023

Pitched roof

Flat roof

External wall  
from outside

Interior

External wall  
from inside

Floor  
Attic floor

Ceiling

LITEC building  
system

LINIREC

# LINZMEIER INSULATION

WARMER  
HEALTHIER  
HAPPIER



## U-value-table - Comparison of insulation thickness

Please check which excellent insulation values can be achieved with LINITHERM.  
The U-value depends on the thickness of the insulation and the thermal conductivity level.

	LINITHERM PAL LINITHERM LOOP	LINITHERM PGV	Mineral fibre		PS or mineral fibre		PS or mineral fibre		Wood fibre	
Panel thickness	Thermal conductivity $\lambda_D$ 0.022	Thermal conductivity < 80 mm $\lambda_D$ 0.028 80-119 mm $\lambda_D$ 0.026 $\geq$ 120 mm $\lambda_D$ 0.025	Thermal conductivity $\lambda_D$ 0.032		Thermal conductivity $\lambda_D$ 0.035		Thermal conductivity $\lambda_D$ 0.040		Thermal conductivity $\lambda_D$ 0.045	
	U-value* insulation	U-value* insulation	U-value* insulation	U-value** insulation between rafters	U-value* insulation	U-value** insulation between rafters	U-value* insulation	U-value** insulation between rafters	U-value* insulation	U-value** insulation between rafters
[mm]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]	[W/(m <sup>2</sup> K)]
20	0.90	1.09	1.21	1.48	1.30	1.55	1.43	1.66	1.55	1.76
30	0.64	0.79	0.88	1.11	0.95	1.16	1.05	1.25	1.15	1.33
40	0.50	0.61	0.69	0.88	0.75	0.93	0.83	1.00	0.92	1.07
50	0.40	0.50	0.57	0.74	0.61	0.78	0.69	0.84	0.76	0.90
60	0.34	0.43	0.48	0.63	0.52	0.67	0.59	0.72	0.65	0.78
70	0.30	0.37	0.42	0.55	0.46	0.58	0.51	0.63	0.57	0.68
80	0.26	0.31	0.37	0.49	0.40	0.52	0.46	0.56	0.51	0.61
100	0.21	0.25	0.30	0.40	0.33	0.43	0.37	0.46	0.41	0.50
120	0.18	0.20	0.25	0.34	0.28	0.36	0.31	0.39	0.35	0.42
140	0.15	0.17	0.22	0.30	0.24	0.31	0.27	0.34	0.30	0.37
160	0.13	0.15	0.19	0.26	0.21	0.28	0.24	0.30	0.27	0.33
180	0.12	0.14	0.17	0.23	0.19	0.25	0.21	0.27	0.24	0.29
200	0.11	0.12	0.16	0.21	0.17	0.22	0.19	0.24	0.22	0.26
220	0.10	0.11	0.14	0.19	0.15	0.21	0.18	0.22	0.20	0.24
240	0.09	0.10	0.13	0.18	0.14	0.19	0.16	0.21	0.18	0.22
260			0.12	0.17	0.13	0.17	0.15	0.19	0.17	0.21
280			0.11	0.15	0.12	0.16	0.14	0.18	0.16	0.19
300			0.10	0.14	0.11	0.15	0.13	0.17	0.15	0.18
320			0.10	0.14	0.11	0.14	0.12	0.16	0.14	0.17
340			0.09	0.13	0.10	0.14	0.12	0.15	0.13	0.16
360			0.09	0.12	0.10	0.13	0.11	0.14	0.12	0.15
380			0.08	0.11	0.09	0.13	0.10	0.13	0.12	0.14

\* Thermal conductivity coefficient U includes the thermal resistance ( $R_{Si} = 0.10$  m<sup>2</sup>K/W and  $R_{Se} = 0.10$  m<sup>2</sup>K/W) in accordance with EN ISO 6946.

\*\* U-value in case of an insulation between rafters with a rafter proportion of 13 %.

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Pitched roof

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Flat roof

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Interior

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Ceiling

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LITEC building  
system

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LINIREC

**NEW**

**LINITHERM LOOP**

Strong. Sustainable. Healthier.



**OUR RECIPE FOR SUSTAINABLE,  
ECOLOGICAL BUILDING AND LIVING**

**BIO-BASED INSULATION SYSTEMS**

[www.Linzmeier.de/loop](http://www.Linzmeier.de/loop)



## LINITHERM LOOP PAL N+F

**STRONG. SUSTAINABLE. HEALTHIER.**

LINITHERM LOOP PAL N+F is highly efficient, sustainable, healthy for living and protects the climate:

- ✓ Thin insulation with best insulation value
- ✓ Lowest thermal conductivity of all bio-based insulation materials
- ✓ Suitable for promotion due to best U-values
- ✓ Ecologically healthy and free from harmful substances
- ✓ Safety in all construction types
- ✓ Recyclable aluminium covering
- ✓ Durable (over 50 years), safe and without moisture absorption
- ✓ Can be laid on both sides, with little waste
- ✓ Highest hail resistance class 5
- ✓ Around 60% biomass
- ✓ CO<sub>2</sub>-neutral production

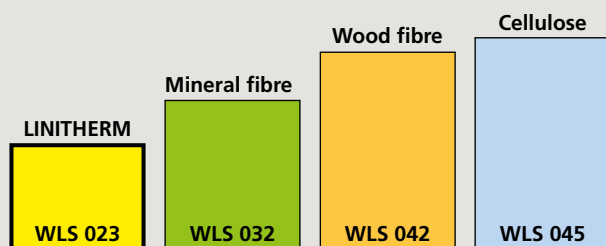


Recyclable

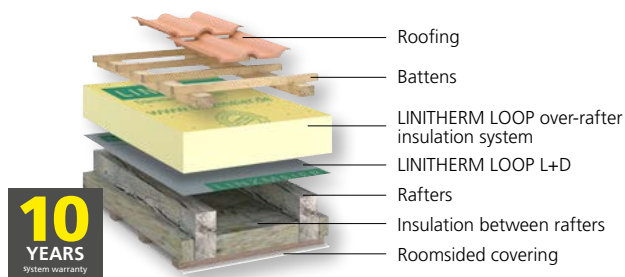


Positive building biology

Best insulation values at lowest thickness



Over-rafter insulation system with existing insulation between rafters



①



## LINITHERM LOOP PAL N+F

PH 22000000

Insulation core	PU rigid foam with biomass content acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Edge joints	Tongue & groove pressfit joints on all sides, plus additional tongue & groove on the long sides with 6 cm overlap
Please note	Joint sealing tape 1060 x 40 mm for sealing the short sides is always included in delivery
Overall dimension	2420 x 1000 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
100	24	58.1	0.022	0.21	36.30
120	20	48.4	0.022	0.18	42.20
140	17	41.1	0.022	0.15	48.00
160	15	36.3	0.022	0.13	53.00

## LINITHERM PAL N+F and LINITHERM LOOP PAL N+F – now in the highest hail resistance class 5



During storms, there is often not only storm damage on the building facade, but also increasing hail damage with water ingress and damage to the building.

With the pitched roof insulation systems LINITHERM PAL N+F and LINITHERM LOOP PAL N+F, the highest hail resistance class 5 is achieved.

You can contact your specialist advisor for more information.

Institut für Brandschutztechnik und Sicherheitsforschung

### PRÜFBERICHT

Prüfbericht Nr. 100000000-1  
Datum: 02.02.2020  
Techniker: Herr Ing. Hans-Joachim Schmitt

**AUFTRAGGEBER:** Linzmeier Bauelemente GmbH  
Industriestraße 21  
88499 Riedingen  
DEUTSCHLAND

**PRÜFAUFTRAG:** Labortechnische Simulation von Hagelschlag mittels Eiskugeln

**PRÜFGEGENSTAND:** Aufsparrendämmung LINITHERM PAL N+F

**PRÜFGRUNDLAGEN:** gemäß Vereinigung Kantonaler Feuerversicherungen (VKF)  
In Anlehnung an VKF Prüfbestimmungen:  
VKF-Prüfbestimmung Nr. 00a Allgemeiner Teil A, 1.03  
VKF-Prüfbestimmung Nr. 00b Allgemeiner Teil B, 1.02  
VKF-Prüfbestimmung Nr. 8 Putz auf Aussendämmung/Wärmedämmverbundsystem, Version 1.05  
VKF-Prüfbestimmung Nr. 20 Sandwichelemente, Version 1.02  
VKF Technische Beschlussammlung, Version 19  
VKF Formale Beschlussammlung, Version 24

PRÜFERGEBNISSE	Bauteilfunktion	Klassifizierung in Anlehnung an die HW-Klassen in cm
gemäß Hagelwiderstands-Klassifizierung	Regensicherheit	5*
	Minimal	5*

**AUSFÜHRENDE:** Herr Ing. Hans-Joachim Schmitt  
Herr Ing. Hans-Joachim Schmitt

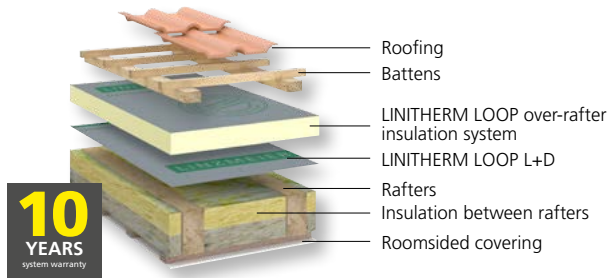
Dieser Prüfbericht enthält:  
15 Seiten, davon 9 Seiten Beilagen  
A: Prüfprotokoll (4 Seiten)  
B: Bildokumentation (3 Seiten)  
C: Produktbeschreibung (2 Seiten)

(Die Ergebnisse des Prüfberichtes beziehen sich nur auf den geprüften Gegenstand wie vorliegt. Die ausgearbeitete Vorfälligkeit des vorliegenden Prüfberichtes ist nur mit schriftlicher Genehmigung des IBS zulässig.)

1) Roof pitch according to Linzmeier manufacturer recommendation.

\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1$  [m<sup>2</sup>K/W] and  $R_{se} = 0.1$  [m<sup>2</sup>K/W] acc. to EN ISO 6946 into account.

Over-rafter insulation system



2



## LINITHERM LOOP PAL 2U

PH 22000020

Insulation core	PU rigid foam with biomass content acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides				
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, approx. 8 cm overlap lengthwise and transverse, plus integrated factory made sealing band				
Edge joints	Tongue & groove pressfit joints on all sides				
Overall dimension	2420 × 1180 mm (= calculation measurement)				

Thickness mm	Quantity per pallet		$\lambda_D$	U-value*	€/m²
PU	Piece	m²	W/(mK)	[W/(m²K)]	
80	30	85.7	0.022	0.26	31.10
100	24	68.5	0.022	0.21	36.90
120	20	57.1	0.022	0.18	42.90
160	15	42.8	0.022	0.13	53.50

## LINITHERM LOOP L+D

PH 22009030

	PP-vapour barrier and airtightness membrane for roof, ceiling and wall constructions, Polypropylene nonwoven, fire behavior class E acc. to EN 13501-1, $s_d$ -value 2 m, temperature resistance -30 °C to +80 °C, lengthwise overlapping on both sides, with acrylate-adhesive tape				
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Width	Length	Size	Quantity per	Unit of quantity	€/UQ
m	m	roll m²	package	UQ	
1.5	50	75	24 rolls	m²	3.10



Other thicknesses upon request.

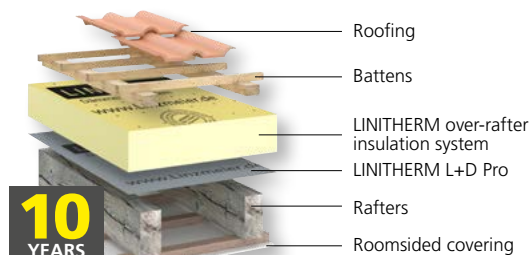
1) Roof pitch according to Linzmeier manufacturer recommendation.

\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.1$  [m²K/W] acc. to EN ISO 6946 into account.

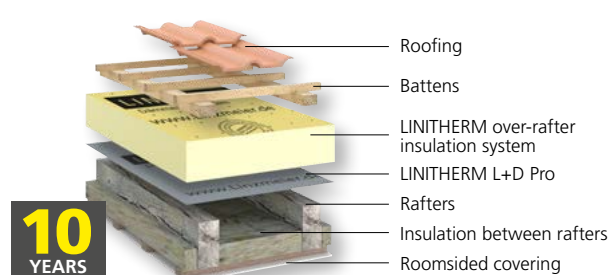


# Pitched roof insulation systems for old buildings/restoration

Over-rafter insulation system with roomsided covering



Over-rafter insulation system with existing insulation between rafters



3



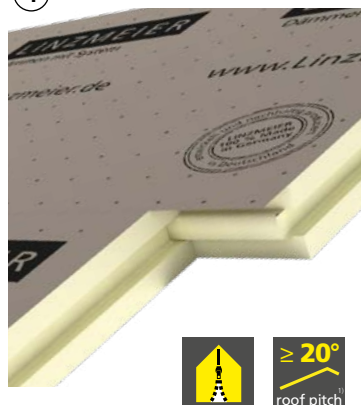
LINITHERM PAL N+F

PH 21000000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides				
Edge joints	Tongue & groove pressfit joints on all sides, plus additional tongue & groove on the long sides with 6 cm overlap				
Please note	Joint sealing tape 1060 x 40 mm for sealing the short sides is always included in delivery				
Overall dimension	2420 x 1000 mm (= calculation measurement)				

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
*80	30	72.6	0.022	0.26	27.70
100	24	58.1	0.022	0.21	33.00
120	20	48.4	0.022	0.18	38.40
140	17	41.1	0.022	0.15	43.60
160	15	36.3	0.022	0.13	48.20
*180	13	31.5	0.022	0.12	52.60
*200	12	29.0	0.022	0.11	56.80
*240	10	24.2	0.022	0.09	65.70

4



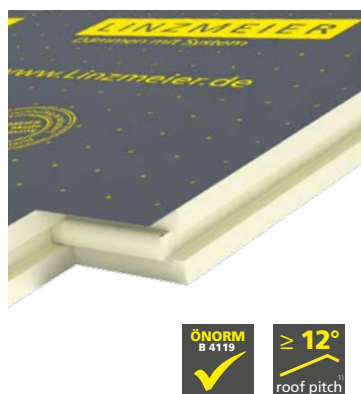
LINITHERM PAL 2U

PH 21000020

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides				
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, approx. 8 cm overlap lengthwise and transverse, plus integrated factory made sealing band				
Edge joints	Tongue & groove pressfit joints on all sides				
Overall dimension	2420 x 1180 mm (= calculation measurement)				

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
80	30	85.7	0.022	0.26	28.30
100	24	68.5	0.022	0.21	33.50
120	20	57.1	0.022	0.18	39.00
140	17	48.5	0.022	0.15	44.20
160	15	42.8	0.022	0.13	48.60
*180	13	37.1	0.022	0.12	53.10
*200	12	34.3	0.022	0.11	57.20
*240	10	28.6	0.022	0.09	66.40

5



LINITHERM PAL 2U Plus

PH 21000025

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides				
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, with both sided TPU coating, approx. 10 cm overlap lengthwise and transverse, plus integrated factory made sealing band. (Alternatively, the joint area can be welded to one another with LINITHERM solvent-welding equipment (page 19) or hot air.)				
Edge joints	Tongue & groove pressfit joints on all sides				
Overall dimension	2420 x 1180 mm (= calculation measurement)				

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
*80	30	85.7	0.022	0.26	30.60
100	24	68.5	0.022	0.21	36.00
120	20	57.1	0.022	0.18	41.50
140	17	48.5	0.022	0.15	46.60
160	15	42.8	0.022	0.13	51.40
*180	13	37.1	0.022	0.12	55.90
*200	12	34.3	0.022	0.11	60.00
*240	10	28.6	0.022	0.09	69.20

Rainproof/waterproof subroof possible (with additional measures).

Other thicknesses upon request.  
 1) Roof pitch according to Linzmeier manufacturer recommendation.  
 \* Might have longer delivery times.  
 \*\* U-value, taking the thermal transfer resistance R<sub>si</sub> = 0.1 [m<sup>2</sup>K/W] and R<sub>se</sub> = 0.1 [m<sup>2</sup>K/W] acc. to EN ISO 6946 into account.





6



## LINITHERM PGV T

PH 21000050

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, approx. 8 cm transverse and lengthwise overlap plus integrated factory-made sealing band
Edge joints	Tongue & groove pressfit joints on all sides
Overall dimension	2420 × 1180 mm (= calculation measurement)

Thickness mm	Quantity per pallet		$\lambda_D$	U-value**	€/m²
PU	Piece	m²	W/(mK)	[W/(m²K)]	
50	48	137.1	0.028	0.50	24.50
60	40	114.2	0.028	0.43	26.90
80	30	85.7	0.026	0.31	29.00
100	24	68.5	0.026	0.25	32.90
120	20	57.1	0.025	0.20	37.30
140	17	48.5	0.025	0.17	41.70
160	15	42.8	0.025	0.15	46.10
*180	13	37.1	0.025	0.14	50.50
*200	12	34.3	0.025	0.12	54.40

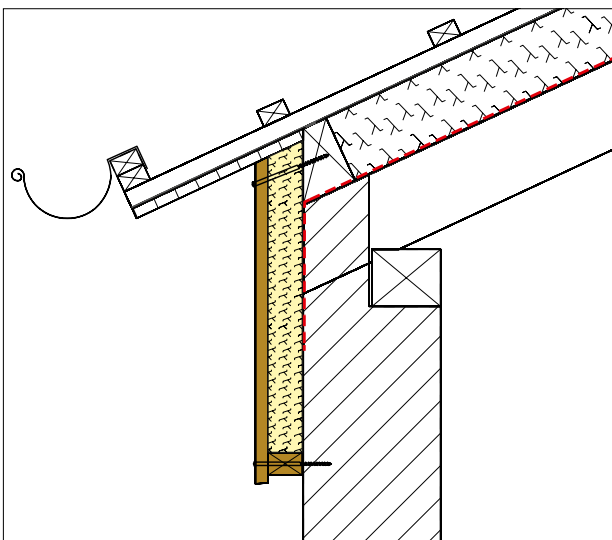
## LITEC restoration bar Fix

PH 31



Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, thickness 60 mm, coated with aluminum film on both sides
Facing	Outside three-layered spruce wood panel, thickness 22 mm
Application	For over-insulating of the airtight connection at verge and eaves. The spruce triple-layer board can be painted, glazed, leaded or clad with slate.

For details see page 47



Other thicknesses upon request.

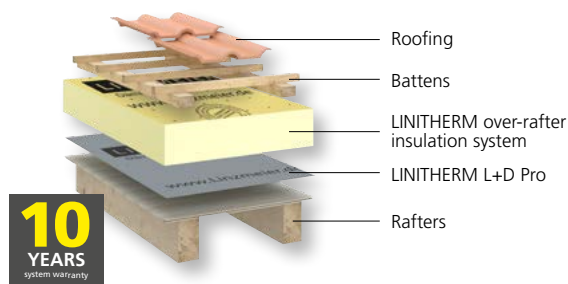
1) Roof pitch according to Linzmeier manufacturer recommendation.

\* Might have longer delivery times.

\*\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1 \text{ [m}^2\text{K/W]}$  and  $R_{se} = 0.1 \text{ [m}^2\text{K/W]}$  acc. to EN ISO 6946 into account.

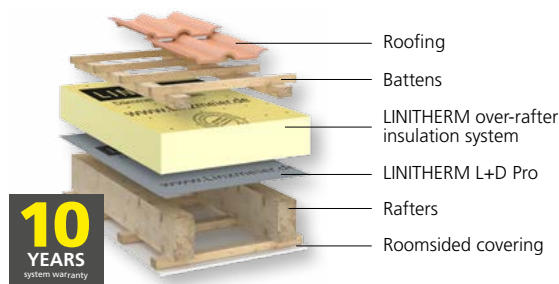
# Pitched roof insulation systems for new buildings

Over-rafter insulation system with visible rafters



**10**  
YEARS  
system warranty

Over-rafter insulation system with roomsided covering



**10**  
YEARS  
system warranty

③



## LINITHERM PAL N+F

PH 21000000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Edge joints	Tongue & groove pressfit joints on all sides, plus additional tongue & groove on the long sides with 6 cm overlap
Please note	Joint sealing tape 1060 × 40 mm for sealing the short sides is always included in delivery
Overall dimension	2420 × 1000 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
*80	30	72.6	0.022	0.26	27.70
100	24	58.1	0.022	0.21	33.00
120	20	48.4	0.022	0.18	38.40
140	17	41.1	0.022	0.15	43.60
160	15	36.3	0.022	0.13	48.20
*180	13	31.5	0.022	0.12	52.60
*200	12	29.0	0.022	0.11	56.80
*240	10	24.2	0.022	0.09	65.70

④



## LINITHERM PAL 2U

PH 21000020

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, approx. 8 cm overlap lengthwise and transverse, plus integrated factory made sealing band
Edge joints	Tongue & groove pressfit joints on all sides
Overall dimension	2420 × 1180 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
80	30	85.7	0.022	0.26	28.30
100	24	68.5	0.022	0.21	33.50
120	20	57.1	0.022	0.18	39.00
140	17	48.5	0.022	0.15	44.20
160	15	42.8	0.022	0.13	48.60
*180	13	37.1	0.022	0.12	53.10
*200	12	34.3	0.022	0.11	57.20
*240	10	28.6	0.022	0.09	66.40

⑤



## LINITHERM PAL 2U Plus

PH 21000025

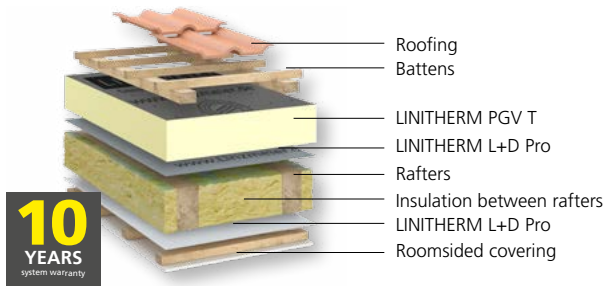
Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, with both sided TPU coating, approx. 10 cm overlap lengthwise and transverse, plus integrated factory made sealing band. (Alternatively, the joint area can be welded to one another with LINITHERM solvent-welding equipment (page 19) or hot air.)
Edge joints	Tongue & groove pressfit joints on all sides
Overall dimension	2420 × 1180 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
*80	30	85.7	0.022	0.26	30.60
100	24	68.5	0.022	0.21	36.00
120	20	57.1	0.022	0.18	41.50
140	17	48.5	0.022	0.15	46.60
160	15	42.8	0.022	0.13	51.40
*180	13	37.1	0.022	0.12	55.90
*200	12	34.3	0.022	0.11	60.00
*240	10	28.6	0.022	0.09	69.20

Rainproof/waterproof subroof possible (with additional measures).

Other thicknesses upon request.  
 1) Roof pitch according to Linzmeier manufacturer recommendation.  
 \* Might have longer delivery times.  
 \*\* U-value, taking the thermal transfer resistance R<sub>si</sub> = 0.1 [m<sup>2</sup>K/W] and R<sub>se</sub> = 0.1 [m<sup>2</sup>K/W] acc. to EN ISO 6946 into account.

Over-rafter insulation system  
with insulation between rafters



6



## LINITHERM PGV T

PH 21000050

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides
Facing	Upper side coated with a diffusible, tear-resistant and slip-resistant membrane, approx. 8 cm transverse and lengthwise overlap plus integrated factory-made sealing band
Edge joints	Tongue & groove pressfit joints on all sides
Overall dimension	2420 × 1180 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
50	48	137.1	0.028	0.50	24.50
60	40	114.2	0.028	0.43	26.90
80	30	85.7	0.026	0.31	29.00
100	24	68.5	0.026	0.25	32.90
120	20	57.1	0.025	0.20	37.30
140	17	48.5	0.025	0.17	41.70
160	15	42.8	0.025	0.15	46.10
*180	13	37.1	0.025	0.14	50.50
*200	12	34.3	0.025	0.12	54.40

## THE HEALTHIER ROOF

EXEMPLARY HEALTHIER BUILDING.

SUSTAINABLE HEALTHIER LIVING.

### The healthier roof

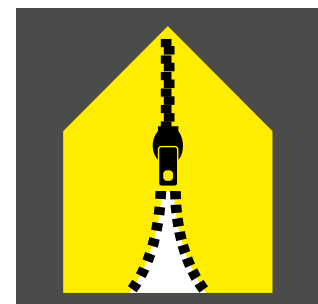
Our »All in One: Healthier Roof« guarantees that all components – from the roof structure with its internal planking to the substructure, the airtightness, the insulation materials and nail sealing tapes and all the way to the counter-battens and fixing material – are strictly inspected and certified.

LINITHERM manufactures trend-setting products that offer superior technical values and are simple to install – in other words: the perfect recommendation for ensuring a feeling of relaxed well-being in insulated, for healthier living built homes. Innovative, health-checked and responsible.

### Completely natural and healthy roofs

4 roof structures are certified as a complete system by the Sentinel Haus Institute.

To benefit from the advantages of certification, architects, developers or installers must use all of the building materials listed in the sample structures. In addition to products from the LINITHERM system, this includes the planking, additional insulating materials, adhesives, etc. specified in the component description. The insulation thickness may vary depending on requirements and builders' preferences.



Other thicknesses upon request.

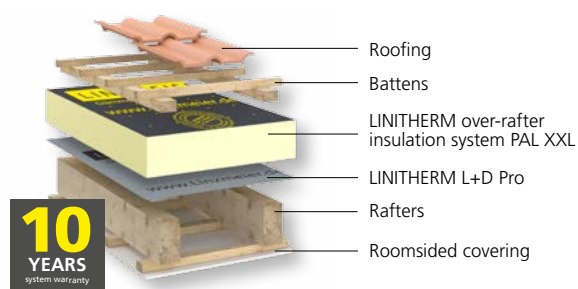
1) Roof pitch according to Linzmeier manufacturer recommendation.

\* Might have longer delivery times.

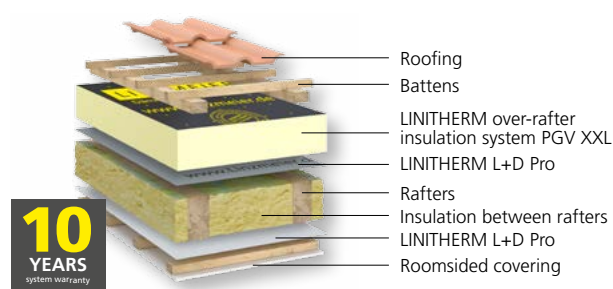
\*\* U-value, taking the thermal transfer resistance R<sub>si</sub> = 0.1 [m<sup>2</sup>K/W] and R<sub>se</sub> = 0.1 [m<sup>2</sup>K/W] acc. to EN ISO 6946 into account.

# Pitched roof insulation systems for new buildings

Over-rafter insulation system with roomsided covering



Over-rafter insulation system



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## LINITHERM PAL XXL

PH 21000080

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides		
Facing	Upper side coated with a diffusable, tear-resistant and slip-resistant membrane with both-sided TPU coating, approx. 10 cm overlap lengthwise, plus integrated factory-made sealing band; (Alternatively, the joint area can be welded to one another with LINITHERM solvent-welding equipment (page 19) or hot air.)		
Edge joints	Lengthwise with tongue & groove pressfit joints, transverse with edgeless cut		
Fixed length	From 6.00 to max. 12.00 m (minimum 6 elements per fixed length)		
Width	1180 mm		

Thickness mm total	$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
120	0.022	0.18	upon request
160	0.022	0.13	upon request

Please note delivery times due to property-related manufacturing.

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## LINITHERM PGV XXL

PH 21000085

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides		
Facing	Upper side coated with a diffusable, tear-resistant and slip-resistant membrane with both-sided TPU coating, approx. 10 cm overlap lengthwise, plus integrated factory-made sealing band; (Alternatively, the joint area can be welded to one another with LINITHERM solvent-welding equipment (page 19) or hot air.)		
Edge joints	Lengthwise with tongue & groove pressfit joints, transverse with edgeless cut		
Fixed length	From 6.00 to max. 12.00 m (minimum 6 elements per fixed length)		
Width	1180 mm		

Thickness mm total	$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
160	0.025	0.15	upon request
180	0.025	0.14	upon request

Please note delivery times due to property-related manufacturing.

## Lifting support

4 pieces

Unit of quantity UQ	€/UQ
piece	20.00

## Advantages

- Much more in less time: the extra large size of insulation board allows a very quick installation
- Minimizes joints during installation
- Allows safe insulation of large roof areas
- Ideal for low slope or plane roofs
- Ideal for single or double pitch roofs
- Custom-made insulation boards from 6.00 m to max. 12.00 m



Other thicknesses upon request.

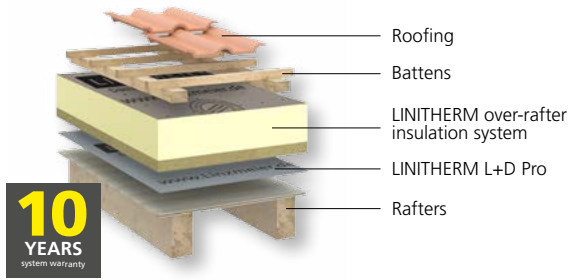
1) Roof pitch according to Linzmeier manufacturer recommendation.

\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.1$  [m²K/W] acc. to EN ISO 6946 into account.

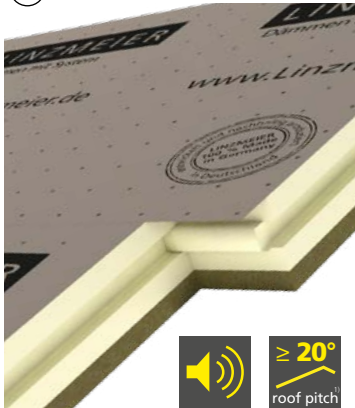


# Pitched roof insulation systems for external noise protection

Over-rafter insulation system for improved sound insulation with visible rafters



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## LINITHERM PAL 2UM with soundproofing panel

PH 21001040

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Upper side covered with a diffusable, tear-resistant, non-slip sarking membrane, approx. 8 cm overlap lengthwise and transverse, plus integrated factory-made sealing band, lower side with a noise protection board, 40 mm to improve sound insulation characteristics
Edge joints	Tongue & groove pressfit joints on all sides
Please note	For improved sound insulation the use of double threaded screws is necessary (see test report)
Overall dimension	2420 × 1180 mm (= calculation measurement)

Thickness mm total	Thickness mm PU	Thickness mm sound insulation	Quantity per pallet Piece	m <sup>2</sup>	λ <sub>D</sub> PU	λ <sub>D</sub> sound insulation	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
120	80	40	20	57.1	0.022	0.039	0.21	47.50
140	100	40	17	48.5	0.022	0.039	0.17	54.40
160	120	40	15	42.8	0.022	0.039	0.15	61.00
180	140	40	13	37.1	0.022	0.039	0.13	67.70

Other thicknesses upon request.

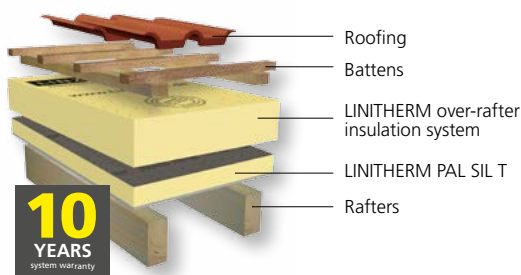


Other thicknesses upon request.

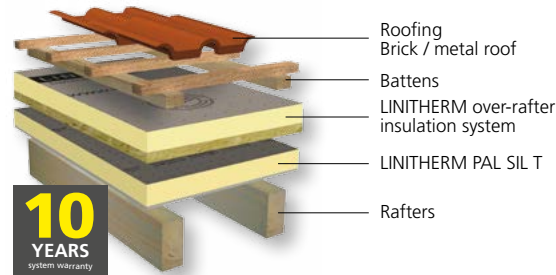
1) Roof pitch according to Linzmeier manufacturer recommendation.

\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1$  [m<sup>2</sup>K/W] and  $R_{se} = 0.1$  [m<sup>2</sup>K/W] acc. to EN ISO 6946 into account.

LINITHERM PAL SIL T with additional insulation



LINITHERM PAL SIL T with additional insulation



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LINITHERM PAL SIL T with T-Membrane

PH 21001000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Upper side coated with tear- and slip-resistant membrane, approx. 8 cm overlap lengthwise and transverse, plus integrated factory made sealing band. Inner side with 6 mm thick silicate board (not burnable, resistant to moisture, can be painted, or wallpapered).
Edge joints	Tongue & groove pressfit joints on all sides, silicate board with drywall edge
Overall dimension	2480 x 1180 mm (= calculation measurement)

Thickness mm total	Thickness mm PU	Thickness mm silicate board	Quantity per pallet		$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
Piece	m²						
66	60	6	36	105.35	0.022	0.34	51.50

Can be combined with insulation systems on page 8 to 11 and page 13.

LINITHERM PAL SIL T with additional insulation

Thickness of overall construction (mm)	Thickness PAL SIL T ( $\lambda_D$ 0.022) (mm)	Thickness of additional insulation (mm)	U-value* [W/(m²K)]		
			PAL N+F PAL 2U PAL 2U Plus ( $\lambda_D$ 0.022)	PAL 2UM ( $\lambda_D$ 0.022 + 0.039)	PGV T ( $\lambda_D$ 0.028) ( $\lambda_D$ 0.026) ( $\lambda_D$ 0.025)
116	66	50	-	-	0.23
126	66	60	-	-	0.21
146	66	80	0.16	-	0.18
156	66	90	-	-	-
166	66	100	0.14	-	0.16
186	66	120	0.13	0.14	0.14
206	66	140	0.11	0.12	0.12
226	66	160	0.10	0.11	0.11
246	66	180	0.10	0.10	0.10
266	66	200	0.09	-	0.10



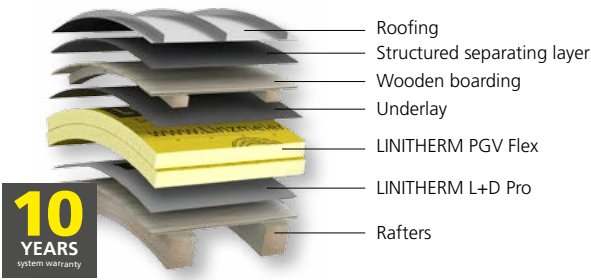
Other thicknesses upon request.

1) Roof pitch according to Linzmeier manufacturer recommendation.

\* U-value, taking the thermal transfer resistance  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.1$  [m²K/W] acc. to EN ISO 6946 into account.



LINITHERM PGV Flex for vaulted roofs with visible rafters



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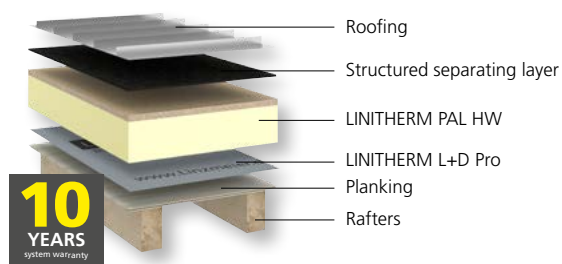


LINITHERM PGV Flex				PH 21001080	
Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides, insulation elements slotted on both sides				
Edge joints	Round about edgeless cut				
Please note	When building the sub-roof and the entire roof support structure, the specialist rules of the trade as well as the notes and guidelines in the separate Linzmeier leaflet must be observed.				
Overall dimension	2440 × 1200 mm (= calculation measurement)				
Thickness mm total	Quantity per pallet		$\lambda_D$	U-value	€/m²
	Piece	m²	W/(mK)	[W/(m²K)]	
60	40	117.1	0.028		28.10
80	30	87.8	0.026		32.90
120 (60 + 60)				0.23	
140 (60 + 80)				0.20	
160 (80 + 80)				0.17	

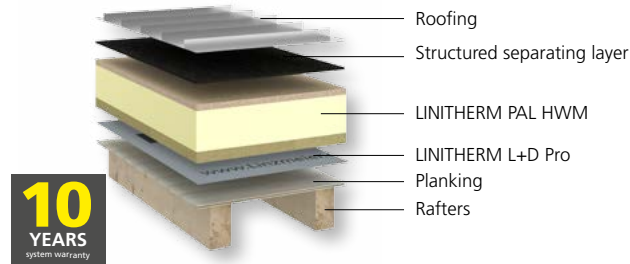


# Pitched roof insulation systems for metal and slate coverings

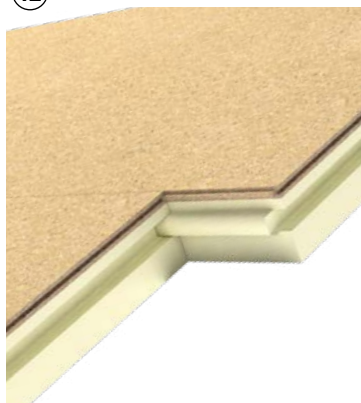
LINITHERM PAL HW for metal roofs with visible rafters



LINITHERM PAL HWM for metal roofs with visible rafters



12



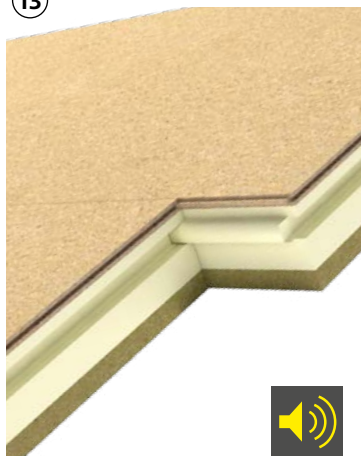
## LINITHERM PAL HW

PH 21001060

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides						
Facing	Covered with a 22 mm derived wood panel for attaching the slates or metal roofing						
Edge joints	Tongue & groove pressfit joints on all sides, derived wood panel with T&G and 2 mm expansion joint						
Please note	When building the sub-roof and the entire roof support structure, the specialist rules of the trade as well as the notes and guidelines in the separate Linzmeier leaflet must be observed.						
Overall dimension	2420 x 580 mm (= calculation measurement)						

Thickness mm total	Thickness mm PU	Thickness mm derived wood panel	Quantity per pallet Piece	m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
102	80	22	21	29.5	0.022	0.25	56.70
122	100	22	17	23.9	0.022	0.21	59.60
142	120	22	15	21.1	0.022	0.17	61.60
162	140	22	13	18.2	0.022	0.15	64.40
182	160	22	11	15.4	0.022	0.13	67.00

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## LINITHERM PAL HWM with soundproofing panel

PH 21001060

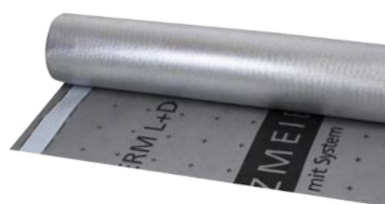
Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides						
Facing	Covered with a 22 mm derived wood panel for attaching the slates or metal roofing, lower side with a soundproofing panel, 40 mm						
Edge joints	Tongue & groove pressfit joints on all sides, derived wood panel with T&G and 2 mm expansion joint						
Please note	When building the sub-roof and the entire roof support structure, the specialist rules of the trade as well as the notes and guidelines in the separate Linzmeier leaflet must be observed.						
Overall dimension	2420 x 580 mm (= calculation measurement)						

Thickness mm total	Thickness mm PU	Thickness mm derived wood panel	Thickness mm sound insulation	Quantity per pallet Piece	m <sup>2</sup>	$\lambda_D$ PU	$\lambda_D$ sound insulation	U-value [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
142	80	22	40	15	21.1	0.022	0.039	0.20	69.00
162	100	22	40	13	18.2	0.022	0.039	0.17	72.00
182	120	22	40	11	15.4	0.022	0.039	0.15	73.90
202	140	22	40	10	14.0	0.022	0.039	0.13	76.70
222	160	22	40	9	12.6	0.022	0.039	0.12	79.40





## Airtightness



### LINITHERM L+D Pro PH 21009030

PP-vapour barrier and airtightness membrane for roof, ceiling and wall constructions, Polypropylene nonwoven, aluminized polypropylene, fire behavior class E acc. to EN 13501-1, s<sub>d</sub>-value 2 m, temperature resistance –30 °C to +80 °C, lengthwise overlapping on both sides with acrylate-adhesive tape

Width m	Length m	Size roll m <sup>2</sup>	Quantity per package	Unit of quantity UQ	€/UQ
1.5	50	75	24 rolls	m <sup>2</sup>	3.10



### LINITHERM LOOP L+D PH 22009030

PP-vapour barrier and airtightness membrane for roof, ceiling and wall constructions, Polypropylene nonwoven, fire behavior class E acc. to EN 13501-1, s<sub>d</sub>-value 2 m, temperature resistance –30 °C to +80 °C, lengthwise overlapping on both sides, with acrylate-adhesive tape

Width m	Length m	Size roll m <sup>2</sup>	Quantity per package	Unit of quantity UQ	€/UQ
1.5	50	75	24 rolls	m <sup>2</sup>	3.10



### LINITHERM L+D adhesive tape PH 21009030

For LINITHERM L+D Pro and LINITHERM LOOP L+D

Width mm	Size roll	Quantity per package	Unit of quantity UQ	€/UQ
60	25	10 rolls	lm	1.70



### LINITHERM Dichtfix PH 21009030

LINITHERM Dichtfix is a high performance adhesive binder, which permanently glues vapour barriers and vapour brakes with hard surfaces – without using a pressure lath. LINITHERM Dichtfix can be mixed with water for use as a primer

	Size	Consumption with an 8 mm thick bead	Package Content	Unit of quantity UQ	€/UQ
Cartouche	310 ml	approx. 8 lm	12 cartouches	piece	9.40
Tubular bag	600 ml	approx. 16 lm	12 tubular bags	piece	13.40



### LINITHERM sealing apron PH 21009030

Tear-resistant, elastic polymer foil, with mineral fleece on both sides, incl. compriband 3 × 15 mm

Width mm	Size roll lm	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	4.50
400	10	5 rolls	lm	7.00
600	10	5 rolls	lm	8.60



### LINITHERM compriband PH 21009030

For sealing the gap between masonry and insulation, compress to about 30% when installed impregnated, and one side self-adhesive

Original thickness × selfadhesive width mm	For joints up to mm	Pre-compressed delivery format mm	Size roll m	Quantity per package lm	Unit of quantity UQ	€/UQ
20 × 15	3–7	4 × 15	6.0	120.0	lm	2.80
40 × 20	7–12	8 × 20	5.0	75.0	lm	5.40
60 × 30	10–18	12 × 30	5.0	50.0	lm	10.40

## Sealing



### LINITHERM 1K-PU-spray foam

PH 21009000

LINITHERM filling foam, incl. recycling fee

Consumption for approx. 10 mm joint width	Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Approx. 8–10 lm	Can 600 ml	12 cans	piece	9.10



### LINITHERM 1K-PU-pistol foam

PH 21009000

LINITHERM filling and sealing foam, incl. recycling fee

Consumption for approx. 10 mm joint width	Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Approx. 10–12 lm	Can 750 ml	12 cans	piece	9.30



### Joint tape for LINITHERM PAL N+F and LINITHERM LOOP PAL N+F

PH 21009000

Application recommendation	For pitched roof insulation system ① ③ For sealing the short sides
Quantity required	1 piece per element

Width mm	Length mm	Size bundle	Unit of quantity UQ	€/UQ
40	1060	5	piece	2.30



### Adhesive tape BK

PH 21009020

Application recommendation	For pitched roof insulation system ① ③ Butyl rubber, 1 mm thick, for sealing coves, ridges, etc.
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Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	8.00
300	10	2 rolls	lm	13.50



### T-Adhesive tape

PH 21009020

Application recommendation	For pitched roof insulation system ② ④ ⑤ ⑥ ⑦ ⑧ ⑨ Polyacrylate adhesive tape
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Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
200	25	4 rolls	lm	4.20

## Sealing



### LINITHERM U Plus membrane PH 21009020

**Application recommendation** Diffusible membrane with TPU coating on both sides for warm welding and solvent welding, fire behavior class E acc. to EN 13501-1, temperature resistance –30 °C to +80 °C, resistance against water penetration W1

Width m	Length m	Size roll m <sup>2</sup>	Quantity per pallet	Unit of quantity UQ	€/UQ
1.5	50	75	20 rolls	m <sup>2</sup>	10.20



### LINITHERM UD-cover stripe PH 21009020

**Application recommendation** For pitched roof insulation system ⑤⑦⑧  
Diffusible welding strip with TPU coating for warm welding and solvent welding on premium underlay membrane, fire behavior class E acc. to EN 13501-1, temperature resistance –40 °C to +80 °C, resistance against water penetration W1

Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
300	25	5 rolls	1m	4.70



### LINITHERM solvent welding agent PH 21009020

**Application recommendation** For pitched roof insulation system ⑤⑦⑧ and U Plus membrane/ UD- cover stripes  
Solvent-welding agent (THF) for welding of the LINITHERM UD-cover stripe with the LINITHERM premium underlay sheet. The solvent-welding agent is applied by a bottle with brush.  
Consumption: approx. 5–10 g/lm.  
Use only in case of dry underground and at temperatures above 5 °C.

Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Can 1,25 l	6 cans	piece	42.50



### LINITHERM bottle with brush PH 21009020

**Application** For application of the LINITHERM solvent welding agent with brush

Unit of quantity UQ	€/UQ
piece	38.60



### Connection tube for insulation DG PH 21009040

**Application recommendation** For rainproof, wind- and air-tight penetration of pitched roofs with over-rafter insulation. The specially angled bottom section with a flexible hose connection permits trouble-free installation in the space between rafters. For roof vent diameters Ø 100 mm, 125 mm, 150 mm.

Unit of quantity UQ	€/UQ
piece	125.60

## Attachment



### LINIFIX special screws

PH 21009010

Application recommendation	With technical approval, for fixing the counter-battens (40 × 60 or 40 × 80 mm) and the LINITHERM PU insulating elements, continuously at an angle of 67°
Quantity required	Approx. 1.5–2.5 pieces per m <sup>2</sup>

Structural height	Ø × Length mm	Size Content	Unit of quantity UQ	€/UQ
Insulation 50 mm*	8.0 × 180	50 pieces/package	piece	1.05
Insulation 80 mm*	8.0 × 200	50 pieces/package	piece	1.10
Insulation 80/100 + boarding 19 mm*	8.0 × 225	50 pieces/package	piece	1.20
Insulation 120 + boarding 19 mm*	8.0 × 250	50 pieces/package	piece	1.40
Insulation 140 + boarding 19 mm*	8.0 × 275	50 pieces/package	piece	1.50
Insulation 160 + boarding 19 mm*	8.0 × 300	50 pieces/package	piece	1.60
Insulation 180 + boarding 19 mm*	8.0 × 325	50 pieces/package	piece	1.70
Insulation 200 + boarding 19 mm*	8.0 × 350	50 pieces/package	piece	1.80
Insulation 220 + boarding 19 mm*	8.0 × 375	50 pieces/package	piece	2.10
Insulation 240 + boarding 19 mm*	8.0 × 400	50 pieces/package	piece	2.20

\* Rafter spacing ≤ 0.75 m; snow load 0.65 kN/m<sup>2</sup>; weight of covering 0.55 kN/m<sup>2</sup>.  
Every package includes 1 free bit; 1 free screw template is included per delivery.



### LINIFIX dual-thread screws

PH 21009010

Application recommendation	For pitched roof insulation system ⑨ With technical approval, for fixing the counter-battens (40 × 60 or 40 × 80 mm) and the LINITHERM PU insulating elements
Quantity required	Approx. 2.5 pieces per m <sup>2</sup>

Structural height **	Ø × Length mm	Size Content	Unit of quantity UQ	€/UQ
Insulation 80 mm	8.0 × 225	50 pieces/package	piece	2.50
Insulation 100 mm	8.0 × 235	50 pieces/package	piece	2.60
Insulation 120 mm	8.0 × 255	50 pieces/package	piece	2.80
Insulation 140 mm	8.0 × 275	50 pieces/package	piece	3.00
Insulation 160 mm	8.0 × 302	50 pieces/package	piece	3.10
Insulation 180 mm	8.0 × 335	50 pieces/package	piece	3.40
Insulation 200 mm	8.0 × 365	50 pieces/package	piece	4.30
Insulation 220 mm	8.0 × 397	50 pieces/package	piece	6.10

\*\* Length of the screws by installation on 19 mm boarding  
Note the special statics for PAL ZUM elements with soundproofing panel.



### LINIFIX IngBau screws

PH 21009010

Application recommendation	For pitched roof insulation system ⑫ ⑬
Quantity required	Approx. 5 pieces per m <sup>2</sup>

Structural height ***	Ø × Length mm	Size Content	Unit of quantity UQ	€/UQ
102/122 mm	8.0 × 220	50 pieces/package	piece	1.50
142 mm	8.0 × 240	50 pieces/package	piece	1.60
162 mm	8.0 × 260	50 pieces/package	piece	1.70
182 mm	8.0 × 280	50 pieces/package	piece	1.80
202 mm	8.0 × 300	50 pieces/package	piece	1.90
222 mm	8.0 × 320	50 pieces/package	piece	2.10

\*\*\* Length of the screws by installation on 24 mm boarding.

## Sealing



### Nail sealing tape PP

PH 21009020

Application	Polypropylene, for permanent sealing of nail or screw penetrations below the counter batten.
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Thickness mm	Width mm	Size roll m	Packages Content	Unit of quantity UQ	€/UQ
3	60	30	10 rolls	1m	1.00

NEW



### Nail sealing tape BK

PH 21009020

Application	Butyl rubber, for permanent sealing of nail or screw penetrations below the counter batten.
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Thickness mm	Width mm	Size roll m	Packages Content	Unit of quantity UQ	€/UQ
3	50	15	6 rolls	1m	1.70



## Others

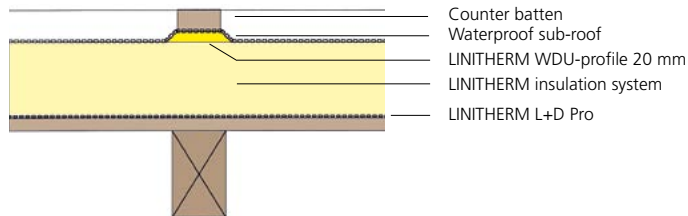


### LINITHERM WDU-profile for waterproof sub-roof

PH 21009020

Made of LINIREC construction boards, 80 × 20 mm, long sides bevelled and with 3 holes, for waterproof sub-roof below the sealing

Thickness mm	Width mm	Length mm	Unit of quantity UQ	€/UQ
20	80	2440	lm	11.60



## Roof window insulating frame



### LINITHERM DDZ Velux roof window insulating frame

PH 21009040

Insulation core	LINIREC construction board, raw density approx. 550 kg/m³, fire behavior class E acc. to EN 13501-1, rated value of thermal conductivity $\lambda_D$ 0.083 W/(mK), can be used in temperature range of –50 °C to +100 °C, moisture resistant, no mould formation, does not rot					
Please note	Use only for Velux roof windows					

Thickness mm Counter batten	Thickness mm roof batten	Width mm total	Width mm batten covering	Width mm Roof window covering	Length mm	Unit of quantity UQ	€/UQ
40	30	110	50	60	2440	lm	29.50
40	40	110	50	60	2440	lm	30.60
80	30	110	50	60	2440	lm	43.10
80	40	110	50	60	2440	lm	46.20

Other thicknesses upon request.

## Accessories for roof window insulating frame



### Klebeband BK

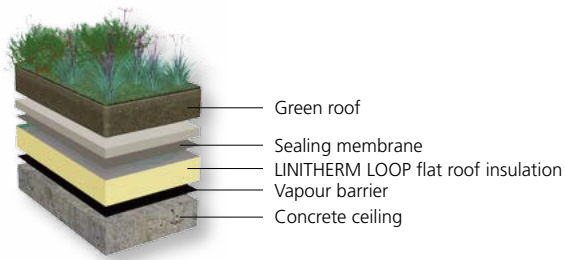
PH 21009020

Application recommendation	Butyl rubber, 1 mm thick, for sealing coves, ridges, etc.					
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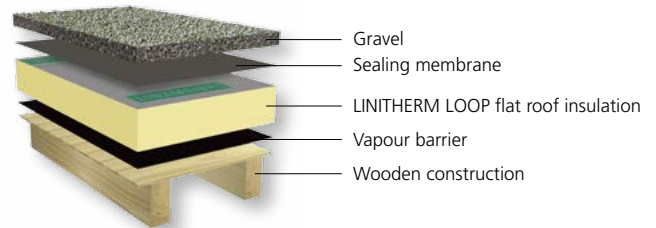
Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	8.00
300	10	2 rolls	lm	13.50



Flat roof insulation LINITHERM for green roof



Flat roof insulation LINITHERM for gravel roof on wooden construction



## LINITHERM LOOP PAL

PH 22500000

Insulation core	PU rigid foam with biomass content acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides, low-glare on one side
Edge joints	Round about rebated joint
Overall dimension	1200 × 600 mm (= calculation measurement) (coverage with rebated joint is 2 cm smaller)

Thickness mm total	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	λ <sub>D</sub> W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
80	6	4.32	60	43.2	0.022	0.26	22.60
100	5	3.60	50	36.0	0.022	0.21	26.40
120	4	2.88	40	28.8	0.022	0.18	31.40
160	3	2.16	30	21.6	0.022	0.13	41.40

Delivery only in full packages.

## LINITHERM LOOP FLAT ROOF INSULATION STRONG. SUSTAINABLE. HEALTHIER.

**LINITHERM LOOP is highly efficient, sustainable, healthy for living and protects the climate:**

- ✓ Thin insulation with best insulation value
- ✓ Lowest thermal conductivity of all bio-based insulation materials
- ✓ Suitable for promotion due to best U-values
- ✓ Ecologically healthy and free from harmful substances
- ✓ Safety in all construction types
- ✓ Recyclable aluminium covering
- ✓ Durable (over 50 years), safe and without moisture absorption
- ✓ Around 60% biomass
- ✓ CO<sub>2</sub>-neutral production



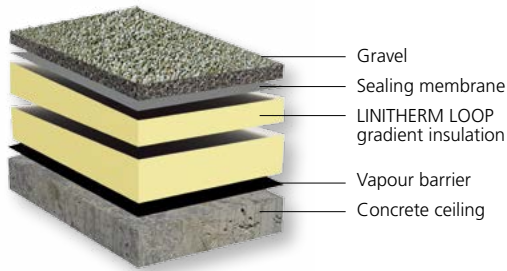
Recyclable



Positive building biology

\* U-value calculation takes the thermal resistances R<sub>si</sub> = 0.1 [m<sup>2</sup>K/W] and R<sub>se</sub> = 0.04 [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

Gradient insulation LINITHERM  
PAL gradient with gravel on concrete



## Advantages of the modular system

- Offers a variety of installation possibilities and drainage methods
- Gradient, ridge, valley and universal boards can be easily assembled
- Short delivery times due to fast availability of all necessary parts
- Quick and easy installation
- Consistently the same surface and TCL
- Time and cost savings



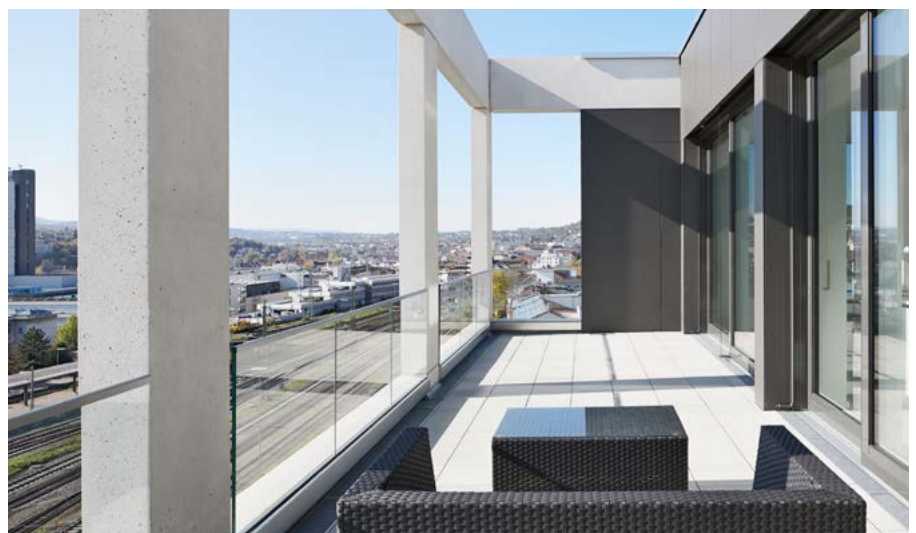
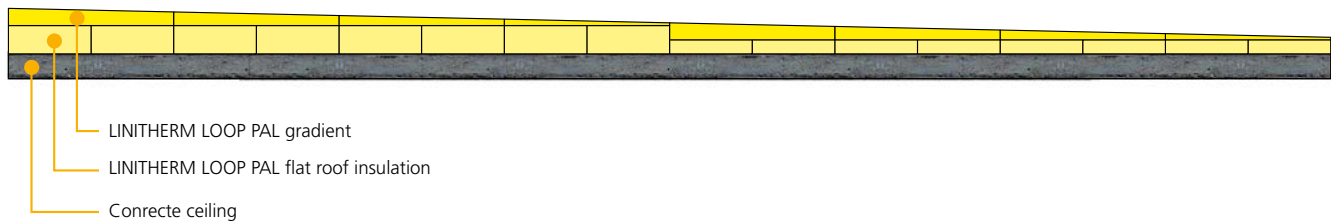
## LINITHERM LOOP PAL gradient

PH 22502010

Insulation core	PU rigid foam with biomass content acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides, low-glare on one side
Edge joints	Round about edgeless cut
Overall dimension	1200 × 1200 mm

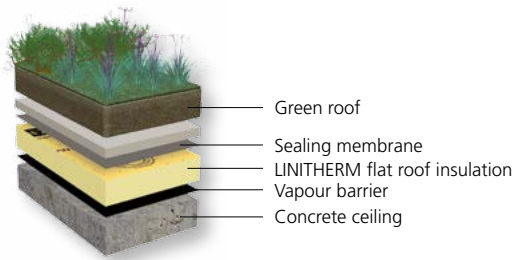
Thickness mm total	Gradient %	Quantity per pallet Piece	m <sup>2</sup>	$\lambda_D$ W/(mK)	€/m <sup>2</sup>
30/55	2	48	69.1	0.022	23.90
55/80	2	32	46.1	0.022	30.00
80/105	2	24	34.6	0.022	35.70
105/130	2	20	28.8	0.022	41.20

Layering principle: LINITHERM gradient insulation plus flat roof insulation

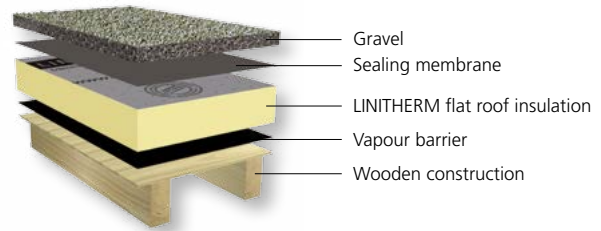


# Flat roof insulation and terrace insulation

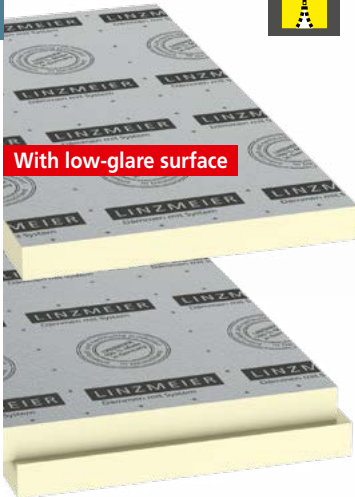
Flat roof insulation LINITHERM for green roof



Flat roof insulation LINITHERM for gravel roof on wooden construction



Flat roof



## LINITHERM PAL

< 80 mm PH 21400000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides, low-glare on one side					
Edge joints	Thickness 20–40 mm: round about edgeless cut Thickness 50–100 mm: round about edgeless cut or with rebated joint Thickness 120–240 mm: round about rebated joint					
Overall dimension	1200 × 600 mm (= calculation measurement) (coverage with rebated joint is 2 cm smaller)					

Thickness mm total	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
20	25	18.00	250	180.0	0.022	0.90	9.30
30	16	11.52	160	115.2	0.022	0.64	11.00
40	12	8.64	120	86.4	0.022	0.50	12.60
50	10	7.20	100	72.0	0.022	0.40	14.40
60	8	5.76	80	57.6	0.022	0.34	16.70
70	7	5.04	70	50.4	0.022	0.30	19.00

≥ 80 mm PH 21500000

80	6	4.32	60	43.2	0.022	0.26	20.50
100	5	3.60	50	36.0	0.022	0.21	24.00
120	4	2.88	40	28.8	0.022	0.18	28.50
140	3	2.16	36	25.9	0.022	0.15	33.10
160	3	2.16	30	21.6	0.022	0.13	37.60
*180	2	1.44	28	20.2	0.022	0.12	41.90
*200	2	1.44	24	17.3	0.022	0.11	46.40
*220	2	1.44	20	14.4	0.022	0.10	50.60
*240	2	1.44	20	14.4	0.022	0.09	54.90

Additional price for rebated joint per m<sup>2</sup> net

+ 0.30

Other thicknesses upon request/Delivery only in full packages.



## LINITHERM PGV

< 80 mm PH 21400010

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides					
Edge joints	Thickness 20–40 mm: round about edgeless cut Thickness 50–100 mm: round about edgeless cut or with rebated joint Thickness 120–200 mm: round about rebated joint					
Overall dimension	1200 × 600 mm (= calculation measurement) (coverage with rebated joint is 2 cm smaller)					

Thickness mm total	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value** [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
20	25	18.00	250	180.0	0.028	1.17	8.80
30	16	11.52	160	115.2	0.028	0.83	10.50
40	12	8.64	120	86.4	0.028	0.64	12.10
50	10	7.20	100	72.0	0.028	0.52	13.90
60	8	5.76	80	57.6	0.028	0.44	16.20

≥ 80 mm PH 21500010

80	6	4.32	60	43.2	0.026	0.31	20.00
100	5	3.60	50	36.0	0.026	0.25	23.50
120	4	2.88	40	28.8	0.025	0.20	28.00
140	3	2.16	36	25.9	0.025	0.17	32.60
160	3	2.16	30	21.6	0.025	0.15	37.10
*180	2	1.44	28	20.2	0.025	0.14	41.40
*200	2	1.44	24	17.3	0.025	0.12	45.90

Additional price for rebated joint per m<sup>2</sup> net

+ 0.30

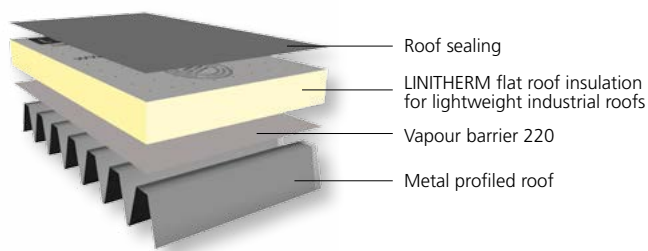
Other thicknesses upon request/Delivery only in full packages.

\* Might have longer delivery times.

\*\* U-value calculation takes the thermal resistances  $R_{si} = 0.1$  [m<sup>2</sup>K/W] and  $R_{se} = 0.04$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.



## LINITHERM PAL FD for metal roofs



### Extremely thin, light, and safe – the high-performance insulation for roofs in lightweight metal construction

- Excellent insulation values
- Minimum panel thickness
- High compressive strength
- Light weight and manageable
- Good fire protection properties – meets the fire protection requirements acc. to DIN 18234-1
- Fast and easy handling & processing



## LINITHERM PAL FD

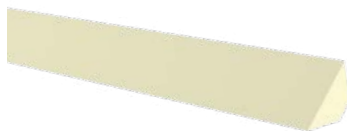
PH 21501000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides, low-glare on one side
Edge joints	Round about rebated joint
Overall dimension	2440 × 1200 mm (= calculation measurement) (coverage with rebated joint is 2 cm smaller)

Thickness mm total	Quantity per pallet Piece		$\lambda_D$ W/(mK)	U-value** [W/(m²K)]	€/m²
80	30	87.8	0.022	0.26	20.50
100	24	70.3	0.022	0.21	24.00
120	20	58.6	0.022	0.18	28.50
140	17	49.8	0.022	0.15	33.10
160	15	43.9	0.022	0.13	37.60
*180	13	38.1	0.022	0.12	41.90
*200	12	35.1	0.022	0.11	46.40

Other thicknesses upon request.

## Accessories



## LINITHERM PUR wedge Attica-wedge (trapezoidal)

PH 21509010

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1
Length	1200 mm

Measurement mm	Quantity per package		$\lambda_D$ W/(mK)	€/lm
50 × 50	100		0.028	1.70
80 × 80	72		0.028	2.40
100 × 100	50		0.028	3.20

Full wedge or other thicknesses upon request/Delivery only in full packages.



## LINITHERM PE vapour control layer 120

PH 21209000

PE vapour control layer according to EN 13984, suitable for new buildings and restoration, $s_d$ -value 120 m ±10, of low fire load, fire behavior class E, weight 150 g/m² ±10, colour yellow
--

Width / m	Length/m	Size/Roll m²	Unit of quantity/UQ	€/UQ
4	25	100	m²	1.20



## LINITHERM PE vapour control layer 220

PH 21509020

PE vapour control layer according to EN 13984, suitable for new buildings and restoration, $s_d$ -value 220 m ±10, of low fire load, fire behavior class E, weight 210 g/m² ±10, colour grey
--

Width / m	Length/m	Size/Roll m²	Unit of quantity/UQ	€/UQ
4	25	100	m²	1.90



## Adhesive foam/Foam gun

PH 21509020

Moisture-hardening single-component adhesive on a polyurethane basis for the gluing of insulation boards for flat roofs and gradient roofs, can be applied from –5 °C ambient temperature or +5 °C can temperature, flexible and not embrittling
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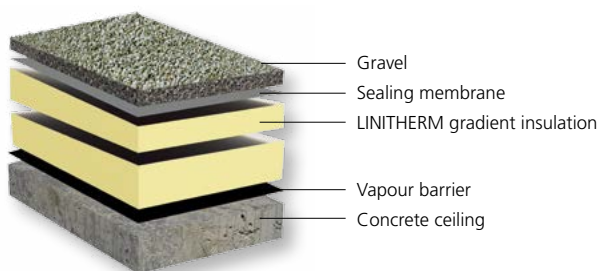
	Size/Content	Scope per can	Quantity per package	Unit of quantity/UQ	€/UQ
Adhesive foam	850 ml	approx. 10–14 m²	12 cans	piece	16.70
Foam gun	Foam gun for the upright dispensing of foam and adhesive foam, pistol length 100 cm			piece	151.20

\* Might have longer delivery times.

\*\* U-value calculation takes the thermal resistances  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.04$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

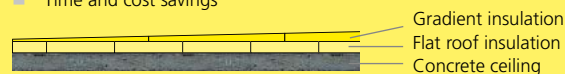
# Flat roof insulation – Gradient insulation

Gradient insulation LINITHERM  
PAL gradient with gravel on concrete



## Advantages of the modular system

- Offers a variety of installation possibilities and drainage methods
- Gradient, ridge, valley and universal boards can be easily assembled
- Short delivery times due to fast availability of all necessary parts
- Quick and easy installation
- Consistently the same surface and TCL
- Time and cost savings



## LINITHERM PAL gradient insulation system for flat roofs

PH 21502010

Gradient insulation system, consisting of basic insulation LINITHERM PAL (in case of multi-layer application), LINITHERM PAL gradient from 30 mm up to 230 mm and LINITHERM PAL ridge/valley boards, according to gradient plan, description of the system components: see page 24 and 26

	Gradient %	$\lambda_D$ W/(mK)	Unit of quantity UQ	€/UQ
Insulation system	2	0.022	m <sup>3</sup>	upon request

## LINITHERM PAL gradient

PH 21502010

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides, low-glare on one side
Edge joints	Round about edgeless cut
Overall dimension	1200 × 1200 mm

Thickness mm total	Gradient %	Quantity per pallet Piece	$\lambda_D$ W/(mK)	€/m <sup>2</sup>
30/55	2	48	0.022	21.70
55/80	2	32	0.022	28.50
80/105	2	24	0.022	34.60
105/130	2	20	0.022	41.20
130/155	2	16	0.022	47.10
155/180	2	12	0.022	52.50
180/205	2	12	0.022	58.20
205/230	2	8	0.022	63.60

## LINITHERM PAL gradient ridge board 45° angle

PH 21502010

Set consisting of ridge board left and ridge board right, low-glare on one side

Thickness mm total	Gradient %	Quantity per pallet Sets	$\lambda_D$ W/(mK)	€/Set
30/55	2	32	0.022	37.30
55/80	2	24	0.022	47.90
80/105	2	20	0.022	58.70
105/130	2	16	0.022	70.40
130/155	2	12	0.022	79.90
155/180	2	12	0.022	89.90
180/205	2	8	0.022	99.90
205/230	2	8	0.022	109.70

## LINITHERM PAL gradient valley board 45° angle

PH 21502010

Set consisting of valley board left and valley board right, low-glare on one side

Thickness mm total	Gradient %	Quantity per pallet Sets	$\lambda_D$ W/(mK)	€/Set
30/55	2	32	0.022	37.30
55/80	2	24	0.022	47.90
80/105	2	20	0.022	58.70
105/130	2	16	0.022	70.40
130/155	2	12	0.022	79.90
155/180	2	12	0.022	89.90
180/205	2	8	0.022	99.90
205/230	2	8	0.022	109.70

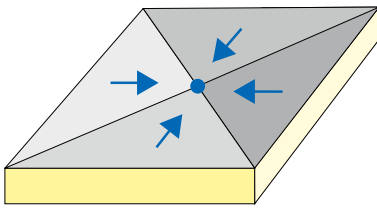
With low-glare surface

Delivery as a set

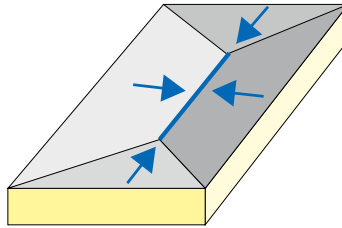
With low-glare surface

Delivery as a set

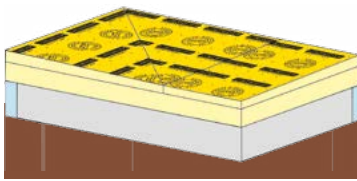
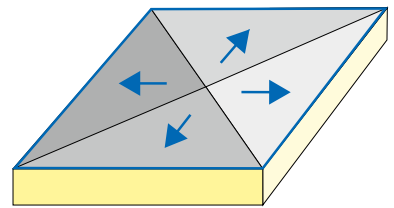
**Point drainage**  
with LINITHERM PAL/PGV gradient  
and valley boards



**Interior drainage**  
with LINITHERM PAL/PGV gradient  
and valley boards



**Outside drainage**  
with LINITHERM PAL/PGV gradient  
and ridge boards



## LINITHERM PGV gradient insulation for flat roofs

PH 21502020

Gradient insulation system,  $\lambda_D$  0.026/0.028, consisting of basic insulation LINITHERM PGV, LINITHERM PGV gradient and LINITHERM PGV ridge/valley boards, according to gradient plan, description of the system components: see pages 24 and 27

	Gradient %	$\lambda_D$ W/(mK)	Unit of quantity UQ	€/UQ
Insulation system	2	0.026/0.028	m <sup>3</sup>	upon request



## LINITHERM PGV gradient

PH 21502020

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, thickness 5/30 mm un laminated, other thicknesses coated with mineral fleece on both sides
Edge joints	Round about edgeless cut
Overall dimension	1200 x 1200 mm

Thickness mm total	Gradient %	Quantity of pallet Piece	$\lambda_D$ W/(mK)	€/m <sup>2</sup>
5/30	2	116	0.028	16.80
30/55	2	48	0.028	19.70
55/80	2	32	0.028	26.30
80/105	2	24	0.026	32.40
105/130	2	20	0.026	38.90

Delivery as a set



## LINITHERM PGV gradient ridge board 45° angle

PH 21502020

Gradient 2%, set consisting of ridge board left and ridge board right, thickness 5/30 mm un laminated

Thickness mm total	Gradient %	Quantity of pallet Sets	$\lambda_D$ W/(mK)	€/Set
5/30	2	38	0.028	27.20
30/55	2	32	0.028	31.90
55/80	2	24	0.028	42.00
80/105	2	20	0.026	52.40
105/130	2	16	0.026	63.80

Delivery as a set



## LINITHERM PGV gradient valley board 45° angle

PH 21502020

Gradient 2%, set consisting of valley board left and valley board right, thickness 5/30 mm un laminated

Thickness mm total	Gradient %	Quantity of pallet Sets	$\lambda_D$ W/(mK)	€/Set
5/30	2	38	0.028	27.20
30/55	2	32	0.028	31.90
55/80	2	24	0.028	42.00
80/105	2	20	0.026	52.40
105/130	2	16	0.026	63.80

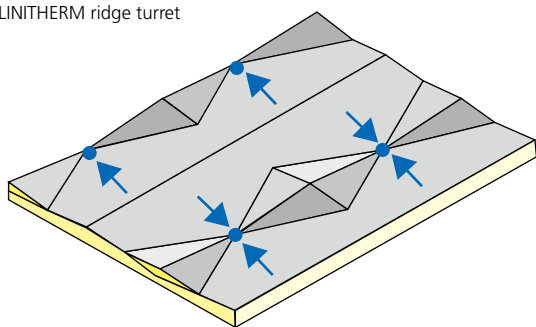
## THERM PAL gradient/ LINITHERM PGV gradient

PH 21502020

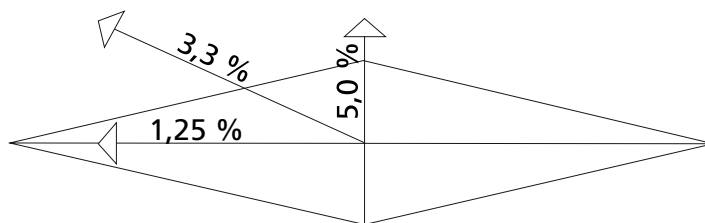
	€/Plan
Gradient plan < 200 m <sup>2</sup>	80.00
Gradient plan > 200 m <sup>2</sup>	110.00
Change	50.00

# Flat roof insulation – ridge turret

Spot drainage with  
LINITHERM ridge turret



Gradient lengthwise: 1.25 %  
Gradient transverse: 5.00 %  
Resulting slope (area): 3.30 %



Flat roof



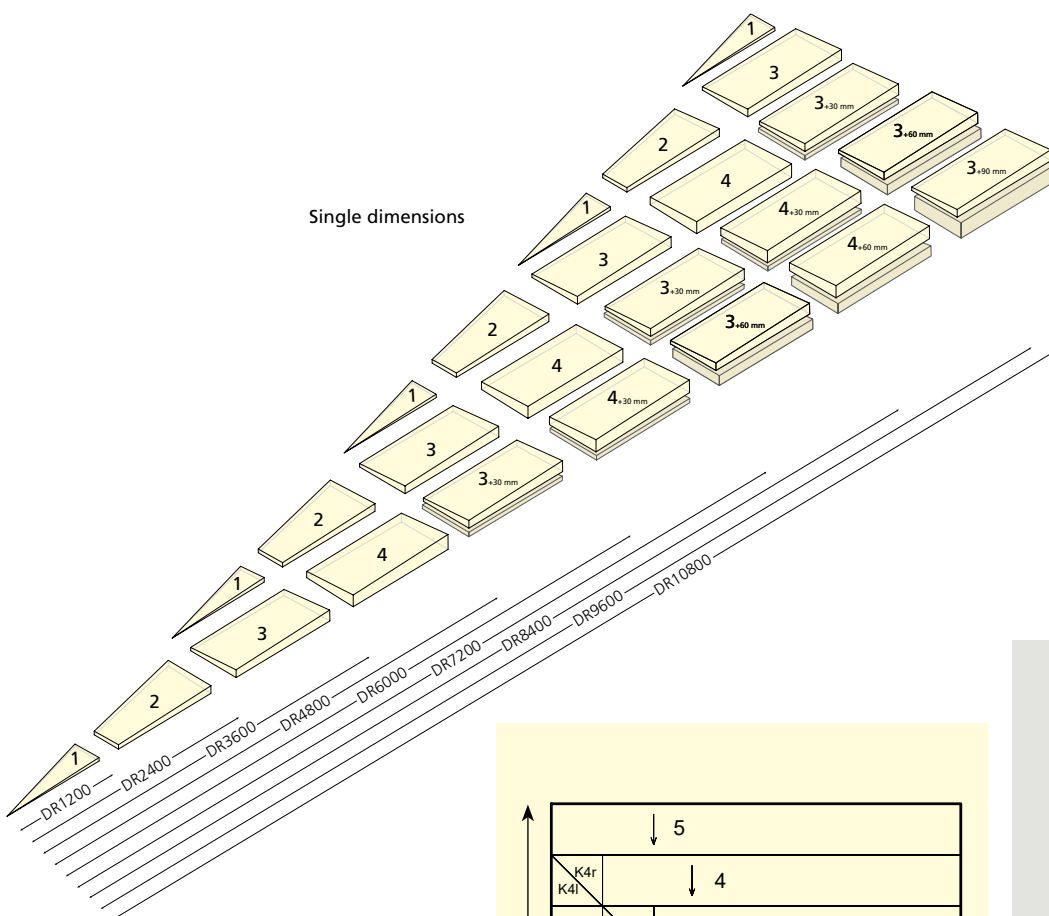
## LINITHERM ridge turret

PH 21500020

Insulation core PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, unlaminated  
Edge joints Round about edgeless cut

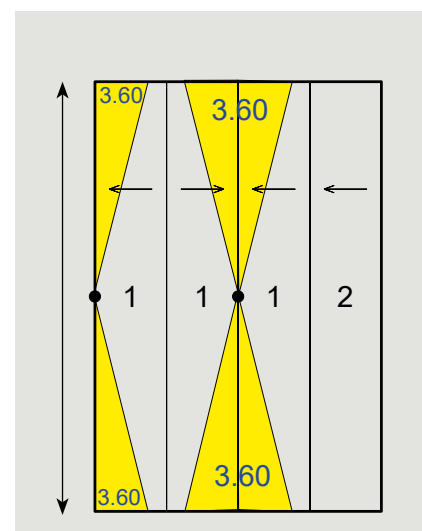
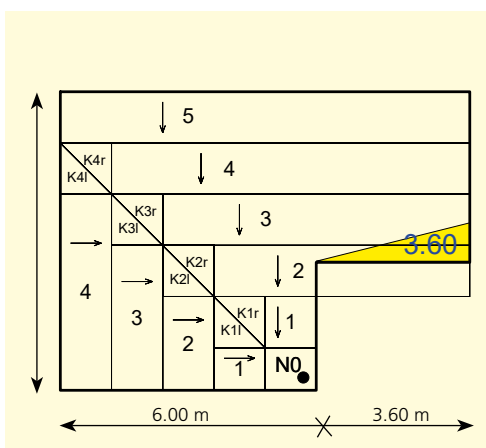
Thickness mm total	Length mm	Width mm	$\lambda_D$ W/(mK)	€/piece
Ridge turret DR1200	1200	300	0.027	107.30
Ridge turret DR2400	2400	600	0.027	136.90
Ridge turret DR3600	3600	900	0.027	171.80
Ridge turret DR4800	4800	1200	0.027	275.60
Ridge turret DR6000	6000	1500	0.027	413.40
Ridge turret DR7200	7200	1800	0.027	689.60
Ridge turret DR8400	8400	2100	0.027	920.20
Ridge turret DR9600	9600	2400	0.027	1192.80
Ridge turret DR10800	10800	2700	0.027	1309.10
Ridge turret DR12000	12000	3000	0.027	1728.90
Ridge turret DR13200	13200	3300	0.027	2259.30

Single dimensions



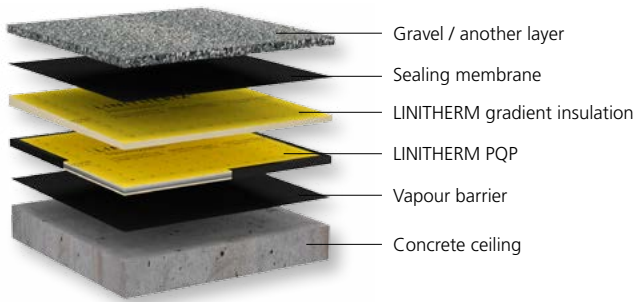
Example 1

Slope insulation with valley board  
and ridge turret DR3600





Terrace structure



## Advantages

- Ultrathin, most effective insulation of flat roof, balcony and terrace
- Connection heights can be adhered that are not possible with usual insulation material
- Optimal insulation system, for balconies and terraces if underlying living spaces should be protected
- Can be combined optimally according to requirements
- Allows a barrier-free transition between living spaces and terrace when carrying out renovation measures
- LINITHERM PGV cover layer on both sides protects the vacuum insulation core against mechanical damage



## LINITHERM PQP

PH 21500030

Insulation core	20 mm vacuum insulation, fire behavior class E acc. to EN 13501-1
Outer layers	10 mm PU rigid foam acc. to EN 13165 on each side, fire behavior class E acc. to EN 13501-1, coated with mineral fleece on both sides
Edge joints	Round about edgeless cut, covered with tape

Thickness mm total	Thickness mm vacuum element	Measurement mm	$\lambda_D$ PU	$\lambda_D$ vacuum	U-value* [W/(m²K)]	€/m²
40	20	1200 × 600	0.028	0.0066	0.27	198.60
40	20	1200 × 300	0.028	0.0066	0.27	213.40
40	20	600 × 300	0.028	0.0066	0.27	234.80
40	20	600 × 150	0.028	0.0066	0.27	261.70
60	40	1200 × 600	0.028	0.0066	0.15	278.60
60	40	1200 × 300	0.028	0.0066	0.15	298.30
60	40	600 × 300	0.028	0.0066	0.15	329.00
60	40	600 × 150	0.028	0.0066	0.15	366.40

Special dimension upon request.



## LITEC parapet element

PH 31

Insulation core	PU rigid foam acc. to EN 13165, thickness 60 mm, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, 22 mm thick
Please note	Individual factory-made parts according to construction plan, incl. wooden construction elements

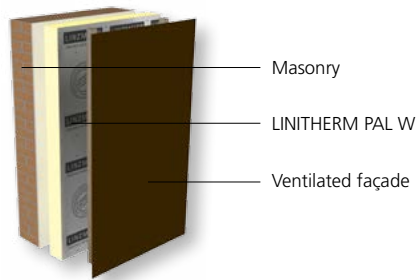
For details see page 46



\* U-value calculation takes the thermal resistances  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.04$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

# External wall insulation from the outside – ventilated façades

LINITHERM External wall insulation from the outside for ventilated façade



External wall  
from outside

With low-glare surface

## LINITHERM PAL W

PH 21600070

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class C-s2,d0 acc. to EN 13501-1 (corresponds to German building inspection class »of low flammability«), as specified in technical approval Z-23.15-1436, aluminum foil on both sides, low-glare on one side
Edge joints	Round about edgeless cut or with rebated joint
Overall dimension	1200 × 600 mm (= calculation measurement) (coverage with rebated joint is 2 cm smaller)

Thickness mm total	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
80	6	4.32	60	43.2	0.022	0.26	22.20
100	5	3.60	50	36.0	0.022	0.21	25.70
120	4	2.88	40	28.8	0.022	0.18	30.20
140	3	2.16	36	25.9	0.022	0.15	34.80
160	3	2.16	30	21.6	0.022	0.13	39.30
Additional price for rebated joint per m <sup>2</sup> net							+ 0.30

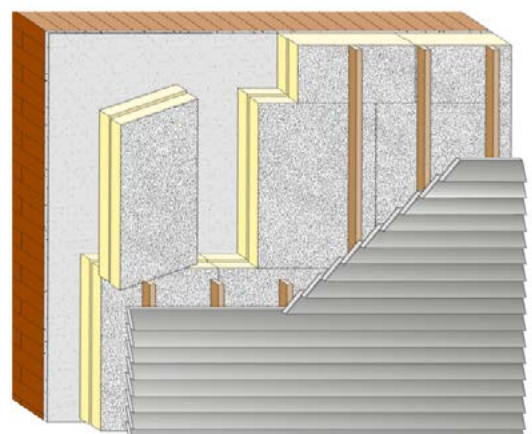
Other thicknesses upon request/Delivery only in full packages.



## Benefits for builder and renovators

- Reliable insulation for ventilated facades and core insulation
- Maximum insulation values with minimum panel thickness
- Slim wall constructions possible
- Pressure-resistant and dimensionally stable
- Of low flammability - fire behaviour class C-s2, d0 acc. to EN 13501-1
- Installation without thermal bridges
- Easy handling through manageable dimensions and low weight

LINITHERM PAL W insulation boards are bolted together with the substructure to the wall. That's the originate of a homogeneous insulation. The both-sided aluminium lamination works as a moisture guard. The insulation value is retained.

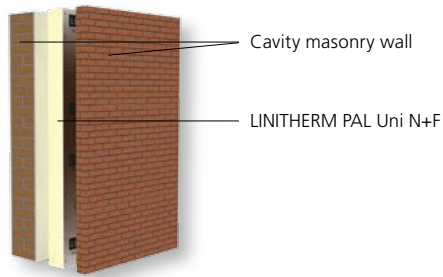


\* U-value calculation takes the thermal resistances  $R_{si} = 0.13$  [m<sup>2</sup>K/W] and  $R_{se} = 0.04$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.



# External wall insulation from the outside – core insulation

Core insulation in double-shell masonry walls



## LINITHERM PAL Uni N+F

PH 21600080

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E n. EN 13501-1, coated with aluminum on both sides, low-glare on one side
Edge joints	Tongue & groove pressfit joints on all sides
Overall dimension	1200 × 600 mm (= calculation measurement) (coverage with tongue & groove is 2 cm smaller)

Thickness mm total	Quantity per package		Quantity per pallet		$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
	Piece	m²	Piece	m²			
80	6	4.32	60	43.2	0.022	0.26	21.20
100	5	3.60	50	36.0	0.022	0.21	24.70
120	4	2.88	40	28.8	0.022	0.18	29.20
140	3	2.16	36	25.9	0.022	0.15	33.80
160	3	2.16	30	21.6	0.022	0.13	38.30

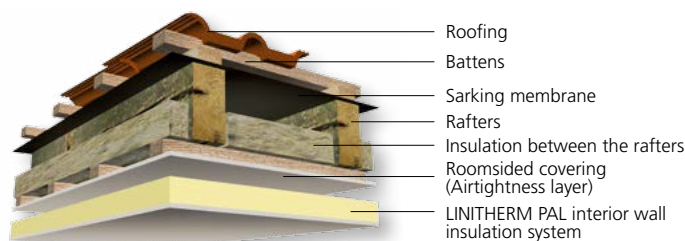
Other thicknesses upon request / Delivery only in full packages.

External wall from outside

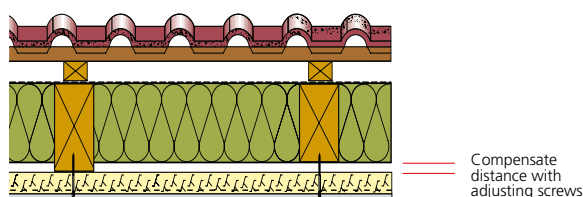


\* U-value calculation takes the thermal resistances  $R_{si} = 0.13$  [m<sup>2</sup>K/W] and  $R_{se} = 0.04$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

LINITHERM PAL GK with existing insulation between the rafters



Adjustment screws permit unequal rafter heights to be compensated and spaced.



## LINITHERM PAL GK

PH 21300020

Insulation core	PU rigid foam acc. to EN 13165, fire behaviour class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Plasterboard facing on the inner side, 9.5 mm thick
Edge joints	Round about grooved for loose plywood spring (included in delivery)
Overall dimension	2500 x 600 mm (= calculation measurement)

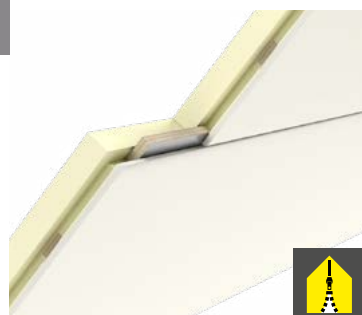
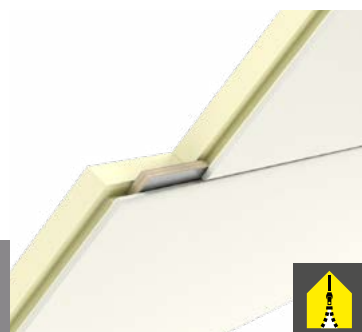
Thickness mm total	Thickness mm PU	Thickness mm Plasterboard	Quantity per pallet Piece	m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
39.5	30	9.5	45	67.5	0.022	0.65	38.80
49.5	40	9.5	36	54.0	0.022	0.50	42.20
69.5	60	9.5	26	39.0	0.022	0.34	49.80
89.5	80	9.5	20	30.0	0.022	0.26	57.20
109.5	100	9.5	17	25.5	0.022	0.21	64.90

## LINITHERM PAL GKL with integrated battens

PH 21300030

Insulation core	PU rigid foam acc. to EN 13165, fire behaviour class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Plasterboard facing on the inner side, 9.5 mm thick
System	With integrated battens for compensating unevenness in the roof structure during installation with adjusting screws (no additional slat framework required)
Edge joints	Round about grooved for loose plywood spring (included in delivery)
Overall dimension	2500 x 600 mm (= calculation measurement)

Thickness mm total	Thickness mm PU	Thickness mm plasterboard	Quantity per pallet Piece	m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
49.5	40	9.5	36	54.0	0.022	0.55	50.00
69.5	60	9.5	26	39.0	0.022	0.37	57.70



## Accessories



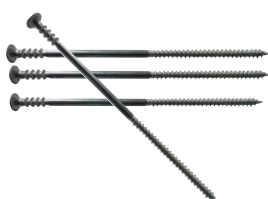
## LINIFIX screws Troko for PAL GK

PH 21309000

Quantity required	Approx. 8 pieces per m <sup>2</sup>
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Thickness mm element	Ø x Length mm	Size Content	Unit of quantity UQ	€/UQ
39.5 – 49.5	5.1 x 90	250 pieces/package	package	36.90
69.5	5.1 x 110	250 pieces/package	package	41.00
89.5	5.1 x 130	250 pieces/package	package	44.30
109.5	5.1 x 160	250 pieces/package	package	47.50

For direct installation to rafters.



## LINIFIX adjustment screws for PAL GKL with integrated battens

PH 21309000

Penetration depth	≥ 40 mm depending on the evenness of the rafters
Quantity required	Approx. 5 pieces per m <sup>2</sup>

	Ø x Length mm	Size Content	Unit of quantity UQ	€/UQ
	6.0 x 120	100 pieces/package	package	34.70
	6.0 x 140	100 pieces/package	package	52.90

\* Thermal conductivity coefficient U takes the thermal resistance  $R_{01} = 0.1$  [m<sup>2</sup>K/W] and  $R_{02} = 0.04$  [m<sup>2</sup>K/W] into account. Object-specific characteristics according to EN ISO 6946 are not taken into account.



## Accessories



### LINITHERM 1K-PU-spray foam

PH 21009000

LINITHERM filling foam, incl. recycling fee

Consumption for approx. 10 mm joint width	Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Approx. 8–10 lm	Can 600 ml	12 cans	piece	9.10



### LINITHERM L+D Pro

PH 21009030

PP-vapour barrier and airtightness membrane for roof, ceiling and wall constructions, Polypropylene nonwoven, aluminized polypropylene, fire behavior class E acc. to EN 13501-1,  $s_d$ -value 2 m, temperature resistance –30 °C to +80 °C, lengthwise overlapping on both sides with acrylate-adhesive tape

Width m	Length m	Size roll m <sup>2</sup>	Quantity per package	Unit of quantity UQ	€/UQ
1.5	50	75	24 rolls	m <sup>2</sup>	3.10



### LINITHERM L+D adhesive tape

PH 21009030

For LINITHERM L+D Pro

Width mm	Size roll lm	Quantity per package	Unit of quantity UQ	€/UQ
60	25	10 rolls	lm	1.70



### LINITHERM Dichtfix

PH 21009030

LINITHERM Dichtfix is a high performance adhesive binder, which permanently glues vapour barriers and vapour brakes with hard surfaces – without using a pressure lath. LINITHERM Dichtfix can be mixed with water for use as a primer

	Size	Consumption with an 8 mm thick bead	Package Content	Unit of quantity UQ	€/UQ
Cartouche	310 ml	ca. 8 lm	12 cartouches	piece	9.40
Tubular bag	600 ml	ca. 16 lm	12 tubular bags	piece	13.90



### LINITHERM sealing apron

PH 21009030

Tear-resistant, elastic polymer foil, with mineral fleece on both sides, incl. compriband 3 × 15 mm

Width mm	Size roll lm	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	4.50
400	10	5 rolls	lm	7.00
600	10	5 rolls	lm	8.60



### LINITHERM compriband

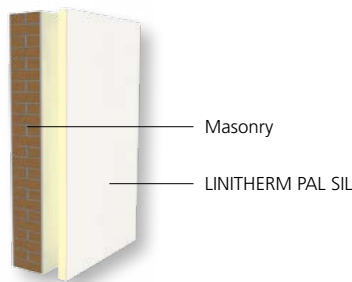
PH 21009030

For sealing the gap between masonry and insulation, compress to about 30% when installed impregnated, and one side self-adhesive

Original thickness × selfadhesive width mm	For joints up to mm	Pre-compressed delivery format mm	Size roll m	Quantity per package lm	Unit of quantity UQ	€/UQ
20 × 15	3–7	4 × 15	6.0	120.0	lm	2.80
40 × 20	7–12	8 × 20	5.0	75.0	lm	5.40
60 × 30	10–18	12 × 30	5.0	50.0	lm	10.40

# External wall insulation from the inside

External wall insulation from the inside  
with LINITHERM PAL SIL



## Benefits for builders and renovators

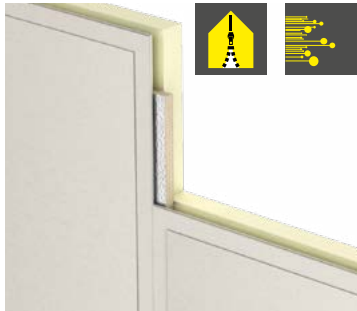
- Excellent insulation values
- Manageable, lightweight insulation elements
- Simple processing, free of thermal bridges
- Facing can be rendered, painted or wallpapered
- Additional living space due to slim construction
- Positive ecobalance
- Structural physical correct construction
- The silicate panel is resistant to moisture and mould

### LINITHERM PAL SIL

PH 21300070

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Silicate panel on room side, thickness 6 mm
Edge joints	Round about grooved for loose plywood spring (included in delivery) silicate panel with drywall edge
Overall dimension	2500 × 600 mm (= calculation measurement)

Thickness mm total	Thickness mm PU	Thickness mm silicate panel	Quantity per pallet Piece	$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
36	30	6	45	0.022	0.64	46.10
46	40	6	36	0.022	0.50	50.80
66	60	6	26	0.022	0.34	56.30

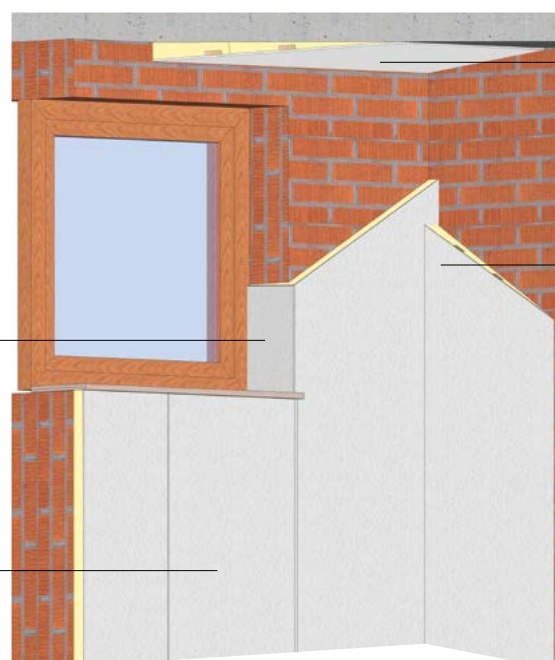
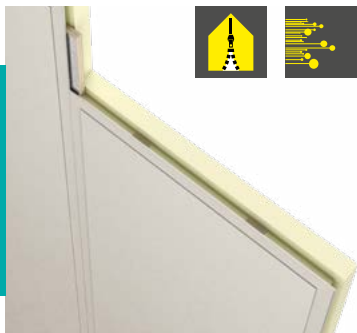


### LINITHERM PAL SIL L for walls that will be tiled or under flat roofs

PH 21300070

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
System	With integrated battens for mechanical fixation
Facing	Silicate panel on room side, thickness 6 mm, affixed to the integrated battens with clips
Edge joints	Round about grooved for loose plywood spring (included in delivery), silicate panel with drywall edge
Overall dimension	2500 × 600 mm (= calculation measurement)

Thickness mm total	Thickness mm PU	Thickness mm silicate panel	Quantity of pallet Piece	$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
46	40	6	36	0.022	0.55	57.20
66	60	6	26	0.022	0.37	64.00



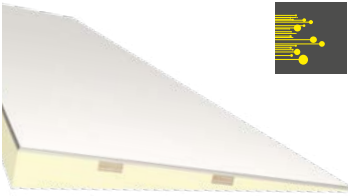
### LINITHERM PAL SIL for the interior insulation of exterior walls

The elements can be glued directly on the walls. Basically, two different kinds of gluing are possible:

- all-over adhesion on even surfaces
- spot-bonded edge bulge in case of unevenness

The elements are screwed on the long side (wooden tongue) with frame screws.

\* U-value calculation takes the thermal resistances  $R_{s,i} = 0.13 \text{ [m}^2\text{K/W]}$  and  $R_{s,e} = 0.04 \text{ [m}^2\text{K/W]}$  into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.



## LINITHERM PAL SIL wedge flanking insulation

PH 21300070

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1				
System	With integrated battens for mechanical fixation				
Facing	Silicate panel on room side, thickness 6 mm, affixed to the integrated battens with clips				
Edge joints	Round about edgeless cut				
Overall dimension	2500 × 600 mm (= calculation measurement)				

Thickness mm total	Thickness mm PU	Thickness mm silicate panel	$\lambda_D$ W/(mK)	Unit of quantity UQ	€/UQ
66/6	60/0	6	0.028	lm	29.30

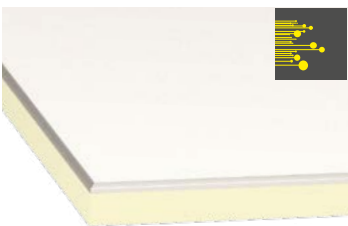


## LINITHERM PAL SIL reveal wedge

PH 21300070

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1				
Facing	Silicate panel on room side, thickness 6 mm				
Edge joints	Round about edgeless cut				
Overall dimension	2500 × 300 mm (= calculation measurement)				

Thickness mm total	Thickness mm PU	Thickness mm silicate panel	$\lambda_D$ W/(mK)	Unit of quantity UQ	€/UQ
26/14	20/8	6	0.028	lm	17.80



## LINITHERM PAL SIL cutting board

PH 21309000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides					
Facing	Silicate panel on room side, thickness 6 mm					
Edge joints	Untrimmed					
Overall dimension	2500 × 1200 mm (= calculation measurement), reveal board without edge connection					

Thickness mm total	Thickness mm PU	Thickness mm silicate panel	Quantity of pallet Piece		$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
26	20	6	45	135.0	0.022	0.91	34.20

External wall from inside

## Accessories



## LINIFIX frame screw

PH 21309000

Penetration depth	30–60 mm depending on the masonry
Quantity required	Approx. 2 pieces per m²

	Ø × Length mm	Size Content	Unit of quantity UQ	€/UQ
	7.5 × 72	100 pieces/packages	package	39.40
	7.5 × 82	100 pieces/packages	package	43.30
	7.5 × 92	100 pieces/packages	package	48.20
	7.5 × 102	100 pieces/packages	package	52.00
	7.5 × 122	100 pieces/packages	package	65.20



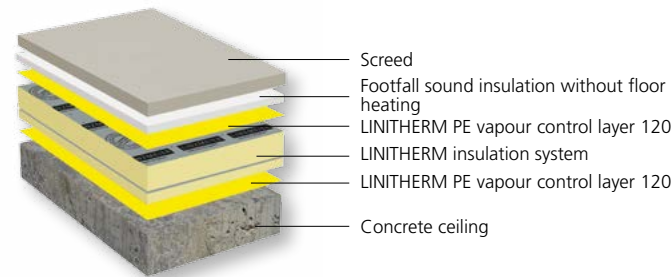
## Glue

PH 21309000

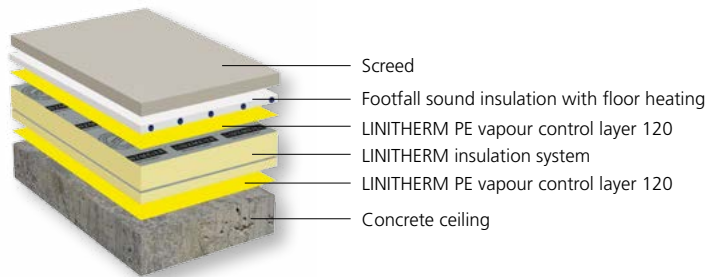
	Gluing mortar, universally applicable for interior use, very good adherence
Quantity required	Approx. 3.5 kg/m²

	Size Content	Unit of quantity UQ	€/UQ
	20 kg	bag	36.40

Thermal insulation below screed  
without floor heating



Thermal insulation below screed  
with floor heating



LINITHERM PMV					PH 21400030		
Insulation core		PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with multi-layered composite foil on both sides					
Edge joints		Round about edgeless cut					
Overall dimension		1200 × 600 mm (= calculation measurement)					
Thickness mm total	Quantity per package Piece	m²	Quantity per pallet Piece	m²	λ <sub>D</sub> W/(mK)	U-value* [W/(m²K)]	€/m²
20	25	18.00	250	180.0	0.022	0.83	9.30
30	16	11.52	160	115.2	0.022	0.61	11.00
40	12	8.64	120	86.4	0.022	0.48	12.60
50	10	7.20	100	72.0	0.022	0.40	14.40
60	8	5.76	80	57.6	0.022	0.34	16.70
70	7	5.04	70	50.4	0.022	0.30	19.00
80	6	4.32	60	43.2	0.022	0.25	20.50

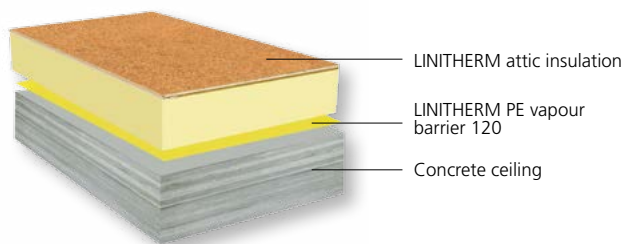
Delivery only in full packages.



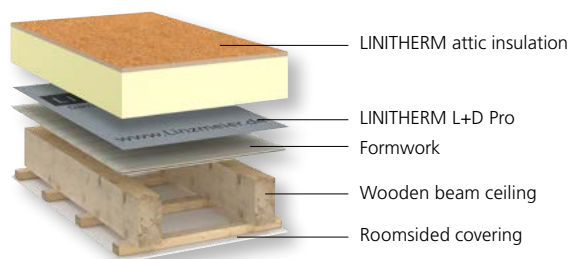
\* U-value calculation takes the thermal resistances  $R_{si} = 0.17$  [m²K/W] and  $R_{se} = 0.17$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.



Insulation on concrete attic floor that can be walked on and loaded



Insulation on concrete attic floor that can be walked on and loaded



## LINITHERM PHW PH 21201040

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Derived wood panel P5, thickness 10 mm
Edge joints	PU rigid foam serrated on all sides, derived wood panel round about with rebated joint
Overall dimension	1200 x 600 mm (= calculation measurement) (coverage is 1 cm smaller)

Thickness mm total	Thickness mm PU	Thickness mm P5 panel	Quantity of package Piece m <sup>2</sup>		Quantity of pallet Piece m <sup>2</sup>		PU λ <sub>D</sub> W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
70	60	10	4	2.88	64	46.1	0.022	0.34	35.90
90	80	10	3	2.16	48	34.6	0.022	0.26	39.50
110	100	10	3	2.16	42	30.2	0.022	0.21	44.40
130	120	10	3	2.16	36	25.9	0.022	0.18	49.20
150	140	10	2	1.44	32	23.0	0.022	0.15	53.80
170	160	10	2	1.44	28	20.2	0.022	0.13	58.60

Other thicknesses upon request/Delivery only in full packages.

## Accessories



## Wood glue PH 21209000

Quantity required Approx. 40 g/m<sup>2</sup>

	Size Content	Unit of quantity UQ	€/UQ
Bottle	550 g	piece	15.90
Bucket	10 kg	piece	112.40



## LINITHERM PE vapour control layer 120 PH 21209000

PE vapour control layer according to EN 13984, suitable for new buildings and restoration, s<sub>d</sub>-value 120 m ±10, fire resistant, fire class E, weight 150 g/m<sup>2</sup> ±10, colour yellow

Width/m	Length/m	Size/Roll m <sup>2</sup>	Unit of quantity/UQ	€/UQ
4	25	100	m <sup>2</sup>	1.20



## Edge insulation strips PH 21209000

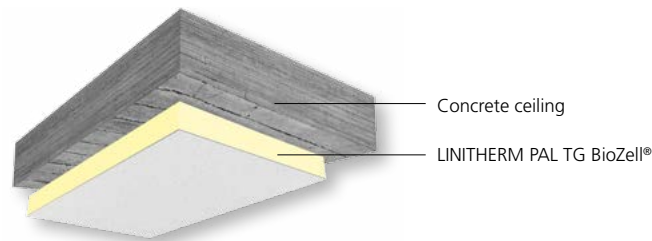
PE-Edge insulation strips, white, self-adhesive (adhesive surface max. 150 mm)

Thickness mm	Height mm	Packaging unit	Unit of quantity UQ	€/UQ
8	110	1 roll à 25 m	lm	0.70
8	150	1 roll à 25 m	lm	0.80
8	190	1 roll à 25 m	lm	0.90

\* U-value calculation takes the thermal resistances R<sub>si</sub> = 0.1 [m<sup>2</sup>K/W] and R<sub>se</sub> = 0.04 [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

# Insulation system for underground garages

insulation of underground garages  
under concrete ceiling



## LINITHERM PAL TG BioZell®

PH

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class C-s2 acc. to EN 13501-1, coated with aluminium foil on both sides				
Facing	Visible side = ecological fine plaster on a mineral base, thickness approx. 2 mm				
Edge joints	Tongue & groove joints on all sides				
Overall dimension	1200 x 600 mm (= calculation measurement) (coverage with tongue & groove is 2 cm smaller)				

Thickness mm PU	Quantity per pallet		$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
Piece	m²				
60	80	57.6	0.022	0.33	39.90
80	50	36.0	0.022	0.25	44.20
100	40	28.8	0.022	0.21	48.60
120	32	23.0	0.022	0.17	52.90
160	24	17.3	0.022	0.13	61.30

LINITHERM PAL TG BioZell® is classified as a flame-resistant insulation material according to DIN EN 13501-1 and is suitable for use in medium-sized garages (>100 m² to 1.000 m²). The regulations of the state building code or the locally applicable building regulations must be observed.



\* U-value calculation takes the thermal resistances  $R_{si} = 0.17$  [m²K/W] and  $R_{se} = 0.17$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.



Surface structure of  
LINITHERM PAL TG BioZell®

## Accessories



LINIFIX Fixation clamps					PH 21109010
	Length mm	Quantity required m <sup>2</sup>	Size Content	Unit of quantity UQ	€/UQ
galvanized	15 mm for thickness 60/80 mm; 20 mm for thickness 100 mm	2 pcs/element	100 pieces/ package	package	66.10



LINIFIX edge fixation clamps					PH 21109010
	Length mm	Quantity required m <sup>2</sup>	Size Content	Unit of quantity UQ	€/UQ
galvanized	25 mm	2 pcs/element	25 pieces/ package	package	22.30

Other fixation alternatives upon request.

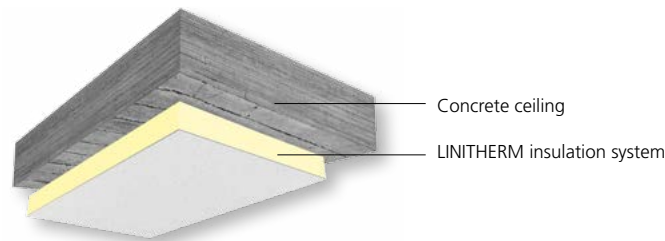


BioZell® repair kit					PH 21109010
Ecological BioZell® fine plaster, for covering cutting edges and repairing skips					
Quantity required	Approx. 0.5 kg/m <sup>2</sup>				
			Size Content	Unit of quantity UQ	€/UQ
			5 kg	bucket	54.20



BioZell® paint roller					PH 21109010
Application	For the application of the BioZell® repair kit, width 12 cm, pile height approx. 11 mm				
				Unit of quantity UQ	€/UQ
				piece	7.00

Insulation of cellar ceiling under concrete ceiling



**NEW: Now flame resistant**



**LINITHERM PAL KD BioZell®**

**PH 21101040**

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminium foil on both sides					
Facing	Visible side = ecological fine plaster on a mineral base, thickness approx. 2 mm					
Edge joints	Tongue & groove joints on all sides					
Overall dimension	1200 x 600 mm (= calculation measurement) (coverage with tongue & groove is 2 cm smaller)					

Thickness mm PU	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
60	8	5.76	80	57.6	0.022	0.33	39.90
80	6	4.32	60	43.2	0.022	0.25	44.20
100	5	3.60	20	36.0	0.022	0.21	48.60

Delivery only in full packages.



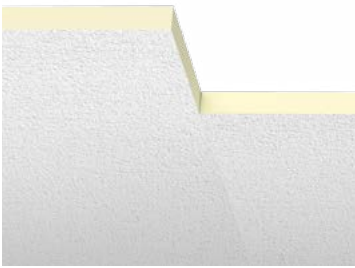
\* U-value calculation takes the thermal resistances  $R_{si} = 0.17$  [m<sup>2</sup>K/W] and  $R_{se} = 0.17$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.





Surface structure of  
LINITHERM PAL KD BioZell®

## Accessories



For insulation under heating pipes.



### LINITHERM PAL KD BioZell® cutting board

PH 21109010

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminium foil on both sides				
Facing	Visible side = ecological fine plaster on a mineral base, thickness approx. 2 mm				
Edge joints	Round about edgeless cut				
Overall dimension	1200 x 600 mm				

Thickness mm	Quantity per package		$\lambda_D$	U-value*	€/m <sup>2</sup>
PU	Piece	m <sup>2</sup>	W/(mK)	[W/(m <sup>2</sup> K)]	
20	5	3.60	0.022	0.83	34.70

Delivery only in full packages.

### LINIFIX Fixation clamps

PH 21109010

	Length mm	Quantity required m <sup>2</sup>	Size Content	Unit of quantity UQ	€/UQ
galvanized	15 mm for thickness 60/80 mm; 20 mm for thickness 100 mm	2 pcs/element	100 pieces/package	package	66.10

### LINIFIX edge fixation clamps

PH 21109010

	Length mm	Quantity required m <sup>2</sup>	Size Content	Unit of quantity UQ	€/UQ
galvanized	25 mm	2 pcs/element	25 pieces/package	package	22.30

Other fixation alternatives upon request.

### BioZell® repair kit

PH 21109010

	Ecological BioZell® fine plaster, for covering cutting edges and repairing skips
Quantity required	Approx. 0.5 kg/m <sup>2</sup>

	Size Content	Unit of quantity UQ	€/UQ
	5 kg	bucket	54.20

### BioZell® paint roller

PH 21109010

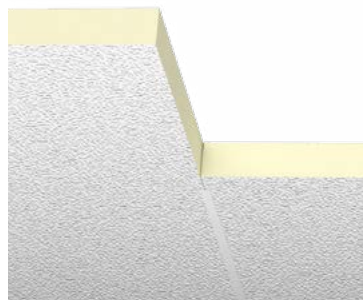
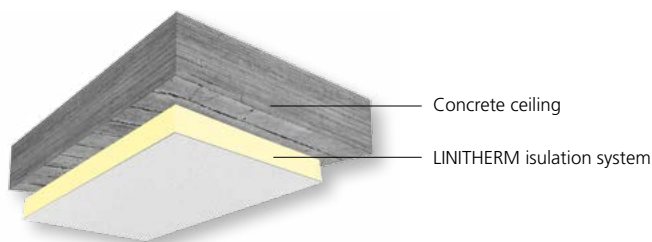
Application	For the application of the BioZell® repair kit, width 12 cm, pile height approx. 11 mm
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	Unit of quantity UQ	€/UQ
	piece	7.00

\* U-value calculation takes the thermal resistances  $R_{si} = 0.17$  [m<sup>2</sup>K/W] and  $R_{se} = 0.17$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

# Insulation systems for cellar ceilings

Insulation of cellar ceiling under concrete ceiling



## LINITHERM PAL KD

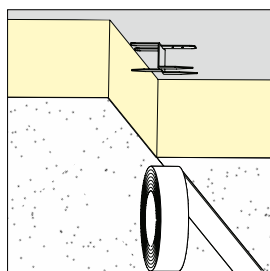
PH 21101010

Insulation core	PU rigid foam acc. to EN 13165, coated with silver aluminum film on both sides Thickness 40–60 mm: fire behavior class E acc. to EN 13501-1 Thickness 80–120 mm: fire behavior class C-s2,d0 acc. to EN 13501-1
Edge joints	Round about edgeless cut
Overall dimension	1200 × 600 mm (= calculation measurement)

Thickness mm PU	Quantity per package Piece	Quantity per package m <sup>2</sup>	Quantity per pallet Piece	Quantity per pallet m <sup>2</sup>	$\lambda_D$ W/(mK)	U-value* [W/(m <sup>2</sup> K)]	€/m <sup>2</sup>
40	12	8.64	120	86.4	0.022	0.46	20.20
60	8	5.76	80	57.6	0.022	0.33	25.60
80	6	4.32	60	43.2	0.022	0.25	32.00
100	5	3.60	50	36.0	0.022	0.21	38.30
120	4	2.88	40	28.8	0.022	0.17	44.40

Other thicknesses upon request. Delivery only in full packages.

## Accessories

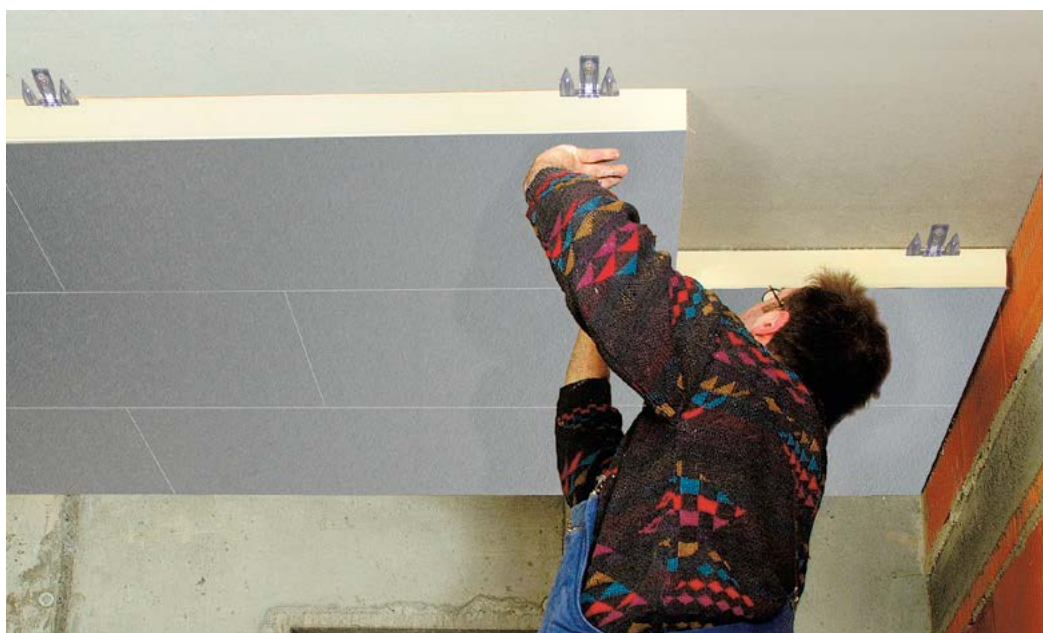


## Accessories LINITHERM PAL KD

PH 21109010

		Quantity required	Size	Content	Unit of quantity UQ	€/UQ
Adhesive tape	PP-adhesive tape	2.5 lm/m <sup>2</sup>	50 mm	roll 50 lm	lm	0.60
LINIFIX fixation claws	2-sided 25 mm	2 pcs/element	25 mm	100 pieces	package	36.00
LINIFIX edge fixation clamps	galvanized	2 pcs/element	25 mm	25 pieces	package	22.30

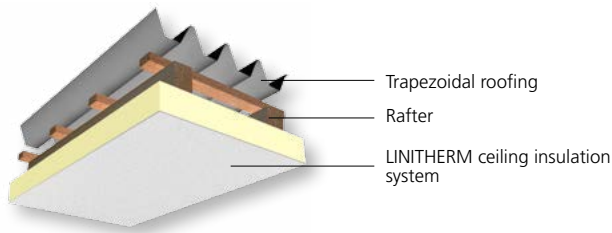
Other fixation alternatives upon request.



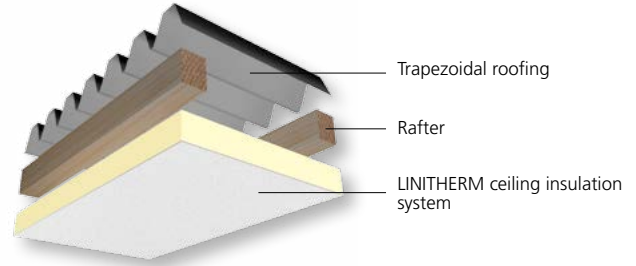
\* U-value calculation takes the thermal resistances  $R_{si} = 0.17$  [m<sup>2</sup>K/W] and  $R_{se} = 0.17$  [m<sup>2</sup>K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

# Ceiling insulation system for warehouses and production facilities

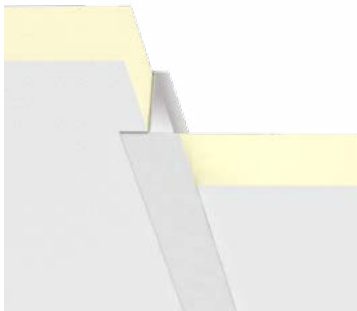
Insulation of a hall roof, with white interior surface



Insulation of a hall roof under trapezoidal roofing, with white interior surface



## New dimension



### LINITHERM PAL S

PH 21100000

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, coated with aluminum film on both sides
Facing	Visible face = aluminum foil, white lacquered
Edge joints	Round about edgeless cut
Overall dimension	2400 x 1200 mm (= calculation measurement)

Thickness mm PU	Quantity per pallet Piece		$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
40	60	175.68	0.022	0.51	25.60
60	40	117.12	0.022	0.35	30.10
80	30	87.84	0.022	0.27	36.80
100	24	70.27	0.022	0.21	43.40

## Accessories

### L-wall connection profile

PH 21109010

	Measurement mm	Length mm	Unit of quantity UQ	€/UQ
PVC grey-white	30/30	6000	1m	3.30

### H-type joint profile

PH 21109010

	Measurement mm	Length mm	Quantity required/m²	Unit of quantity UQ	€/UQ
PVC white	54/41/34	5000	1.25 1m	1m	1.90
PVC white	54/61/34	5000	1.25 1m	1m	2.20
PVC white	55/81/35	5000	1.25 1m	1m	2.80
PVC white	60/101/40	5000	1.25 1m	1m	3.40

**NEW**



**NEW**



### LINIFIX fixation clamps

PH 21109010

	Measurement mm	Length mm	Quantity required/m²	Unit of quantity UQ	€/UQ
galvanized	70/70/65	70	3 pieces	piece	0.80

\* U-value calculation takes the thermal resistances  $R_{si} = 0.1$  [m²K/W] and  $R_{se} = 0.04$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.

triangle dormer



gabled dormer



flat roof / shed dormer



hipped dormer



barrel dormer



flat roof dormer



## LITEC GBS dormer building system kit

PH 31

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, thickness 22 mm
Please note	Individual factory-made parts according to construction plan, incl. wooden construction elements

Panel thickness mm €/building kit

144, 164, 184, 204

Dormer building kit

Price upon request

Additional static calculations

Invoicing at cost

LITEC GBS M

Also available with integrated soundproofing panel, thickness 40 mm for improved soundproofing properties  
panel thicknesses 164 (80 + 40), 184 (100 + 40), 204 (120 + 40) mm

Price upon request

## LITEC GS dormer renovation board

PH 31

Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, with aluminum foil on both sides
Facing	Outside: derived wood panel P5, thickness 22 mm
Format	2440 × 1200 mm

Thickness mm total	Thickness mm PU	Thickness mm derived wood panel	$\lambda_D$ W/(mK)	U-value* [W/(m²K)]	€/m²
82	60	22	0.022	0.33	44.50
102	80	22	0.022	0.25	48.70
122	100	22	0.022	0.21	52.80
142	120	22	0.022	0.17	57.00
162	140	22	0.022	0.15	60.90

Also available in other pre-assembled dimension and thickness

Price upon request

Other thicknesses upon request.



\* U-value calculation takes the thermal resistances  $R_{s1} = 0.13$  [m²K/W] and  $R_{s2} = 0.04$  [m²K/W] into account. Building-specific characteristics for example as per EN ISO 6946 are not taken into account.





LITEC skylight base

LITEC attica element



**LITEC VELUX skylight base for flat skylights****PH 31**

Insulation core	PU rigid foam acc. to EN 13165, thickness 60 mm, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, thickness 15 mm
Please note	Individual factory-made parts according to construction plan, incl. wooden construction elements
Scope of delivery	Pre-assembled component parts, 15 m compriband 20 x 15 mm, fixing material: 10 pcs 4.5 x 50 mm, 10 pcs 5 x 120 mm
Height	According to requirements

Other formats available upon request.Price upon request



**LITEC DAR skylight installation frame upon flat roofs****PH 31**

Insulation core	PU rigid foam acc. to EN 13165, thickness 60 mm, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, thickness 15 mm
Please note	Individual factory-made parts, incl. wooden construction element

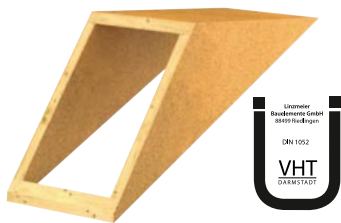
	Inner dimensions of flashing, width in mm	670	710	750	790	800	950	1000	1150	1200
VELUX	Window width mm	660			780		940		1140	
Roto WD/NE	Window width mm		650			740		940		1140
Roto	Window width mm	650		740			940		1140	

Kerb flashing	Window width mm	€ / Piece				
20°	VELUX	Roto WD/NE	Roto			
	980	1040	980	768.00	771.00	
	1180	1240	1180	800.00	805.00	820.00
	1400	1460	1400	824.00	844.00	858.00

Other formats or combinations available upon request for special window sizes



LITEC building system



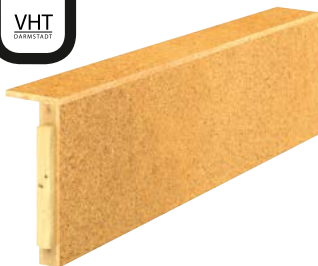
**LITEC DAR skylight installation frame for pitched roofs**

**PH 31**

Insulation core	PU rigid foam acc. to EN 13165, thickness 60 mm, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, thickness 15 mm
Please note	Individual factory-made parts, incl. wooden construction element

Other formats for special window sizes or window-combinations available upon request.

Price upon request



**LITEC parapet element**

**PH 31**

Insulation core	PU rigid foam acc. to EN 13165, thickness 60 mm, fire behavior class E acc. to EN 13501-1, with mineral fleece on both sides
Facing	Inside and outside: derived wood panel P5, thickness 15 mm
Please note	Individual factory-made parts according to construction plan, incl. wooden construction elements
Specification	Top cover 240 mm wide, loose. On request, lower sill loose for surface mounting.

Thickness mm total	Height mm	Length mm	Unit of quantity UQ	€/UQ
90	350	2500	lm	67.00
90	600	2500	lm	78.00
90	750	2500	lm	92.00

Other thicknesses upon request.



LITEC  
restoration bar



## LITEC restoration bar Fix

PH 31



Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, thickness 60 mm, coated with aluminum film on both sides				
Facing	Outside three-layered spruce wood panel, thickness 22 mm				
Please note	With solid structural timber (KVH) 1 x lengthwise and 1 x crosswise				
Application	For over-insulating of the airtight connection at verge and eaves. The spruce triple-layer board can be painted, glazed, leaded or cladded with slate.				

Thickness mm total	Thickness mm PU	Height mm	Lenght mm	Unit of quantity UQ	€/UQ
82	60	600	2500	lm	76.00
				m <sup>2</sup>	126.67

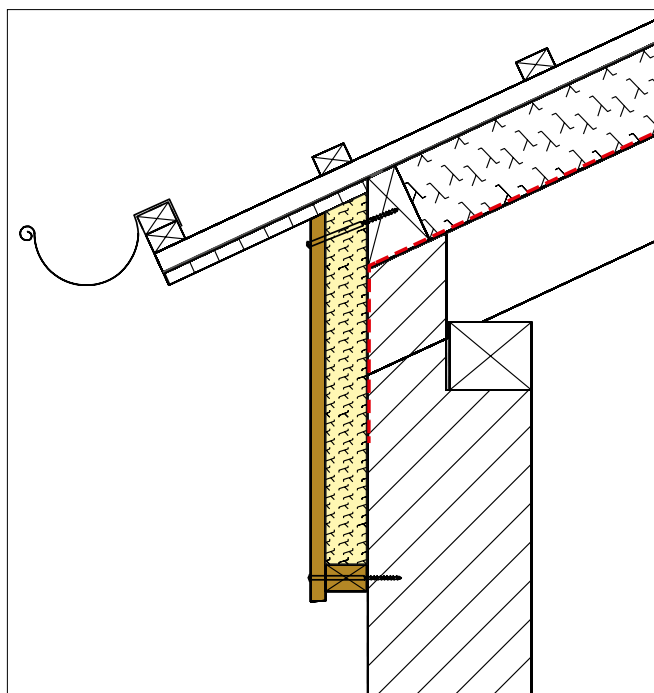
## LITEC restoration bar Standard

PH 31

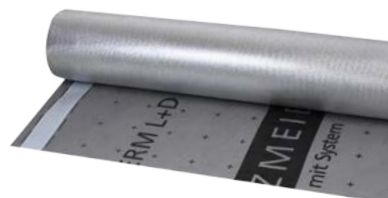


Insulation core	PU rigid foam acc. to EN 13165, fire behavior class E acc. to EN 13501-1, thickness 60 mm, coated with aluminum film on both sides				
Facing	Outside three-layered spruce wood panel, thickness 22 mm				
Application	For over-insulating of the airtight connection at verge and eaves. The spruce triple-layer board can be painted, glazed, leaded or cladded with slate.				

Thickness mm total	Thickness mm PU	Height mm	Lenght mm	Unit of quantity UQ	€/UQ
82	60	600	2500	lm	75.00







## LINITHERM L+D Pro

PH 21009030

PP-vapour barrier and airtightness membrane for roof, ceiling and wall constructions, Polypropylene nonwoven, aluminized polypropylene, fire behavior class E acc. to EN 13501-1, s<sub>d</sub>-value 2 m, temperature resistance – 30 °C to + 80 °C , lengthwise overlapping on both sides with acrylate-adhesive tape

Width m	Length m	Size roll m <sup>2</sup>	Quantity per package	Unit of quantity UQ	€/UQ
1.5	50	75	24 rolls	m <sup>2</sup>	3.10



## LINITHERM L+D adhesive tape

PH 21009030

For LINITHERM L+D Pro

Width mm	Size roll	Quantity per package	Unit of quantity UQ	€/UQ
60	25	10 rolls	lm	1.70



## LINITHERM sealing apron

PH 21009030

Tear-resistant, elastic polymer foil, with mineral fleece on both sides, incl. compriband 3 × 15 mm

Width mm	Size roll lm	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	4.50
400	10	5 rolls	lm	7.00
600	10	5 rolls	lm	8.60



## Adhesive tape BK

PH 21009020

Application recommendation Butyl rubber, thickness 1 mm, for sealing coves, ridges, etc.

Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
200	10	5 rolls	lm	8.00
300	10	2 rolls	lm	13.50



## T-Adhesive tape

PH 21009020

Application recommendation Polyacrylate adhesive tape

Width mm	Size roll m	Quantity per package	Unit of quantity UQ	€/UQ
200	25	4 rolls	lm	4.20



## LINITHERM 1K-PU-spray foam

PH 21009000

LINITHERM filling foam, incl. recycling fee

Consumption for approx. 10 mm joint width	Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Approx. 8–10 lm	Can 600 ml	12 cans	piece	9.10



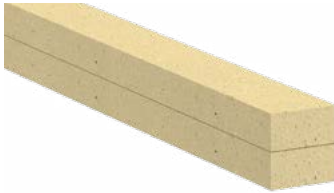
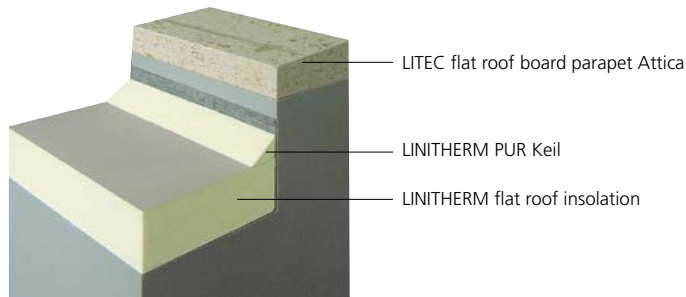
## LINITHERM 1K-PU-pistol foam

PH 21009000

LINITHERM filling and sealing foam, incl. recycling fee

Consumption for approx. 10 mm joint width	Size Content	Quantity per package	Unit of quantity UQ	€/UQ
Approx. 10–12 lm	Can 750 ml	12 cans	piece	9.30





## LITEC Flat roof board universal

PH 31

Insulation core	Multiple glued layers of LINIREC construction boards, raw density approx. 550 kg/m <sup>3</sup> , class E acc. to EN 13501-1, can be used in temperature range of –50 °C to +100 °C, short-term peak temperature range of up to +250 °C							
Thermal conductivity	20–40 mm: $\lambda_D$ 0.083 W/(mK); 50–60 mm: $\lambda_D$ 0.085 W/(mK); 80–200 mm: $\lambda_D$ 0.088 W/(mK)							
Width mm	50	100	125	175	240	360	425	490
Length mm	2440	2440	2440	2440	2440	2440	2440	2440
Thickness mm	€/lm							
20	3.70	6.90	8.70	11.80	16.80	24.80	27.20	31.60
30	5.10	10.10	11.90	17.20	22.90	34.80	40.90	47.40
40	6.80	13.00	16.80	22.70	31.40	46.80	54.60	63.00
50	8.40	16.10	20.60	28.40	39.30	58.70	68.20	78.70
60	10.10	18.90	24.40	33.70	46.10	68.80	82.20	94.50
80	12.80	25.70	32.20	45.00	61.60	92.50	109.50	125.80
100	16.10	32.20	40.30	56.20	77.10	115.60	136.40	157.60
120	19.60	39.30	48.30	67.20	92.50	138.80	163.70	189.00
140	22.30	45.00	56.20	78.70	107.90	162.00	191.10	220.70
160	25.70	51.50	64.40	90.00	123.40	184.90	218.50	252.00
180	28.60	58.20	72.50	101.20	138.80	208.30	246.10	283.50
200	32.20	64.40	80.30	112.80	154.00	231.70	273.10	314.90

Further dimensions and pre cut parts upon request.



## LITEC flat roof board parapet Attica

PH 31

Insulation core	Multiple glued layers of LINIREC construction boards, raw density approx. 550 kg/m <sup>3</sup> , class E acc. to EN 13501-1, can be used in temperature range of –50 °C to +100 °C, short-term peak temperature range of up to +250 °C							
Thermal conductivity	20–40 mm: $\lambda_D$ 0.083 W/(mK); 50–60 mm: $\lambda_D$ 0.085 W/(mK); 80–100 mm: $\lambda_D$ 0.088 W/(mK)							
Please note	Upper side bevelled with 5% inclination							
Width mm	50	100	125	175	240	360	425	490
Length mm	2440	2440	2440	2440	2440	2440	2440	2440
Thickness d mm	€/lm							
20	6.80	10.20	11.60					
30	8.00	12.70	15.30	19.90				
40	10.10	16.70	19.60	25.70	34.50			
50	11.30	19.60	24.10	31.80	42.00	61.60		
60	12.70	22.30	28.50	36.70	48.70	74.00	95.50	110.20
80	15.10	30.40	37.70	52.50	71.90	107.80	127.20	146.70
100	18.70	37.70	46.30	65.60	90.00	135.00	159.10	183.80

Further dimensions and pre cut parts upon request.

as door and window reveals



for furniture manufacture



as filling of partition walls



applications



LINIREC construction board				PH 41
Insulation core	Made of recycled PU rigid foam, with European Technical evaluation (ETA 19/0193)*, raw density approx. 550 kg/m³, EN 1602, can be used in temperature range of – 50 °C to +100 °C			
Thermal conductivity	20–40 mm: $\lambda_D$ 0.083 W/(mK); 50–60 mm: $\lambda_D$ 0.085 W/(mK)			
Compressive stress	$\geq 7,1$ MPa, EN 826 (fluctuations depending on the used flour / grain size, binder and binder mixture)			
Thickness swelling	0.8 % according to EN 68763			
Edges	Round about edgeless cut			
Dimension	2440 x 1220 mm			
Thickness mm PU	Quantity per pallet Piece m²		$\lambda_D$ W/(mK)	€/m²
15*	40	119.1		39.10
20	30	89.3	0.083	44.80
25	24	71.4	0.083	51.70
30	20	59.5	0.083	60.70
40	15	44.7	0.083	75.80
50	12	35.7	0.085	94.90
60	10	29.8	0.085	113.70

Other thicknesses upon request

\* Thicknesses < 20 mm are not monitored – deviations of the technical data are reserved.

The palletizing of our LINIREC construction boards is performed on solid wooden oneway pallets. The pallets are invoiced with 15,- € per pallet.

## Application areas

- suitable for thermal separation in buildings acc. to the Energy Performance of Buildings directive as well as in passive houses due to its good insulating properties
- thermal separation in facade construction
- connections for full thermal protection
- detailed solutions for pitched and flat roofs
- skirting board cladding of wood facades
- base paneling for timber facades
- as profiles and moldings
- filling of partition walls
- vehicle construction
- furniture manufacture (especially for wet rooms)

## Benefits

- with European Technical evaluation ETA 19/0193\*
- high thermal insulation
- hard, high mechanical strength
- moisture and mould resistant
- mildew resistant
- resistant to ageing
- non-rotting
- biological and building-ecological harmless
- resistant against mineral oils, acetone, methylene chloride, diluted alkalis and acids
- material can be processed using standard woodworking machines and tools

The LINIREC construction board consists of recycled PU rigid foam. The boards can be processed using standard woodworking machines and tools.

The construction boards have a high mechanical strength and are resistant to moisture.

Furthermore the LINIREC construction boards ensure reliable and extremely durable solutions for pitched and flat roofs.

## Trust the insulation material, which proves itself daily

LINITHERM consists of PU rigid foam, a polyurethane plastics. Countless small cells ensure that cold and heat can penetrate only very slowly. Polyurethane plastics are multifunctional, modern and secure. They can be adapted (to the designated use), in various forms, hard or soft. We use polyurethane daily – at home, in the office and in the car, during sports and on vacation.

## Polyurethane is used ...

... in the cushioning  
of your couch



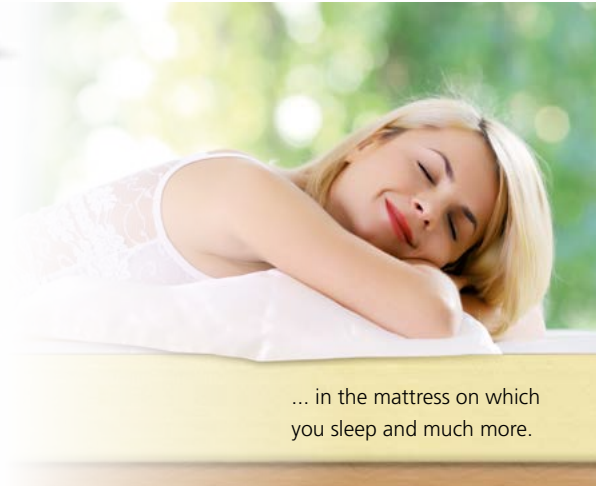
... in the dashboard, seat  
and steering wheel of your car



... in the soles of your shoes



... in your fridge



... in the mattress on which  
you sleep and much more.

Our insulation systems and building elements made of the high-performance insulation material PU rigid foam have many benefits:



### THE HEALTHIER ROOF

Exemplary healthier building.  
Sustainable healthier living.



Low thermal conductivity  $\lambda_D$  0.022 or  
 $\lambda_D$  0.025 / 0.026 / 0.028.



Optimal cold and heat protection.



Maximum insulation with minimum panel thickness.



The insulation elements are easy to transport and can be  
installed quickly and easily, are pressure resistant (120 kPa)  
and dimensionally accurate & stable.



Moisture resistant, does not rot, resistant against fungi,  
microbes, does not decompose.



With LINITHERM insulation systems, one can receive solutions  
which will also fulfill higher requirements to noise protection.



PU rigid foam has an excellent mould resistance when  
performed properly. LINITHERM PAL SIL for the exterior wall  
insulation from the inside ensures with the room sided silicate  
board a surface which is insensitive to mould and moisture.



Low emissions and physiologically safe.



LINITHERM insulation systems PAL  $\lambda_D$  0.022 ensure  
an excellent protection against electric smog.



Recyclable.



Save energy sustainably.  
Positive building biology.



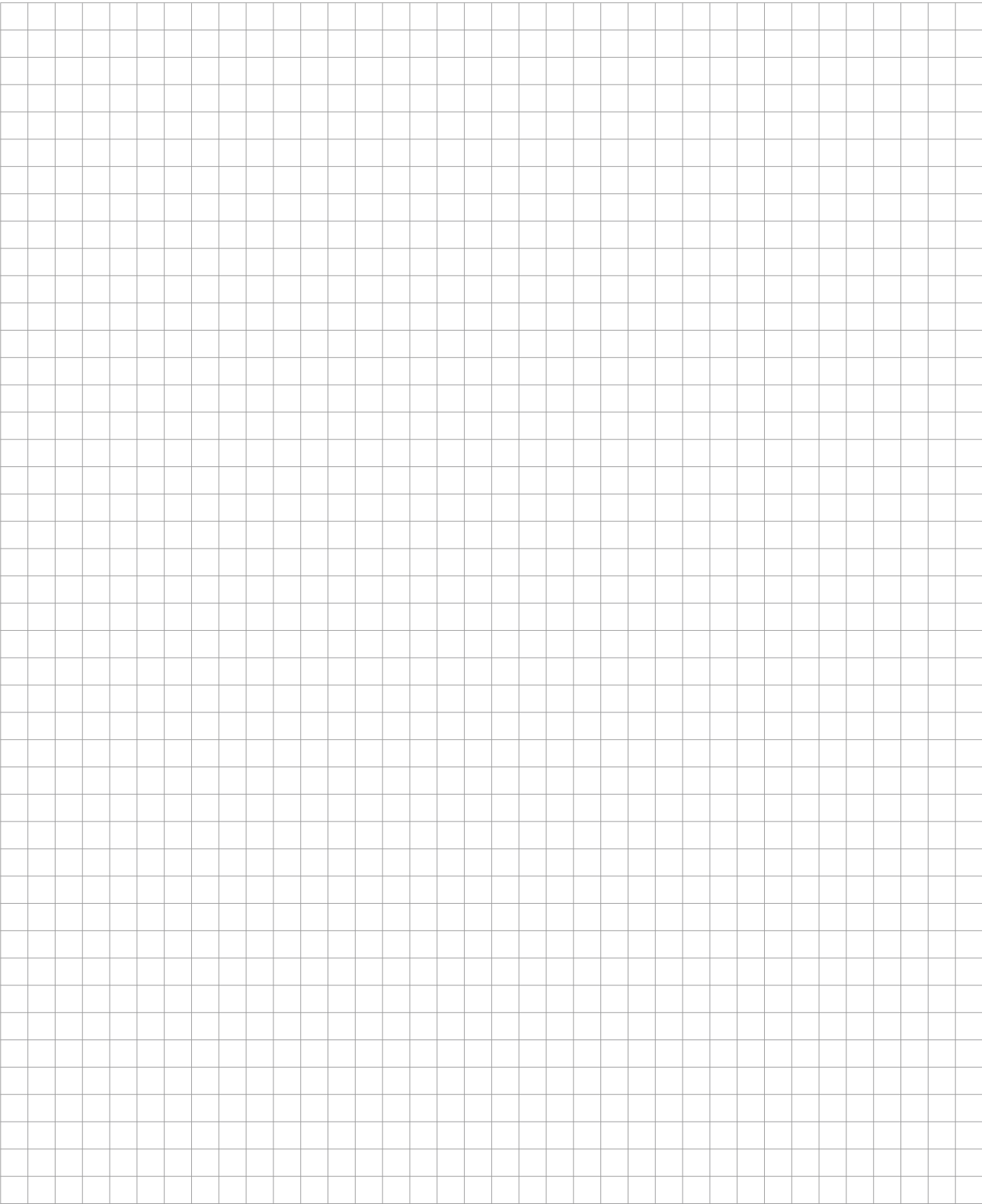
The insulation systems based on PU rigid foam are offered  
with fire behavior classe E according to EN13501-1  
the product LINITHERM PAL W with fire behavior class C-s2, d0  
according to EN 13501-1 – equals the national construction  
supervisory designation: »of low flammability«.



Highest hail resistance class (5)



We provide 10 years of system warranty in case of using the  
LINITHERM accessory products in addition to our LINITHERM over  
rafter insulation system (Page 17 – Page 21: Products for air-  
tightness, sealing, fixing, miscellaneous, roof window insulating  
frame). The installation instructions of company Linzmeier have  
to be observed and the roof construction has to be executed  
according to standards and specifications.





**Price basis** All prices are net in Euro and subject to statutory VAT.

**Freight basis** Deliveries abroad EXW ex works – without unload  
(INCOTERMS®2020)  
Freight charges upon request.

**Delivery date** Fixed dates are not possible. The delivery takes place with the time slot morning/afternoon. Schedule changes/postponements are possible up to 5 working days before the scheduled loading date. The agreed delivery dates are met by us as far as possible, however, they are always non-binding indications. Claims arising from delayed delivery or eventual damage compensation entitlements are excluded.

**Validity of price** Forementioned prices are valid until a new price list is published. After publication of this new price list all earlier versions are no longer valid. The prices are subject to change. The prices charged are based on those valid on the date of delivery. This price list is based on our general terms of purchasing, delivery and payment.

**Packaging** The palletizing of our LINITHERM insulation systems and LITEC building systems is performed on wooden oneway pallets or oneway foam pads. These will not be invoiced separately.

The palletizing of our LINIREC construction boards is performed on solid wooden oneway pallets. The pallets are invoiced with 25,- € per pallet.

**Disposal** PU rigid foam is free of HBCD.

**Terms and conditions** The order acceptance and delivery is based on our »General Terms and Conditions of Business for use in commercial transactions with businesses«.

Please find the current version of our GTC on the Internet for download at:  
<https://www.linzmeier.de/en/company/terms>.

# LINZMEIER

## Insulate with system



For years our established LINITHERM insulation systems have been produced according to EN 13165 and are under regular control of the Überwachungsgemeinschaft Polyurethan-Hartschaum e.V., Stuttgart (Germany).



pure life is a seal of approval issued by the ÜGPU association

The seal »pure life« is the new environment quality label for PU insulation. Only products which meet the strict criteria and come from a monitored production are allowed to carry the seal.



LITEC building systems with integrated timber frame constructions are produced according to DIN 1052 and are subjected to continuous quality checks.



### SENTINEL HAUS INSTITUT

Gesünderes Bauen und Wohnen

LINITHERM polyurethane insulating materials by Linzmeier are listed by the Sentinel Haus Institut in its »Building Directory Healthier Buildings«. This is based on extensive emission tests.



The Environmental Product Declaration according to DIN ISO 14025 provides a basis for sustainable construction and environmental assessment of buildings.



The bio-based raw material components of LINITHERM LOOP insulation systems are certified according to REDcert² with the verification procedure of the biomass balance approach.



Thermal insulation is an important contribution to climate protection. Well insulated buildings need less fossil energy and therefore emit less CO<sub>2</sub>. Better structural thermal insulation does not require thicker insulation layers, but more efficient insulation materials. High-performance insulation materials made of rigid polyurethane foam (PU) with its diverse application possibilities are the future technology for energy-efficient buildings. The IVP industry association supports this.

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Pitched roof

Flat roof

External wall  
from outside

Interior

External wall  
from inside

Floor  
Attic floor

Ceiling

LITEC building  
system

LINIREC