

LITEC®

building systems

LINZMEIER

building elements

Roofing elements

ENERGY ROOF



Protecting, insulating, generating power: tailor-made roofing system for gabled and monopitch roofs



No substructure required

Roof covering e.g. with tiles, not necessary

High insulation performance with PUR/PIR.

Harmonises with all wall structures



Using roof areas – tapping solar energy

The sun supplies energy, free of charge, environmentally-friendly, even with cloudy skies. So why not make use of a large roof area? We at LINZMEIER pursued this idea and combined our thermally insulated elements with power generating, flexible roof sheeting.

This patented system effectively uses the light spectrum even if the roof surfaces are not optimally pitched and aligned. Power is generated in any daylight conditions. Therefore, a roofing technology equipped with photovoltaic modules is on the market, which will become a firm constituent of advanced energy concepts in house building in the face of pressing environmental problems – not only in residential, but also in commercial and industrial construction.



LITEC energy roof – the revolution in roofing construction

The LITEC energy roof unites all functions of a good roof. It neither requires a substructure nor an additional roof covering, for examples by means of tiles. It is suitable for all gabled and monopitch roofs.

The perfect composite structure of the roof elements fulfils all structural physical requirements on a modern roof. The regulations of the Renewable Energy Law (EEG) are adhered to without additional measures having to be taken.

The prefabricated roof elements are tailor-made for each building and only need to be installed, welded and connected. All cables and connections are laid up to the edge of the roof elements.



The energy roof data of the illustrated building

Alignment: North

Roof pitch: 10°

Area: 111.6 m²

Output: 45 W_p/m²

Yield: 3.934 kWh/a

The installation of the energy roof can take place at any time of the year and in almost any weather conditions.

With the high-performance insulation PUR/PIR for slim roof structures

The LITEC energy roof is highly insulated with PUR/PIR rigid foam. Summer heat cannot penetrate into the building and the heat remains in the house during the cold season.

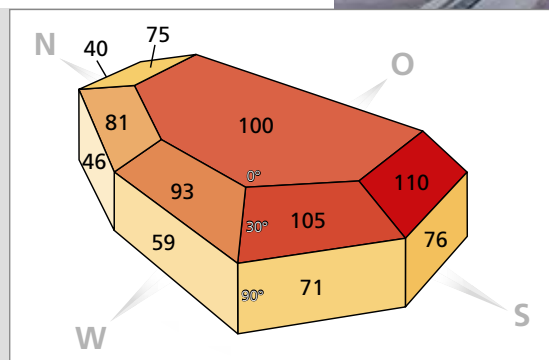
At the same time, the high-performance insulation material enables slim construction, as it provides excellent insulating values at low construction heights. Thus, the individual elements in the overall structure – with plywood panel as top and bottom layers and the solar roof sheeting – are only 315 mm to 355 mm thick and achieve a first-class U-value of 0.16 W/(m²K) to 0.13 W/(m²K).

Each of the roofing elements is prefabricated, the length depends on the respective building dimensions and can measure up to 13 metres. If necessary, the LITEC energy roof bridges large widths and is suitable for almost any architecture.



Waterproof and power generating – the flexible solar roof sheeting

As all plastic roof sheeting, the solar sheet permanently protects the building from rain, wind and weather. Thanks to the integrated, flexible photovoltaic modules it is also capable of generating electrical energy from sunlight – with minimum effort. This power-generating roof cladding ensures high yields, even more than the usual crystalline solar cells with the same rate capacity when aligned in the same direction. Triple-junction thin film technology makes perfect use of the light spectrum - a technology that has proven itself in practice since 1999.



The global radiation on variously pitched and aligned surfaces in percent, whereby 100% equals 1000 kWh/m²·

LITEC energy roof: install, weld, connect – finished

Technical data

Insulation core:	PUR/PIR rigid foam according to DIN EN 13165, building material class B2, application type PUR 026 WH, density approx. 33 kg/m ³ clad on both sides with mineral fleece
Outer surfaces:	plywood panel inside, thickness 22 mm plastic roof sheeting outside, with integrated photovoltaic modules
Please observe:	individual parts prefabricated according to construction kit plan including wooden construction elements
Length:	max. 13,000 mm, acc. to building dimensions
Width:	optimised to building dimensions, max. 2,878 mm
Output:	approx. 45 Wp/m ²

Elements thickness mm		€/construction kit without VAT
315 mm	U-value 0.16 W/(m ² K)	Price upon request
335 mm	U-value 0.14 W/(m ² K)	Price upon request
355 mm	U-value 0.13 W/(m ² K)	Price upon request
Static calculations		at cost

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