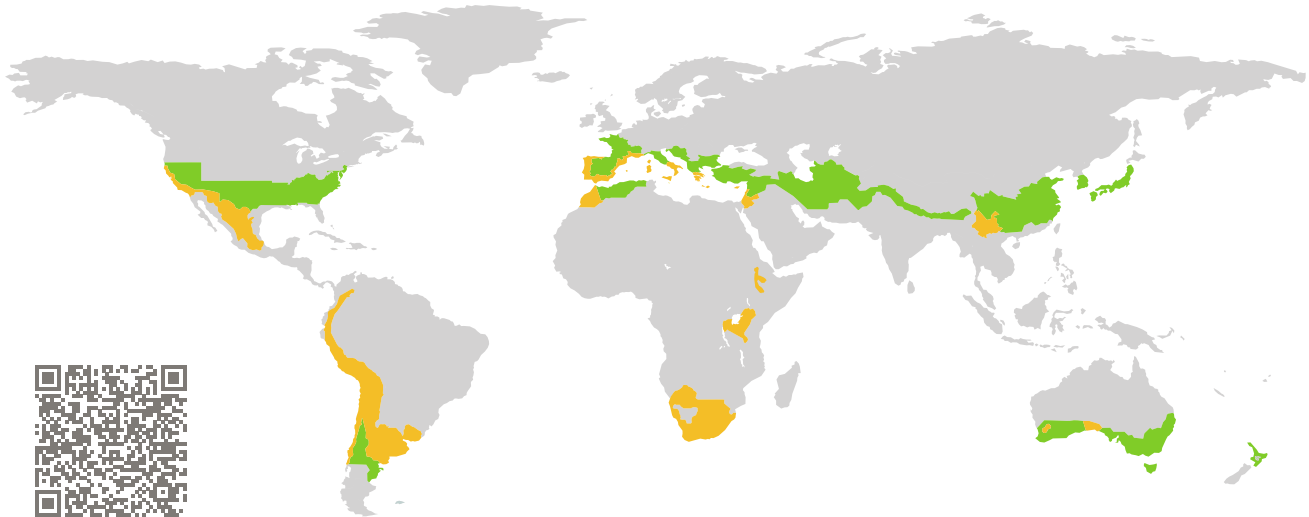


CERTIFICATE

Certified Passive House Component

Component-ID 2442wi04 valid until 31st December 2026

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

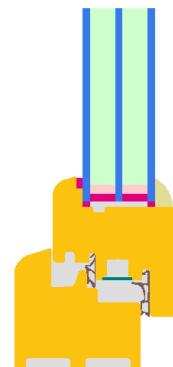


Category: **Window Frame**
Manufacturer: **INDRESMAT SL,**
L'Hospitalet del Llobregat, Barcelona,
Spain
Product name: **KLIMA-PUR**

This certificate was awarded based on the following criteria for the warm, temperate climate zone

Comfort $U_W = 1.00 \leq 1.00 \text{ W}/(\text{m}^2 \text{ K})$
 $U_{W, \text{installed}} \leq 1.05 \text{ W}/(\text{m}^2 \text{ K})$
with $U_g = 0.90 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene $f_{Rsi=0.25} \geq 0.65$



Passive House
efficiency class

phE

phD

phC

phB

phA

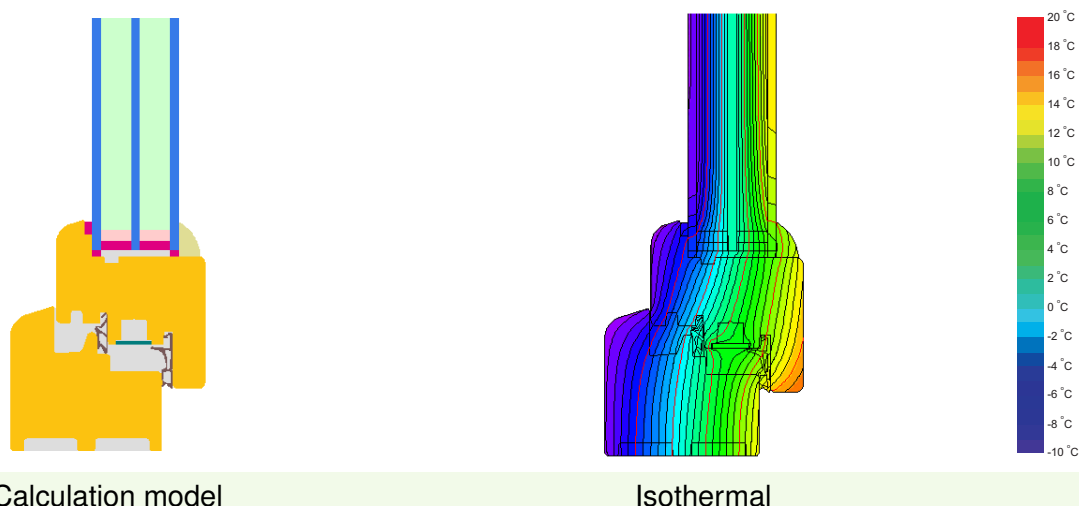
www.passivehouse.com

warm, temperate climate



**CERTIFIED
COMPONENT**

Passive House Institute



Calculation model

Isothermal

Description

High density (bio)polyurethane frame (470-490 kg/m³), 69 mm width. Thermal conductivity 0,073 W/(m·K). Pane thickness: 40 mm (4/14/4/14/4), rebate depth: 14 mm.

Explanation


The window U-values were calculated for the test window size of 1.23 m × 1.48 m with $U_g = 0.90$ W/(m² K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	$U_g =$	0.90	0.80	0.70	0.60	W/(m ² K)
		↓	↓	↓	↓	
Window	$U_W =$	1.00	0.93	0.86	0.79	W/(m ² K)

Transparent building components are classified into efficiency classes depending on the heat losses through the opaque part. The frame U-Values, frame widths, thermal bridges at the glazing edge, and the glazing edge lengths are included in these heat losses. A more detailed report of the calculations performed in the context of certification is available from the manufacturer.

The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense to use a component of a higher thermal quality which has been certified for a climate zone with more stringent requirements.

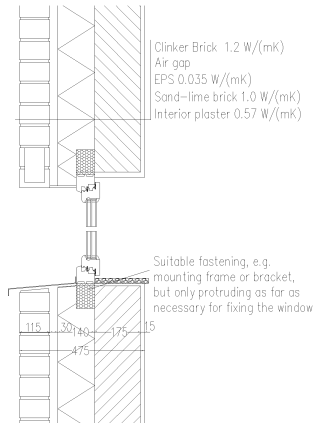
Further information relating to certification can be found on www.passivehouse.com and passipedia.org.

Frame values			Frame width b_f mm	U -value frame U_f W/(m ² K)	Ψ -glazing edge Ψ_g W/(m K)	Temp. Factor $f_{RSI=0.25}$ [-]
Mullion 1 casement	(1M1)		160	0.92	0.038	0.67
Bottom	(OB1)		107	0.93	0.038	0.67
Head	(OH1)		107	0.93	0.038	0.67
Jamb	(OJ1)		107	0.93	0.038	0.67
Spacer: BUTYLVER TPS 2020			Secondary seal: Silicone			

Validated installations

Cavity wall (operable)

$$U_{\text{Wall}} = 0.22 \text{ W/(m}^2 \text{ K)}$$

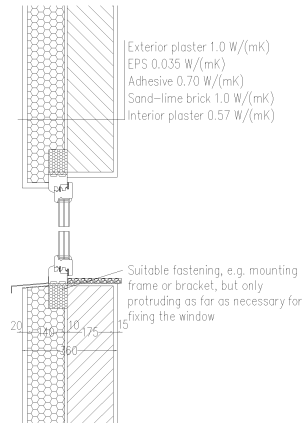


Ψ_{install}	W/(m K)
Top	0.003
Side	0.003
Bottom	0.021

$$U_{W,\text{installed}} = 1.03 \text{ W/(m}^2 \text{ K)}$$

Exterior insulation and finishing system (EIFS) (operable)

$$U_{\text{Wall}} = 0.23 \text{ W/(m}^2 \text{ K)}$$

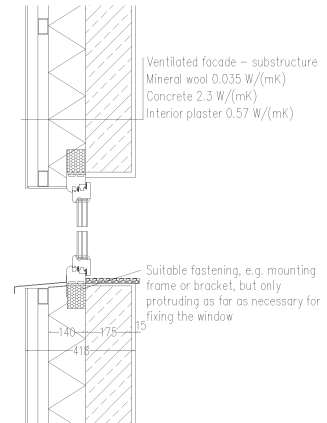


Ψ_{install}	W/(m K)
Top	0.004
Side	0.004
Bottom	0.020

$$U_{W,\text{installed}} = 1.03 \text{ W/(m}^2 \text{ K)}$$

Ventilated facade (operable)

$$U_{\text{Wall}} = 0.23 \text{ W/(m}^2 \text{ K)}$$

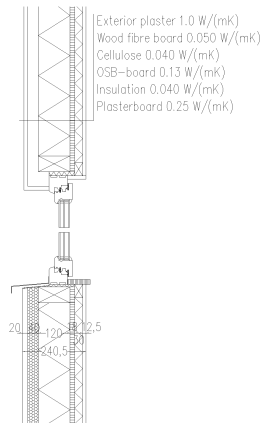


Ψ_{install}	W/(m K)
Top	0.002
Side	0.002
Bottom	0.020

$$U_{W,\text{installed}} = 1.02 \text{ W/(m}^2 \text{ K)}$$

Lightweight timber (operable)

$$U_{\text{Wall}} = 0.25 \text{ W/(m}^2 \text{ K)}$$



Ψ_{install}	W/(m K)
Top	0.009
Side	0.009
Bottom	0.029

$$U_{W,\text{installed}} = 1.04 \text{ W/(m}^2 \text{ K)}$$

