

# LINZMEIER

Insulate with system

## General information and examples for the installation of interior wall installation LINITHERM PAL SIL and LINITHERM PAL SIL L

### Interior construction

Inner wall insulation  
for new and old buildings

## LINITHERM®

### Installation

Preliminary remarks WI-V

General WI-A  
installation information  
for interior construction

1. Interior wall WI-I  
WI-la  
WI-lb
2. Building corner WI-GI  
WI-GA
3. Storey ceiling WI-GD  
WI-GDa
4. Windows WI-F  
WI-Fa
5. Wall sockets WI-S

LINITHERM PAL SIL L WI-IL



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

<b>WI-V</b>	
<b>Delivery</b>	LINITHERM insulating elements are delivered on pallets. Great care must be taken when unloading and transporting on the building site. The elements must be stored flat on level, and dry ground. During all work (installation, cutting to size, etc.), attention must be paid that no damage is done to the elements. The insulating composite panels must be protected from moisture penetration during storage, transport and installation.
<b>Safety provision</b>	The safety regulations on the building sites must be observed.
<b>Rules of construction technology</b>	LINITHERM insulation systems are high-quality products for the most various insulation solutions. The elements are manufactured on modern production facilities in top-quality, flawless condition. In order to achieve the benefit of an optimal insulation solution, proper installation of the product is essential. <b>Our installation-related recommendations schematic information for the buyer and do not claim to be fundamentally valid, nor do they substantiate an entitlement to a guarantee. Each building offers different prerequisites; therefore the general procedure is to follow the rules of construction technology for each specific building.</b>
<b>Accessories</b>	We offer appropriate and suitable accessories for proper installation: e.g. LINIFIX screws, spray foam, connection aprons, compribands, etc.
<b>Tools</b>	Only a few tools, which are usually available on any building site, are required for the installation of LINITHERM insulation systems. Suitable tools are, e.g.: Hand-held circular saw with guide rail, hand saw, aligning board with spirit level, cordless screwdriver, drill, notched trowel, stapler, etc.
<b>Principles</b>	<p>The following points must generally be observed during the installation of the LINITHERM elements:</p> <ul style="list-style-type: none"> <li>• The elements must be fully pushed together in longitudinal and transverse direction, in order to achieve a full-surface and consistent thermal insulation layer.</li> <li>• Cross joints should be avoided.</li> <li>• Any damage must be properly repaired (e.g. by foaming, levelling, ...).</li> <li>• All preparatory work (e.g. installation of cables etc.) should be finished by the beginning of the installation of the LINITHERM insulation elements.</li> </ul> <p>These installation instructions refer to the application area of external wall insulation from the inside. Through restoration of this part, other parts can be affected, e.g. the building physics of the complete building. In case of doubt, an appropriate expert/building physics needs to be consulted on site.</p> <p>Various important detailed points are stated on the following pages. Our suggestions only represent a limited selection. The planning requirements and specialised regulations, however, must always be adhered to.</p>
<b>Installation options</b>	<p>LINITHERM insulation systems for interior construction can be installed in various ways:</p> <ul style="list-style-type: none"> <li>• Installation of the elements directly on the already plastered brickwork (renovation). The brickwork must be examined in advance to establish whether the brickwork and the plaster are still sound. Any faulty points must be repaired beforehand.</li> <li>• Installation of the elements directly on the unplastered brickwork/concrete (new building).</li> <li>• The following criteria must furthermore be observed for interior insulation measures: The outer wall must be dry (intact horizontal and vertical barrier layers). In the event of any existing moisture damage/mildew infestation, drying and renovation of the existing wall must be carried out prior to the application of the interior insulation.</li> <li>• The driving rain protection must be functional, otherwise the moisture content of the wall must be examined.</li> <li>• Due to the interior insulation, the temperature in the outer wall is reduced. Therefore, the risk of frost in the water pipes installed in the outer wall increases.</li> </ul>

## General installation information

The installation of the elements should generally take place in a dry state, after the building moisture has dried out.

The fastening of loads (e.g. wall lamps) takes place in the brickwork. Lightweight attachments could possibly be fastened with suitable insulation dowels. The specifications of the respective manufacturer must be observed.

The elements are air-tight due to the types of bonding stated below, the tongue and groove connection (loose tongue) as well as the levelling of the surface with filler. For corner and mitred joints, a paper joint tape acc. to DIN EN 13963 or similar is to be applied with filler. (see e.g.: WI-I, WI-G, WI-F).

If the elements are penetrated, the penetration elements must be connected accordingly in an air-tight manner (air-tight cavity wall boxes, cable sleeves, ...)

Particular attention must be paid that there is no possibility of water penetration behind the insulation panels. This can be achieved on the one hand by means of full-surface bonding of the product (application of adhesive using a notched trowel), and on the other hand by means of edge bead + spot bonding. (Fig. 1)

The adhesive can be directly applied to the aluminium foil backing. The following adhesive is recommended for the gluing of the insulation system:

– SK leicht (Schwenk or Akurit) or alternatively SM 700 Pro (Knauf)

Irregularities in the wall can be compensated using the adhesive, if necessary.

Caution: The thicker the layer of applied adhesive, the longer the setting time!

The processing instructions of the manufacturer must be especially observed here!

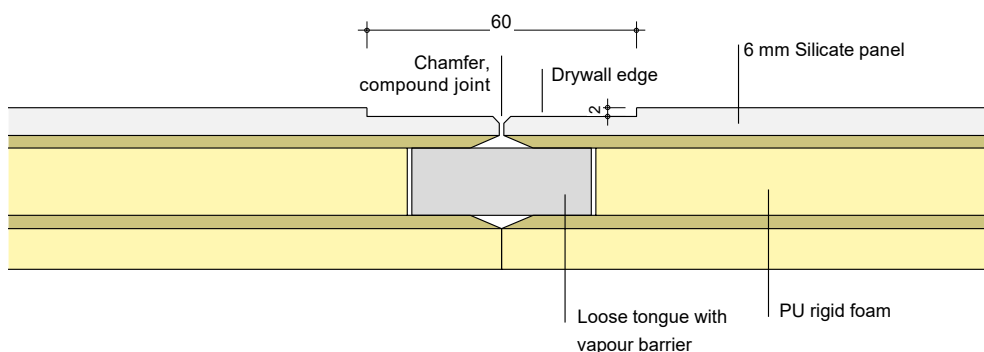
The installation of the elements can begin after inspection of the load-bearing capacity of the wall/plaster.

The first panel is adapted and aligned. Attachment to the wall takes place applying one of the two adhesive systems stated above. Depending on the room height, the panels may also need to be butt-jointed in length (height). For this purpose, the loose tongue is inserted into the transversal joint of the element. The next element is now adapted and inserted to fit closely into the transversal joint of the previous element. In doing so, attention must be paid that a straight edge (flush) is formed for the connection of the next row. At the end of the first row the last panel is cut to size and mounted. The emerging cut is used as the first panel for the next row. (endless installation).

(When connecting the elements to transverse walls, it is recommendable to attach an isolating strip to the wall (see e.g. detail WI-I).

Please note: The transversal joint must be offset by at least 30 cm.

## Edge formation



## WI-A

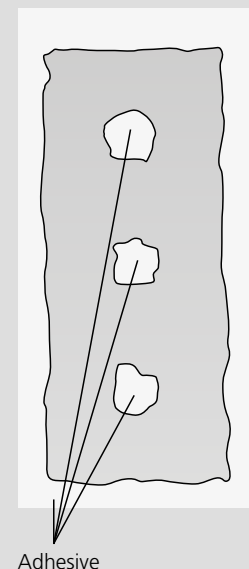
Building moisture

Loads

Creation of the air tightness

Installation/Gluing

Fig. 1



WI-A

Mechanical attachment



Filling work

**General installation information**

After adaptation and attachment of the last row of panels, the cavities of the connecting joints are foamed.

Protruding foam residues can be cut off when the foam has hardened. The joint should be open for filling in the thickness of the silicate panel.

After the adhesive has set, the elements must be additionally mechanically fastened with LINIFIX frame screws to the wall at the longitudinal joint (plywood tongue) respectively. A 6 mm hole must be drilled for the fixation of the panels. 3 fasteners per element (element length 2.50 m) are required.

LINIFIX frame screws are self-tapping and do not require any additional dowels in the solid wall.

The following screw lengths are normally used for installation:

LINITHERM PAL SIL 36 mm:	LINIFIX frame screw 72* or 92** mm
LINITHERM PAL SIL 46 mm:	LINIFIX frame screw 82* or 102** mm
LINITHERM PAL SIL 66 mm:	LINIFIX frame screw 102* or 122** mm

\* Screw length for concrete, sand-lime bricks and solid bricks

\*\* Screw length for pumice, lightweight aggregate concrete, brickwork

The connections and joints are subsequently filled.

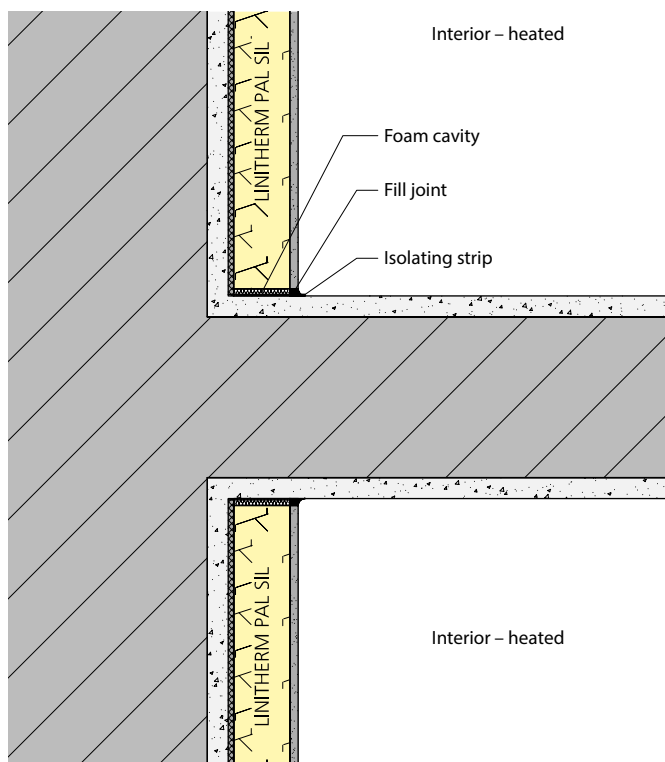
The quality of the filling is based on the quality requirements of the client (Q1–Q4).

A paper joint cover strip (e.g. Knauf Kurt) must be embedded in the blanking (drywall edge) of the silicate boards. After application and drying of a first layer of filler, the paper joint cover strip can also be glued over the entire surface with white glue. The absorbency of the board can be reduced by applying a primer before filling.

For filling the connections and joints (Q1–Q2) the Knauf Uniflott or Knauf Drystar Filler are recommended. For surfaces Q3–A4 a plane filling with Knauf Readygips or Knauf Multifinish are recommended. For component connections Knauf Trennfix is recommended.

WI-I  
Interior wall

**Installation of PAL SIL – Interior wall connection**



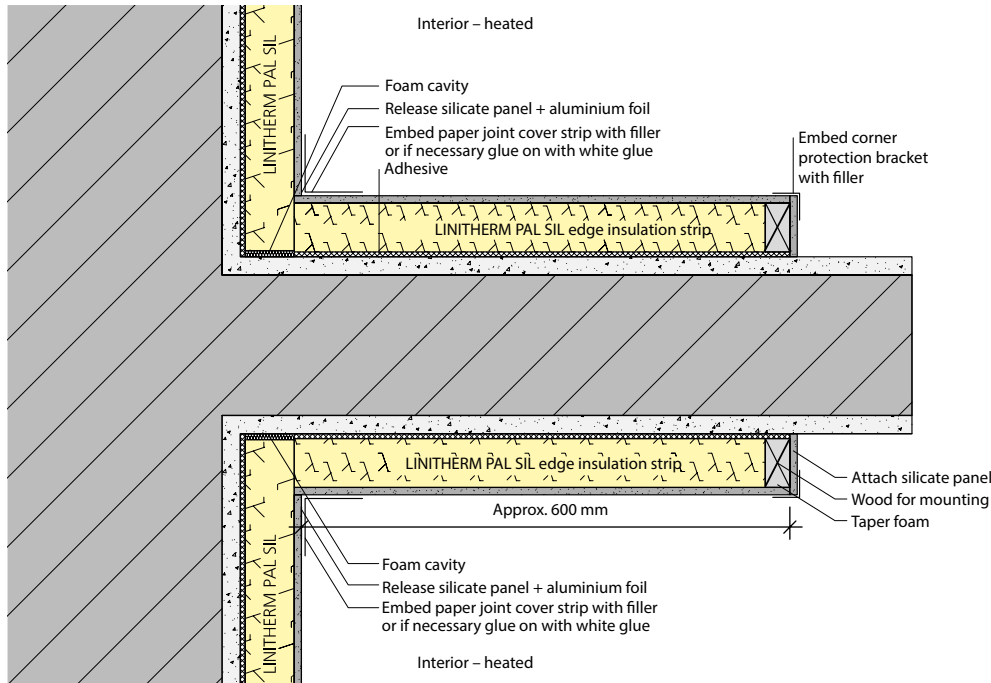
The LINITHERM insulation elements are installed beginning in the corner. When gluing the elements, attention must be paid that there can be no water penetration behind the elements. Prior to installation, an isolating strip should be glued to the plastered brickwork in the connection area of the transverse wall.

Foam any cavities that may have been formed in the corner area. Cut off any protruding foam after curing.

The joint should be open in the thickness of the silicate panel. After this the connections are smoothed with filler. After the filler has set, the protruding isolating strip is cut off.

**Installation of PAL SIL – interior wall connection alternatively a**

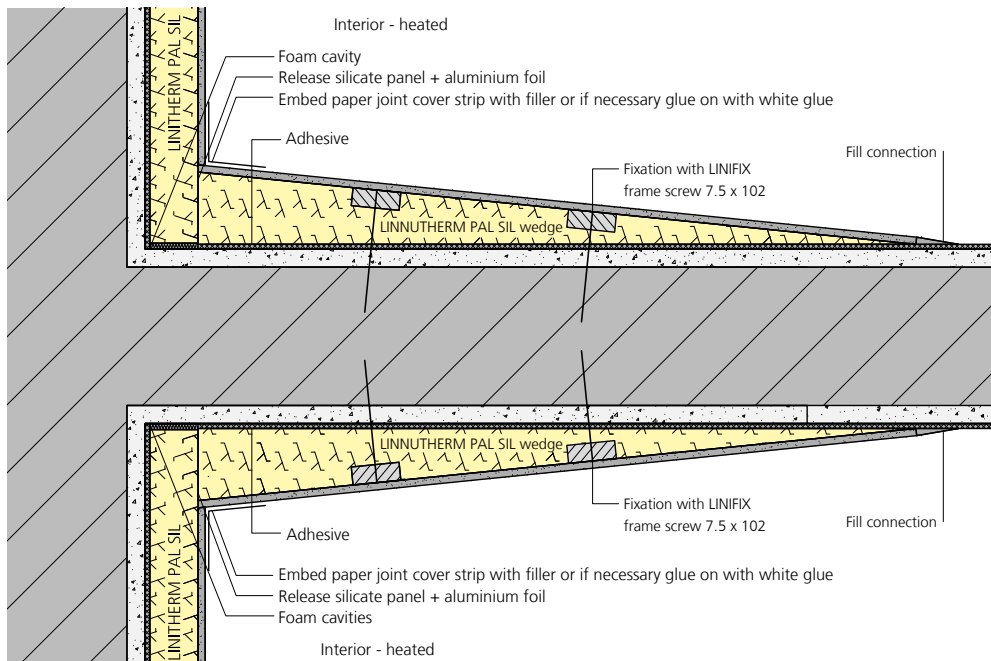
In order to avoid thermal bridges via the wall, it is recommendable to continue the interior wall insulation inwards on the transverse wall by approx. 60 cm. To finalise the flanking insulation, the PUR rigid foam must be tapered to enable a reinforcement plank to be inserted in this area. This plank is then clad with a building panel and corner protection bracket is inserted with filler. In the area of the corner joint, please proceed as stated in the details for »Outer wall in the area of the corner of the building (WI-GI)«.



**WI-Ia Interior wall alternatively**

**Installation of PAL SIL – interior wall connection alternatively b**

As an alternative to detail WI-Ia the flanking insulation can also be provided with a wedge. The wedge is glued accordingly. When the adhesive has fully set, the wedges must be additionally mechanically secured in the foamed plywood tongue with LINIFIX frame screws (7.5 x 102 mm) (the screw holes must be pre-drilled with a 6 mm drill). 6 LINIFIX frame screws must be used per panel. LINIFIX frame screws are self-tapping and do not require any additional dowels in the solid wall. The connecting joint is filled accordingly at the end of the wedge. In the area of the corner joint, please proceed as stated in the details for »Outer wall in the area of the corner of the building (WI-GI)«.

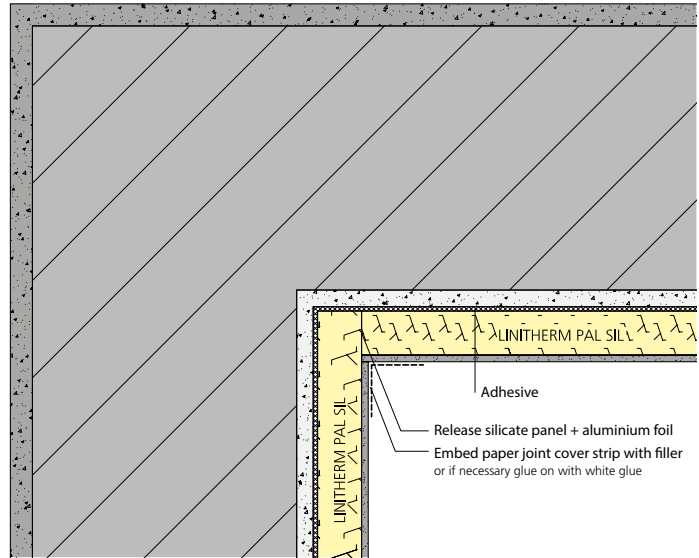


**WI-Ib Interior wall alternatively**

**Installation of PAL SIL – Connection outer wall in the area of the corner of the building**

The LINITHERM insulation elements are installed beginning in the corner. When gluing the elements, attention must be paid that there can be no water penetration behind them.

Upon reaching the last element of the first wall, the silicate panel and the aluminium foil is cut back by the thickness of the next panel on the transverse wall. After this the first panel of the transverse wall is mounted. Foam cavities that may have been formed. Cut off any protruding foam after curing and insert paper joint tape with filler in the corner area.

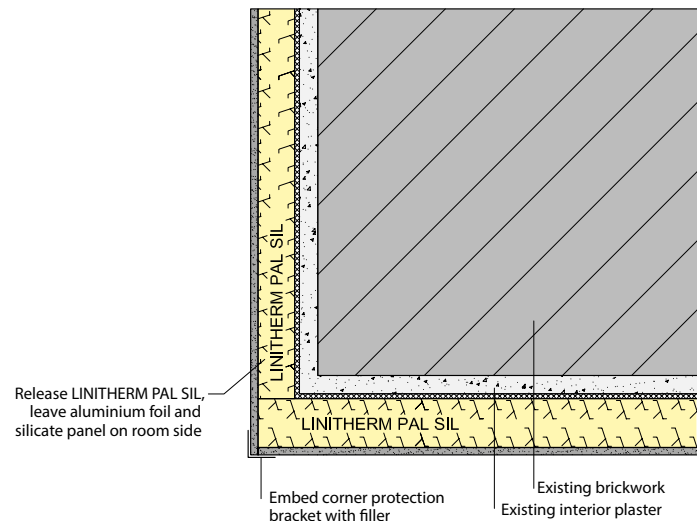


**Installation of PAL SIL – Connection outer wall in the area of the corner of the building**

In outer corners, the PU rigid foam is cut back in one of the two corner elements by the thickness of the next element.

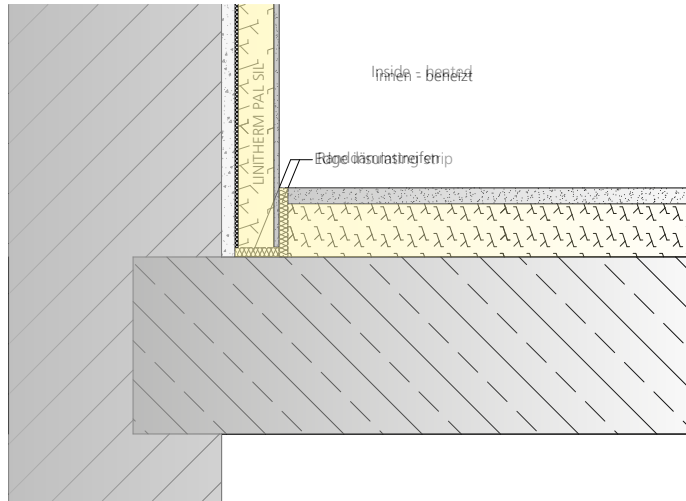
Leave the silicate panel and the aluminium foil on the room side. Glue the first corner panel to the wall, such that the panel protrudes by the thickness of the insulation material. Then glue the tapered panel to the wall.

After this the elements are smoothed with filler. A corner protection bracket is embedded in the filler in the corner area.



Installation of PAL SIL – Storey ceiling connection

The wall elements are fastened to the wall in accordance with the installation instructions WI-A. Foam any cavities between the unfinished floor and the insulating element.  
Then e.g. floor insulation and dry screed can be installed.

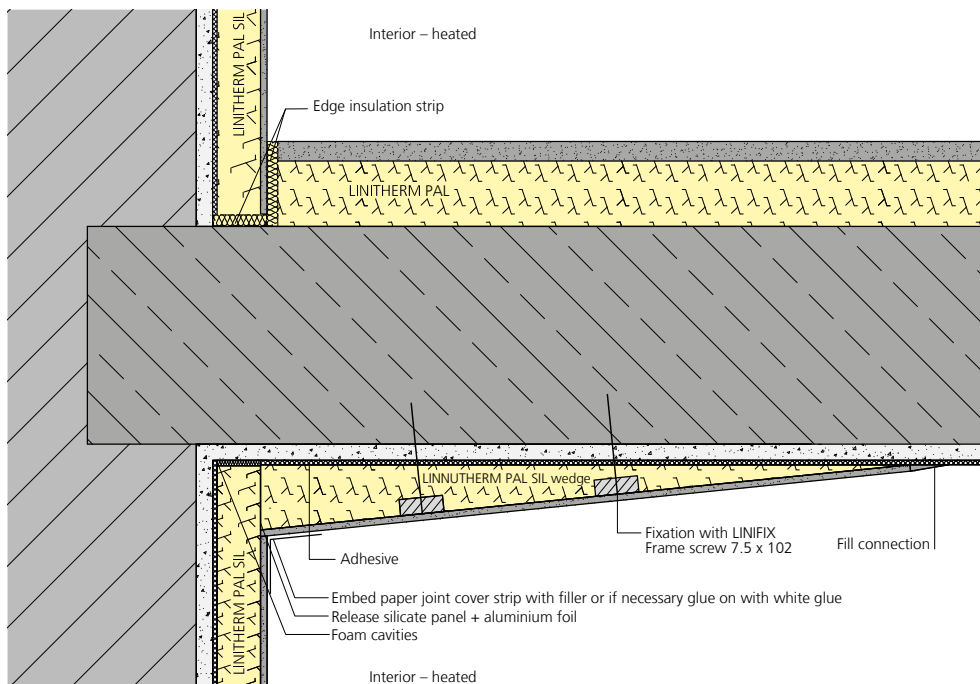


WI-GD  
Storey ceiling

Installation of PAL SIL – Storey ceiling connection alternatively

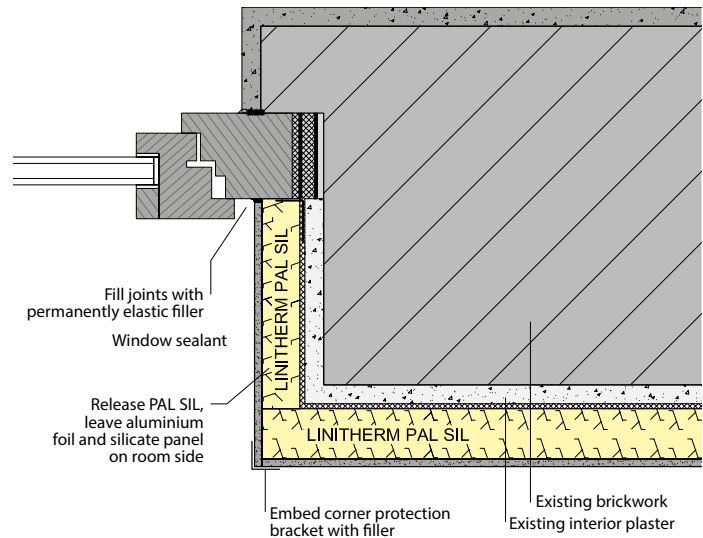
In order to avoid thermal bridges via the ceiling, it is recommendable to continue the interior ceiling insulation inwards by approx. 60 cm. The wedge is glued accordingly. When the adhesive has fully set, the wedges must be additionally mechanically secured in the foamed plywood tongues with LINIFIX frame screws (7.5 x 102 mm) (the screw holes must be pre-drilled with a 6 mm drill). 6 LINIFIX frame screws must be used per panel. The LINIFIX frame screws are self-tapping and do not require any additional dowels in the solid wall. The connecting joint is filled accordingly at the end of the wedge. In the area of the corner joint, please proceed as stated in the details for »Outer wall in the area of the corner of the building (WI-GI)«.

WI-GDa  
Storey ceiling  
alternativ



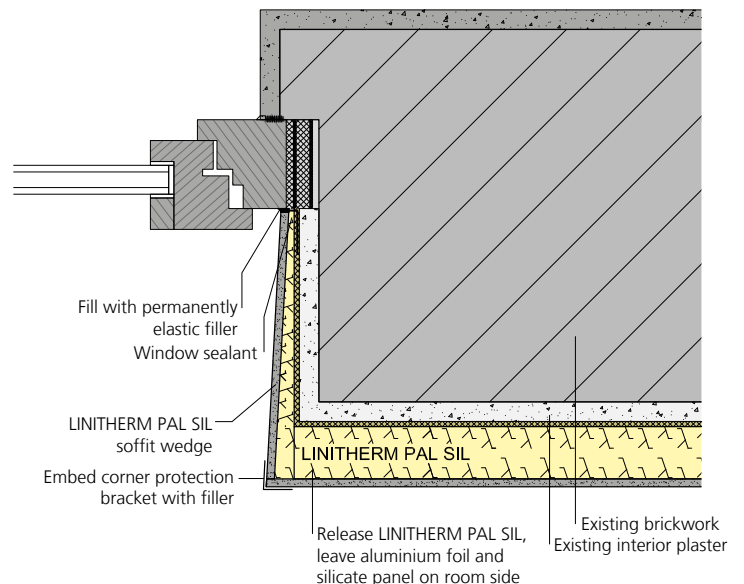
**Installation of PAL SIL – Window connection**

At the window reveal, the PU rigid foam on the panel to be inserted into the reveal is cut back by the thickness of the next element. Leave the silicate panel and the aluminium foil on the room side. Then glue to tapered panel into the window reveal, such that the insulation material (PU rigid foam is flush with the wall (silicate panel protruding). Foam any cavities to the window that may have been formed and fill the joint to the window so that it is permanently elastic. Then fit the other panel, apply a foam bead if necessary and stick to the wall. Then smooth the elements with filler. A corner protection bracket is embedded in the filler in the corner area.



**Installation of PAL SIL – Window connection alternatively**

If, due to confined space conditions (e. g. window fittings), the installation of an even panel is not possible, the window reveal is insulated using the PAL SIL reveal wedge. Cut the PAL SIL reveal wedge to width, such that the panel is subsequently flush with the PUR rigid foam of the wall panel. The silicate panel of the wall panel then covers the PAL SIL reveal wedge. Glue the PAL SIL reveal wedge into the window reveal and then cut back the PUR rigid foam of the wall panel by the thickness of the reveal wedge, apply a foam bead if necessary and glue to the wall. Then smooth the elements with filler. A corner protection bracket is embedded in the filler in the corner area.



**Installation of PAL SIL – Connection for switches/sockets**

If switches or sockets are to be inserted in the elements, the holes/recesses to accommodate them must be provided prior to the installation of the panels. Cavity wall sockets in air-tight design must be used to accommodate the switches or wall sockets. The installation of the sockets must take place according to the manufacturer's instructions. In the case of uneven walls and edge bead + spot bonding, adhesive must be applied round the cavity wall socket, so that there is no possibility of water penetration from behind.



## Special installation information for element type LINITHERM PAL SIL L with integrated lathing

LINITHERM PAL SIL L is used where the surface is to be tiled. Due to the integrated lathing, the panel can be force-locked to the subsurface such that the applied loads e.g. by tiles can be permanently absorbed via the panel. The elements are suitable for indoor use including domestic wet rooms. Furthermore, PAL SIL L can also be used as an insulation material on ceilings under flat roofs or loggias that is ready for painting, plastering or papering.

Installation takes place as described for PAL SIL. In deviation from the installation of PAL SIL, the elements must be stuck to the wall/ceiling over the full surface, and must be additionally mechanically secured with LINIFIX frame screws immediately after bonding.

A 6 mm hole must be drilled in the area of the integrated lathing for the fixation of the panel. 8 fasteners per element (4 fasteners per slat, element length 2.50 m) are required.

For details regarding the required screw lengths and filling, please refer to the »General installation instructions«.

WI-IL

**Application**  
Wall and ceiling

**Installation /**  
screw fastening  
of the elements

**Screw length /**  
Smoothing with filler

