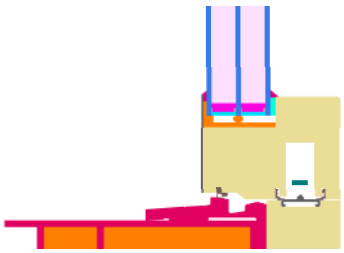
Certificate

Passive House suitable component
for cool, temperate climate, valid until 31.12.2015

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Sliding Door**
Manufacturer: **OPTIWIN GmbH**
6341 Ebbs, AUSTRIA
Product name: **MOTURA**



Passive House Efficiency Class

phA advanced component
phB basic component
phC certifiable component
not suitable for Passive Houses

The following comfort criteria were used in awarding this certificate:

Given a Ug value of 0.70 W/(m²K) and a window size of 2.40 m by 2.50 m

U_W = **0.79 W/(m²K) ≤ 0.80 W/(m²K)**

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.

$U_{W,\,installed}$ ≤ **0.85 W/(m²K)**

Thermal data

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			acs+*	
Bottom Fix	1.14	43	0.025	0.70
Bottom S	1.11	126	0.023	
Top Fix	0.66	87	0.023	
Top S	0.92	87	0.024	
Side Fix	0.54	90	0.022	
Side S	0.70	98	0.025	
Mullion	1.26	100	0.025	

*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 **0515sd03**

phA
CERTIFIED COMPONENT
Passive House Institute

Data Sheet OPTIWIN GmbH, MOTURA

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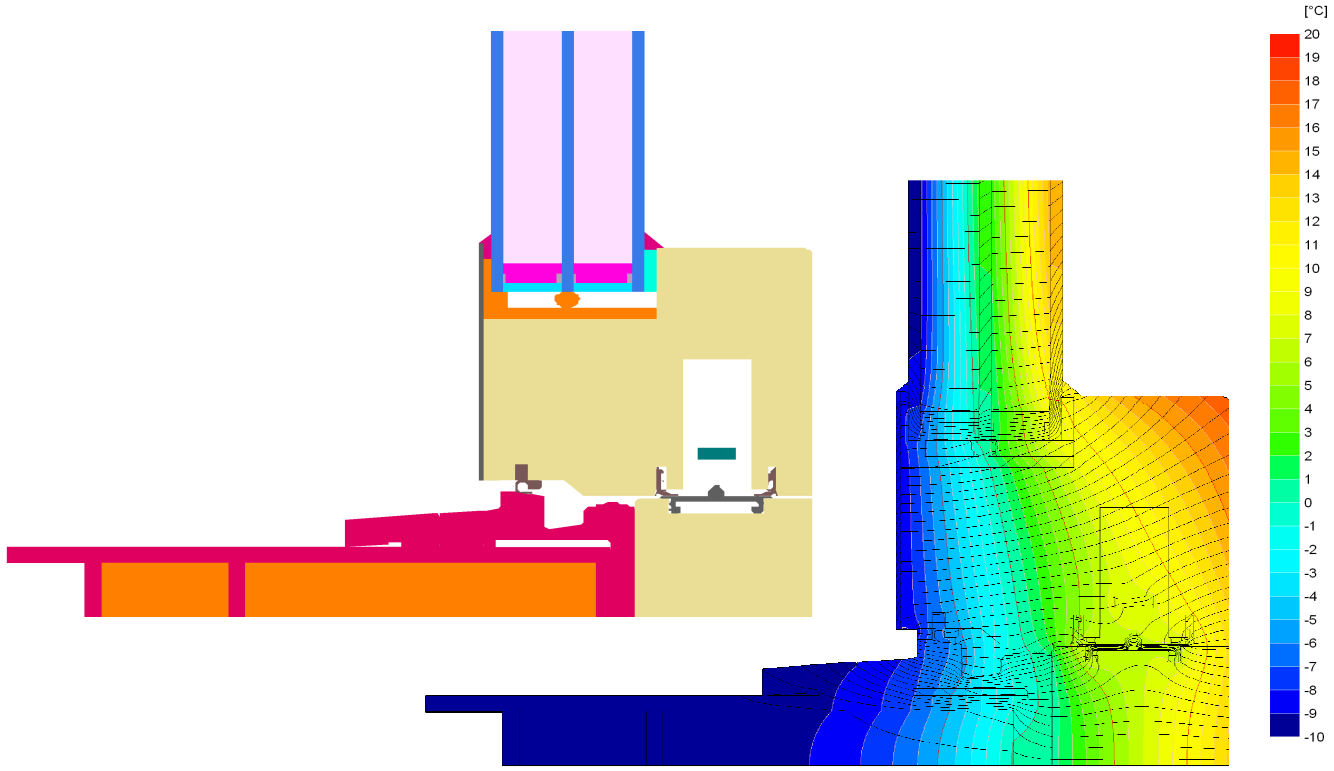


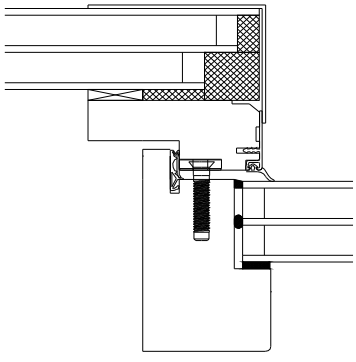
Bottom section Isothermal

Description

Timber frame (0,11 W/(mK), Spruce, fir) with aluminium cladding and insulation (0,04 W/(mK)). Profiles form glass-fibre reinforced plastic (0,516 W/(mK)) are used. 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)]	$f_{Rsi=0.25}$ [-]
Spacer			acs+*	
Bottom Fix	1.14	43	0.025	0.70
Bottom S	1.11	126	0.023	
Top Fix	0.66	87	0.023	
Top S	0.92	87	0.024	
Side Fix	0.54	90	0.022	
Side S	0.70	98	0.025	
Mullion	1.26	100	0.025	

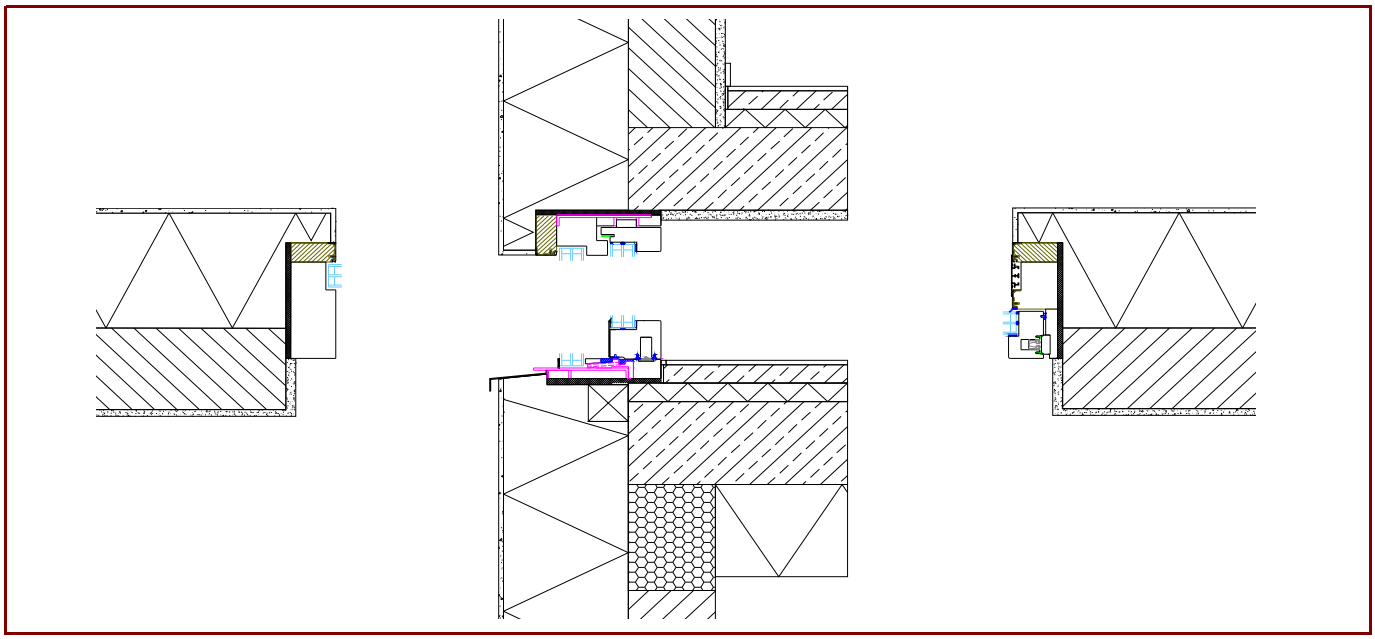


Mullion

* Spacers of lower thermal quality leading to higher thermal losses and lower temperatures.

Data Sheet OPTIWIN GmbH, MOTURA

Installation



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

Position		EIFS Fixed glazing (Fix)	EIFS Sliding door (S)
Bottom	[W/(mK)]	0.009	0.040
Top	[W/(mK)]	-0.003	0.013
Side	[W/(mK)]	-0.003	0.016
$U_{W,instal.}$	[W/(m²K)]	0.81	

Explanatory notes

The window U-values were calculated based on a 2.40m by 2.50 m window U_g = 0.70 W/(m²K).
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	0.71	0.66

Depending on the thermal losses through opaque elements, transparent components are categorised according to efficency 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.

Calculations: kmt Sustainable Engineering