

Certificate

Passive House suitable component

for cool, temperate climate, valid until 31.12.2017

Passive House Institute
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Category: **Sliding Door**
 Manufacturer: **Pro Passivhausfenster GmbH**
83080 Oberaudorf, GERMANY
 Product name: **smartwin sliding**

The following comfort criteria were used in awarding this certificate:

Given a U_g value of $0.70 \text{ W}/(\text{m}^2\text{K})$ and a window size of 2.40 m by 2.50 m

$$U_w = 0.78 \text{ W}/(\text{m}^2\text{K}) \leq 0.80 \text{ W}/(\text{m}^2\text{K})$$

provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the sliding door meets the following criterion.

$$U_{w, \text{ installed}} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

Thermal data

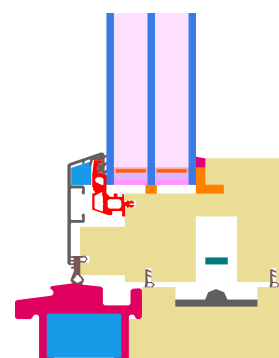
	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer	SwisspacerV*			
Bottom Fix	0.66	108	0.022	0.70
Bottom S	1.08	117	0.025	
Top Fix	0.53	86	0.023	
Top S	0.84	92	0.022	
Side Fix	0.53	86	0.023	
Side S	0.81	85	0.022	
Mullion	1.29	110	0.023	

*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

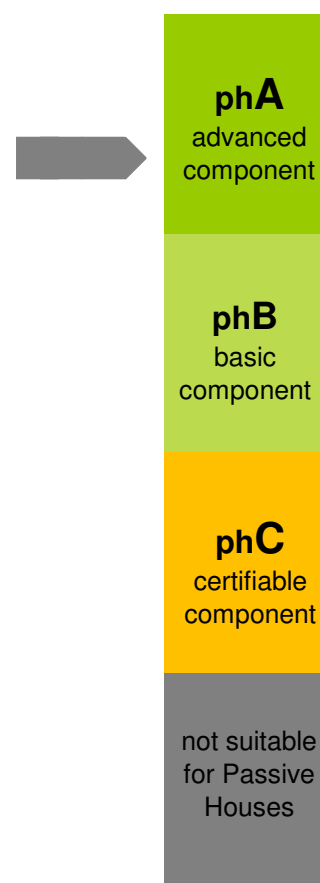
Further information see data sheet

www.passivehouse.com

0399s103



Passive House Efficiency Class

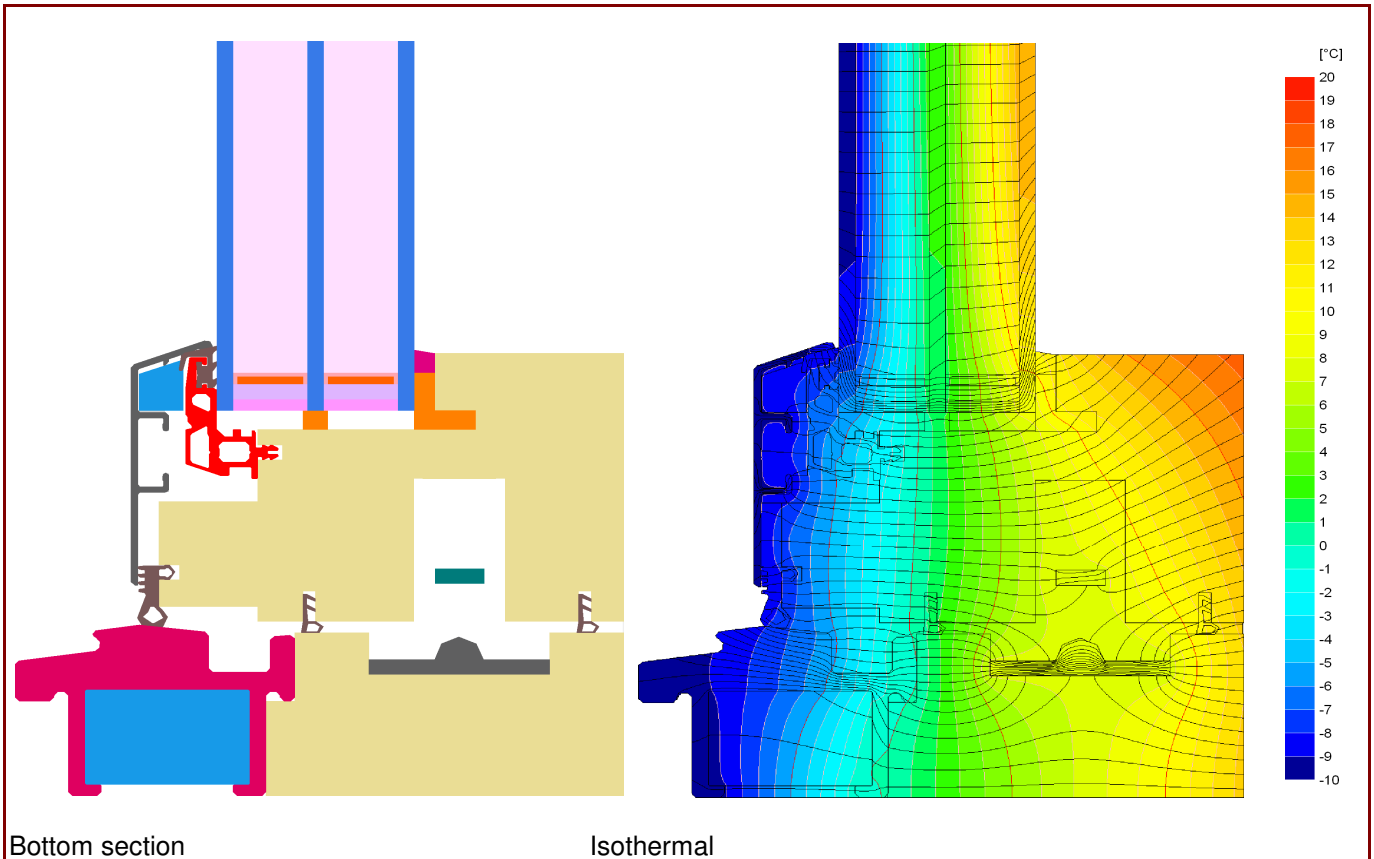


CERTIFIED COMPONENT

Passive House Institute

Data Sheet Pro Passivhausfenster GmbH, smartwin sliding

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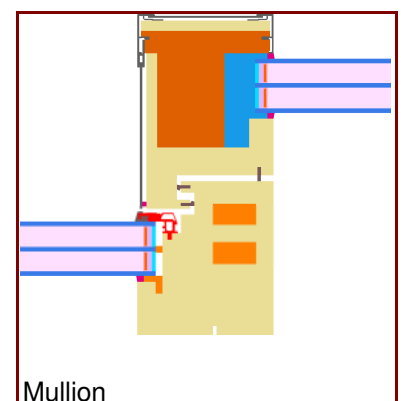


Description

Timber Window frame, rainprotected by alluminium cladding, insulated by woodfibre board (0,04 and 0,05 W/(mK)).
 Used Pane: 48 mm (4/18/4/18/4), intersection of the glass: 15 mm.

Thermal data for the window frame

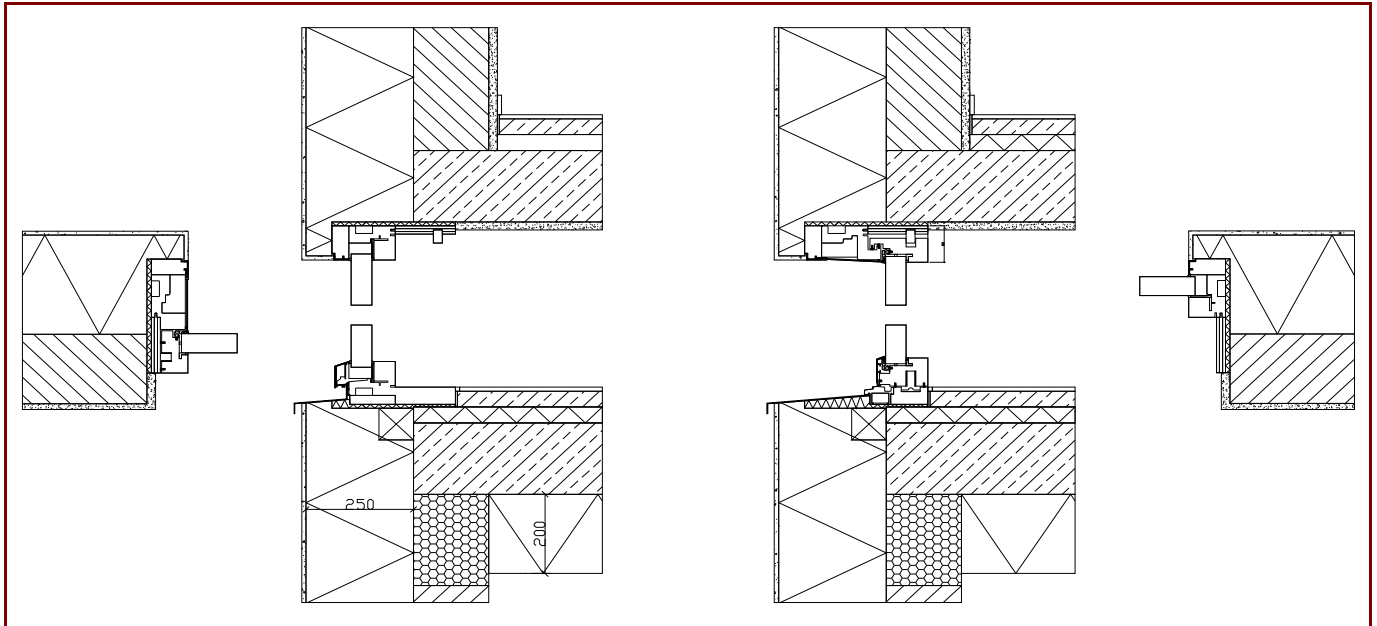
	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	f_{Rsi=0.25} [-]
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* Spacers of lower thermal quality leading to higher thermal losses and lower temperatures.

Data Sheet Pro Passivhausfenster GmbH, smartwin sliding

Installation



Installation based thermal bridge $\Psi_{\text{instal.}}$ in Passive House suitable walls

Position		EIFS Fixed glazing (Fix)	EIFS Sliding door (S)
Bottom	[W/(mK)]	0.060	0.055
Top	[W/(mK)]	-0.002	0.027
Side	[W/(mK)]	-0.003	0.038
$U_{W,\text{instal.}}$	[W/(m ² K)]	0.84	

Explanatory notes

The window U-values were calculated based on a 2.40m by 2.50 m window $U_g = 0.70 \text{ W}/(\text{m}^2\text{K})$.
If better glazing is used, the window U-value decrease as follow:

U Glazing	U_g [W/(m²K)]	0.66	0.60	0.54
U Window	U_w [W/(m²K)]	0.76	0.72	0.67

Depending on the thermal losses through opaque elements, transparent components are categorised according to efficiency classes. These thermal losses include the losses through the frame, multiplied by its width, the thermal bridge at the edge bond as well as the length of the edge bond.

Please ask the manufacturer for a detailed report containing all calculations and results.

For further information, please visit www.passivehouse.com or www.passipedia.org.