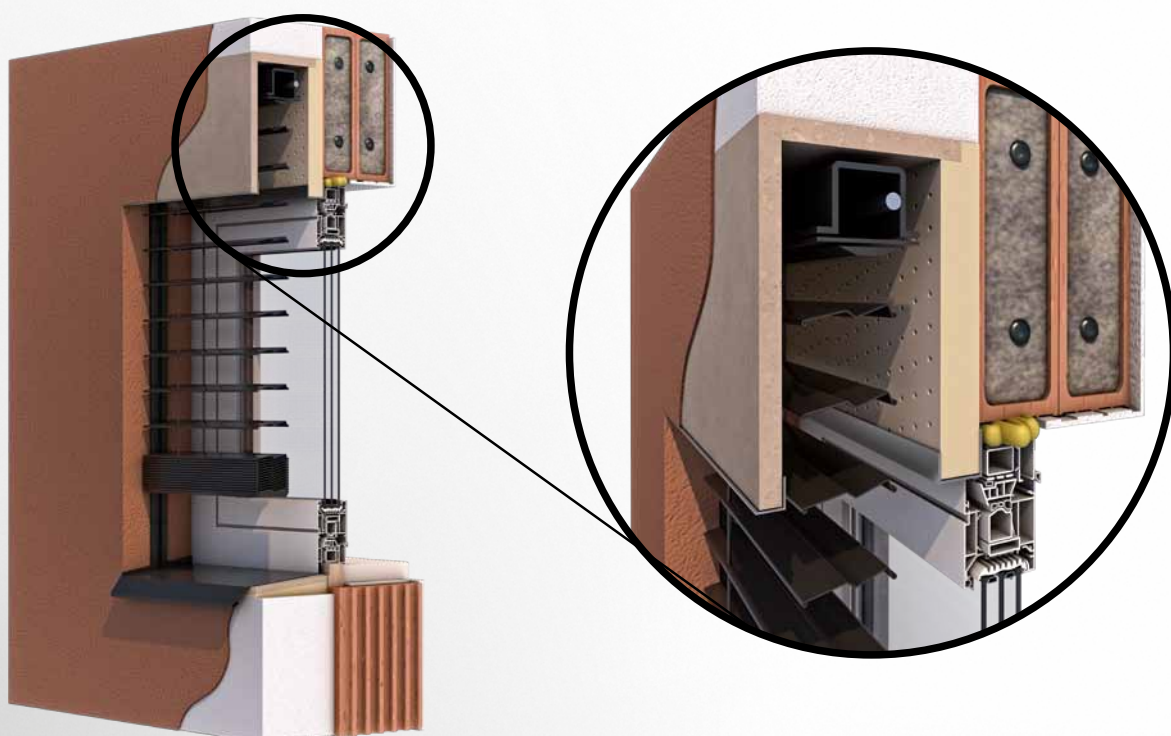


# Labona®

PRODUCT SHEET

## UNDERPLASTER PURENIT BOX



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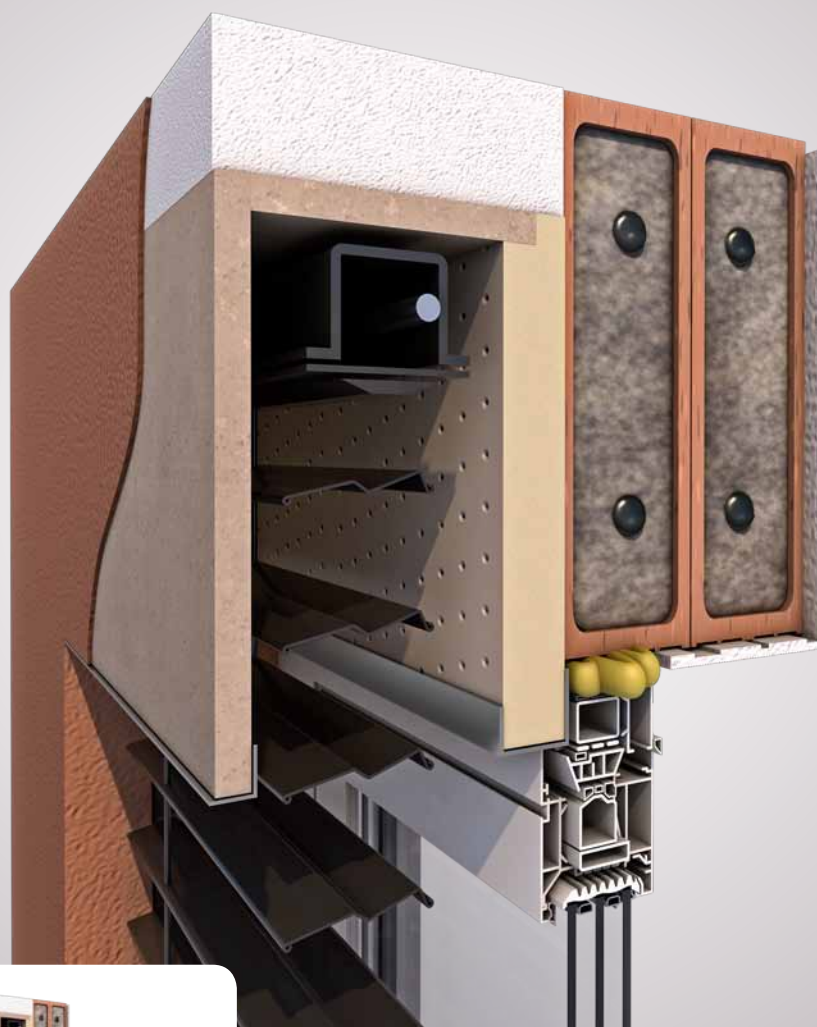
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## ISOTRA *Quality*

A brand that represents many years of tradition, incalculable investments into own development, use of high-quality materials, technological advancement, competent work of hundreds of employees, and many other parameters constituting a composite whole – the final ISOTRA product

# UNDERPLASTER PURENIT BOX



- ▲ Ideal solution of construction details
- ▲ Easy, single-step installation
- ▲ Above-standard properties
- ▲ Variable system

## 1. What is the underplaster Purenitbox

The underplaster Purenitbox is a building insulation element that creates – in a single step – a space for the shading technology and insulates the lintel and connecting joints.

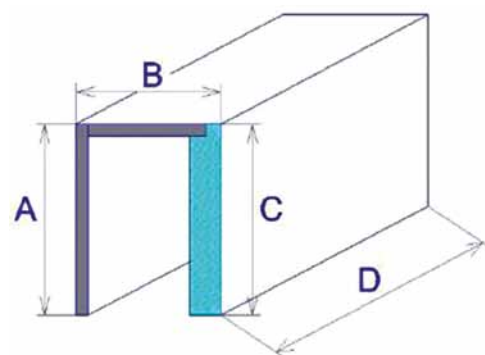
Main advantages:

- Ideal technical solution
- Fast and easy assembly
- Excellent insulation characteristics

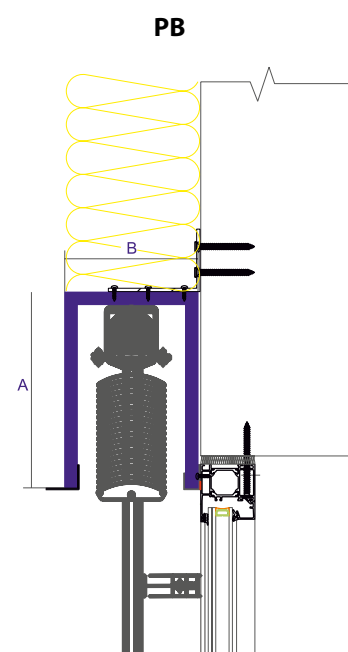
The thermal insulation box for exterior blinds is a high-quality, sophisticated building element offering a number of useful effects. These primarily result from the properties of Purenit, the material used for the manufacture of the boxes. The insulation boxes are distinguished by high resistance to various effects (pressure, temperature, humidity, etc.), they are durable and light. Purenit is characterised by minimal thermal dilatation and its fire behaviour class is B2 according to DIN 4102-1. Made from non-toxic, recyclable material, the boxes may be supplied in various dimensions and variants.

Limit box dimensions				
Box length D		Dimension A	Dimension C	Dimension B
Min.	Max. in 1 piece *	Max.	Max.	Max.
450 mm	3500 mm	600 mm	600 mm	400 mm

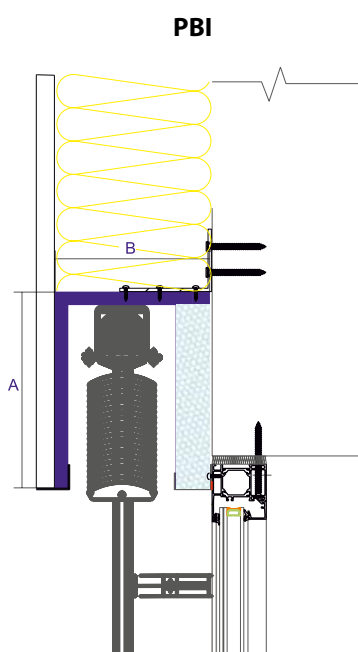
\* Boxes longer than 3500 mm are supplied in several parts – see Connection of boxes, straight and corner sets



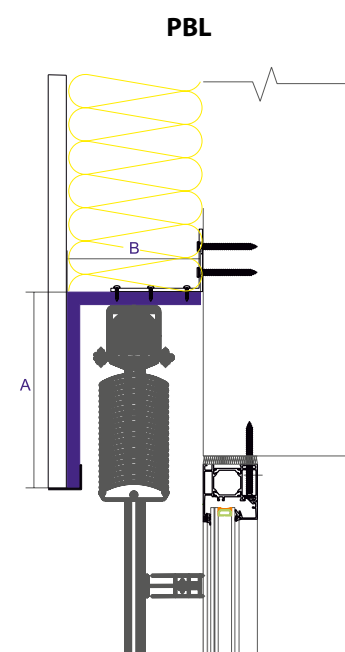
## 2. Variantsof Purenitboxes



Developed box width
0 – 700 mm
701 – 820 mm
821 – 1000 mm
1001 – 1200 mm



Developed box width
0 – 700 mm
701 – 820 mm
821 – 1000 mm
1001 – 1200 mm



Developed box width
0 – 430 mm
431 – 460 mm
461 – 540 mm
541 – 610 mm



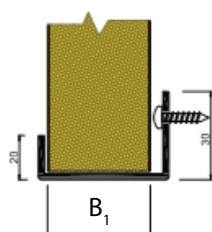
### 3. Composition of the underplaster Purenitbox

The box is composed of two basic materials. First, the **Purenit structural plate (3)** that makes up the front side of the box, which can be covered with façade right after the application of a binding sealer, as well as the ceiling and sides. Purenit virtually does not absorb moisture, does not dilatate, and does not react with construction chemicals. Moreover, it is possible to anchor in it various brackets or holders. Another vital part of the box is the insulation which makes up the back of the box adjacent to the lintel, connecting joint, and window frame. The **PUREN MV PIR insulation board (4)** is used for this purpose. It is non-toxic and resistant to high temperatures, humidity and moulds.

The **mounting U-section (1)** is not just one of the supporting elements of the box, but it also serves as a functional and aesthetic detail of the box insulation connection to the window frame.



	Dimensions
Type	B <sub>1</sub>
P3	15
PBI 30	30
PBI 40	40
PBI 50	50
PBI 60	60



**Underplaster rail (2)** on the front side of the box. Various depths allow the application of further insulation or final cladding. It is supplied as raw-aluminium element for better incorporation in the façade.

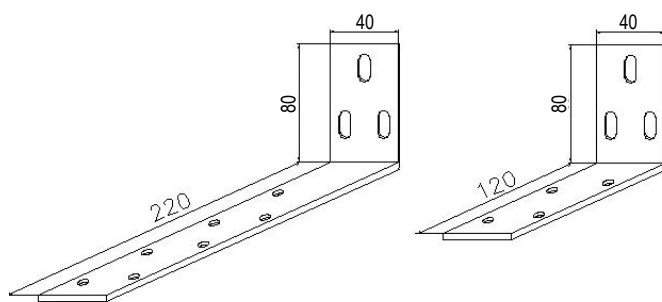
	Dimensions	
Type	H	J
20	20	3
25	25	8
30	30	13
35	35	18
40	40	23
45	45	28



Thickness of PIR* insulation (for PBI type)	30 mm	40 mm	50 mm	60 mm
Heat-transfer coefficient U – W/(m²K)	0,73	0,59	0,49	0,42
Thermal resistance R – (m²K)/W	1,1	1,4	1,8	2,1

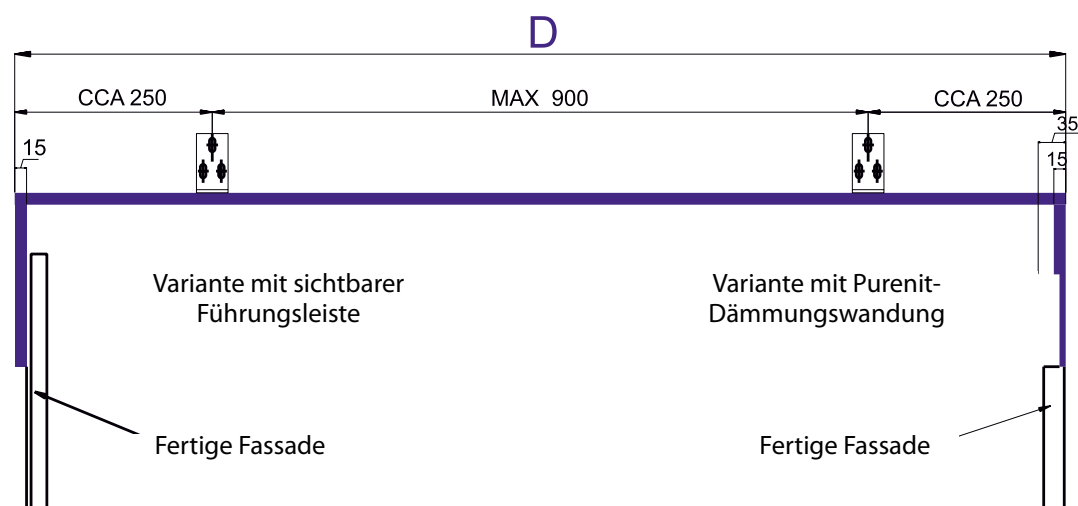
\*PIR = polyisocyanurate foam

## 4. Mounting brackets



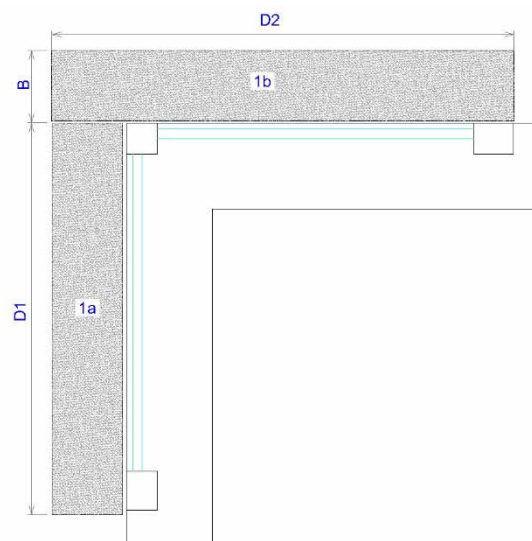
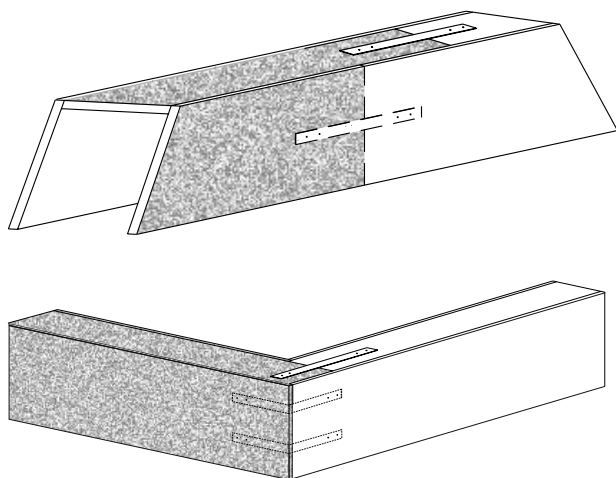
## 5. Longitudinal section of the box

(recommended minimum number of holders)



## 6. Connection of boxes, straight and corner sets

Boxes whose length exceeds 2400 mm are composed of several parts by connecting the individual parts of the boxes. The multi-part boxes and the corner sets are connected using the connection sets (couplers or angles). The corner sets are also supplied with couplers and angles.



## 7. Why you should use underplaster Purenit boxes?

### IDEAL SOLUTION OF CONSTRUCTION DETAIL

- The boxes are durable and self-supporting.
- They eliminate thermal bridges thanks to the insulation properties of Purenit and PIR insulation.
- They can be combined with all façade systems (contact thermal insulation, aerated facades, and brick, stone and wooden cladding).
- The bearing section aesthetically resolves the detail between the window and the box insulation.

### EASY, SINGLE-STEP ASSEMBLY

- The assembly is simple and fast – may be carried out by plasterers.
- The whole system is variable and may be easily adapted to the site conditions.

### ABOVE-STANDARD PROPERTIES

- The boxes are resistant to humidity and construction chemicals.
- They show extraordinary volume stability.
- They have excellent Class B fire resistance (they do not drip when in fire, just carbonise).
- They are extraordinary in their durability and low weight.
- Their insulation properties also satisfy the parameters of passive buildings.

### VARIABLE SYSTEM

- It is possible to add PIR insulation of various thickness in the Purenit boxes, as necessary and possible on site.
- Various kinds of jambs and window-sill beds may be added to the system.

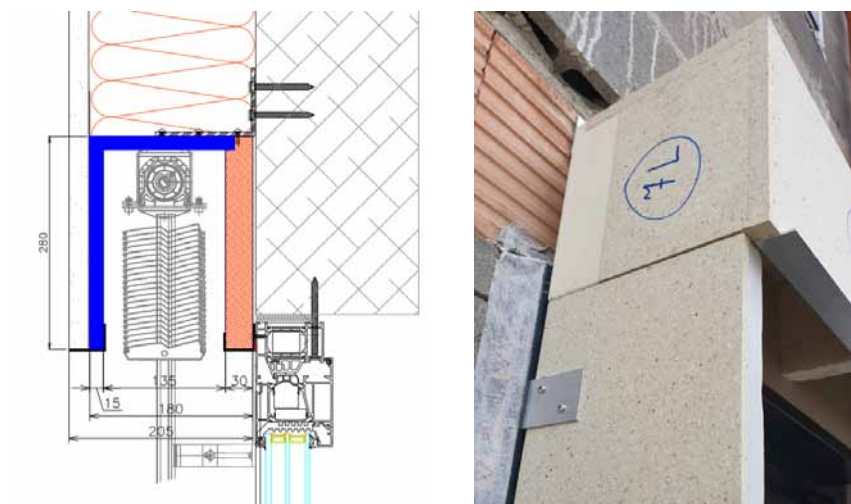
ANM.: Falls der Kunde einen Anstrich des Innenkastens wünscht, dann kann man in Eigenarbeit die Durchdringung des Kastens mithilfe von PCI Multigrund PGS, Farbe PCI Multitop Elastik T vornehmen.

ISOTRA führt diesen Anstrich nicht durch.



## 8. Where and how the boxes may be used

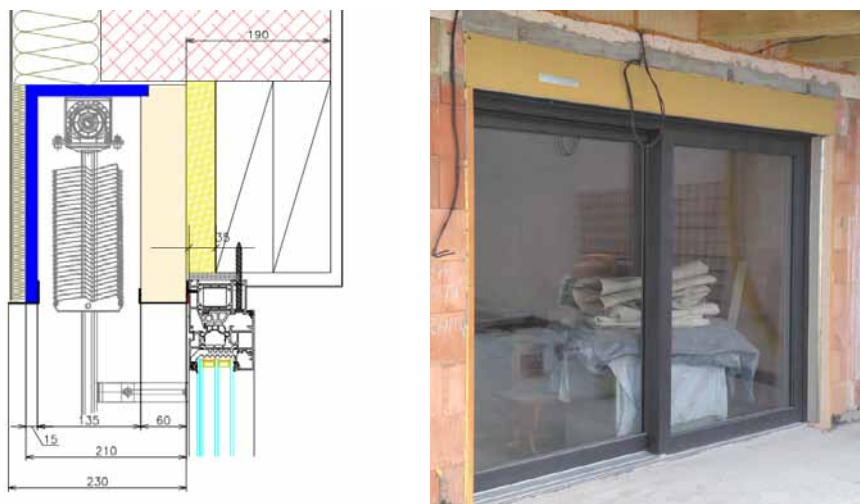
a) Installation in the contact thermal insulation system (CTIS) – the window is attached to the masonry face



b) Installation in the CTIS – curtain-type installation

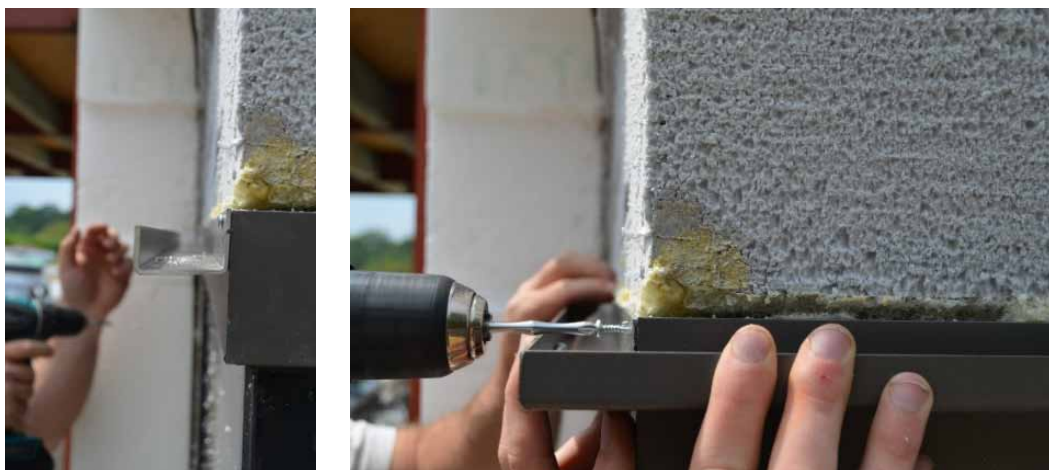


c) Installation in a fully or partially prepared wall pocket



## 9. How the boxes are installed

### a) Installation of the bearing section



### b) Box insertion and levelling



### c) Anchoring by mounting brackets



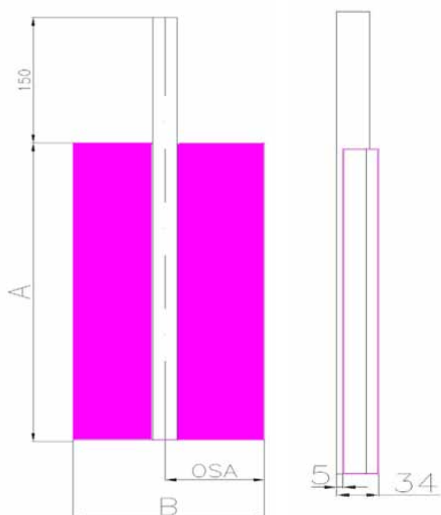
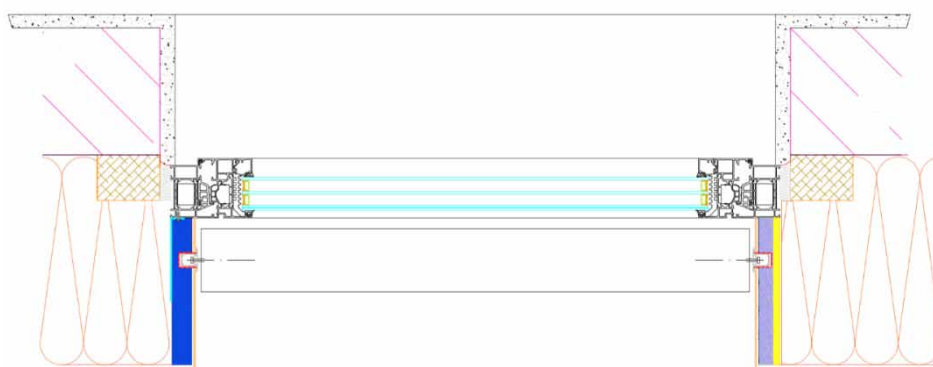
## 10. Purenitjambbs

- System solution of underplaster versions of guide rails for exterior blinds
- Easy installation
- Excellent insulation properties

The Purenit insulation jamb is composed of a sandwich of Purenit and XPS (extruded polystyrene), with the total width of 30 mm (10 mm of Purenit as a supporting plate, 20 mm of XPS as insulation), the box of the blind is 25 mm deep. The socket protrudes by 5 mm from the sandwich. Installation is carried out either using brackets attached to the window frame, or by blanketadhesive-bonding to a rigid base.

### THE JAMB IS INSTALLED:

- To brackets mechanically anchored to the window frame** – when used together with mineral-wool contact thermal insulation, aerated facades, or if installation is carried out before establishing the polystyrene CTIS;
- By blanketadhesive-bonding to a vertically level surface of the contact thermal insulation system** – installed similarly to the jamb insulation. We recommend using foam glues (e.g., STYRO PRO TYTAN).





## 11. Installation of the Purenit insulation jambs

The jambs are installed to aluminium brackets or using blanket adhesive-bonding.

**a)** The jambs are supplied packed in shrink wrap. Unpack it and prepare for installation.



**b)** First, attach the aluminium angles to the frame. For one jamb, 2–3 are used according to the length. The first angle is to be placed ca. 400 mm from the bearing section, the other ca. 300 mm from the lower edge of the window.

It is important to mount the angle so that its wall overlaps the frame by 2 mm.



**c)** Place the jamb to the window frame so that it fits against the angles and anchor it by screws. Anchor the jamb socket inside the box and the jamb through the angles.



## 12. Prefabricated (polystyrene) jambs

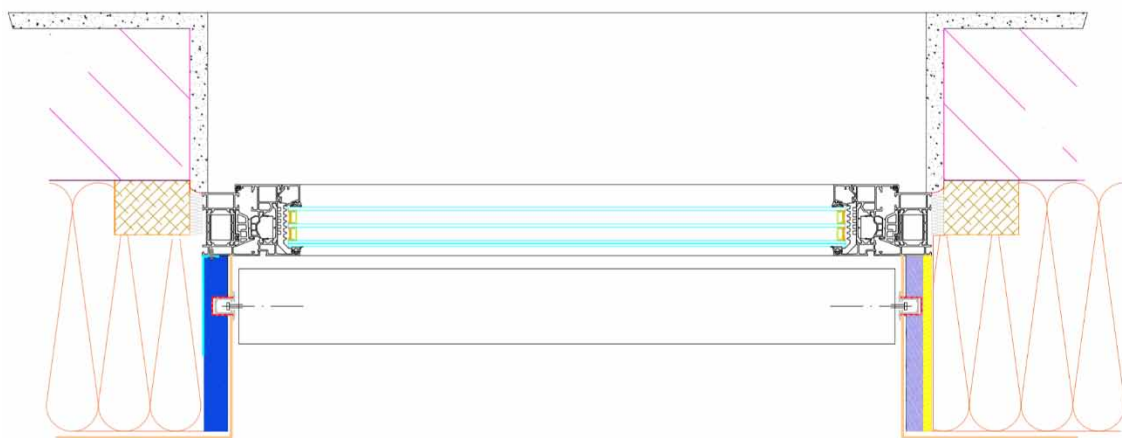
These jambs facilitate and speed up the installation of underplaster sockets, while insulating the jamb.

The prefabricated jambs are intended for assembly with Purenit as well as sheet-metal boxes.

The jambs are made from stabilised, thermal-insulation, extruded-polystyrene boards with high requirements for compression. A normal socket for 25 × 23 mm exterior blinds is inserted in the board.

- Thermal conductivity coefficient: 0.034 W/mK
- Maximum height in one piece: 2400 mm
- Maximum width: 600 mm

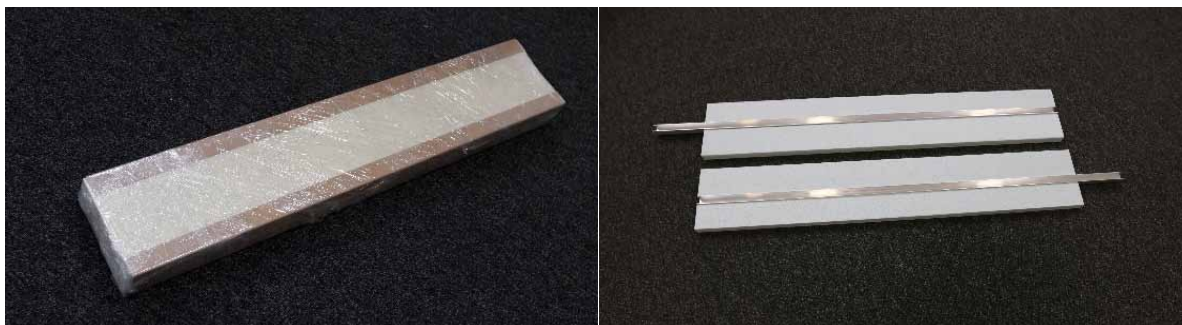
Installation is carried out by blanket adhesive-bonding using foam glues (like STYRO PRO TYTAN).





### 13. Installation of the prefabricated (polystyrene)jambs

**a)** The jambs are supplied packed in shrink wrap. Unpack it and prepare for installation.



**b)** Adjust the CTIS for the jamb installation so that the CTIS ends at the outer edge of the Purenitbox. The straighter is the base, the easier should be the installation and levelling of the jamb.



**c)** Install the jamb using a foam glue (e.g., STYRO PRO TYTAN). Apply the glue to the edges of the jamb (creating a "frame"). Attention should be paid to installing the jamb vertically aligned (verify either by spirit-level, or by measuring the same area of the remaining visible window frame).



**d)** It is advisable to secure the jamb in its upper part by a screw driven through the guide rail socket to the box side (the socket must be pre-drilled).

