

Certificate

Certified Passive House component

for cool, temperate climate, valid until 31.12.2014

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Window Frame**
 Manufacturer: **GTPD DOMIS DOO ČAČAK**
32205 Trbušani, Čačak , SERBIA
 Product name: **POLAR**

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 1.23 m by 1.48 m,

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

Taking into account the installation based thermal bridges, and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the window meets the following criterion.

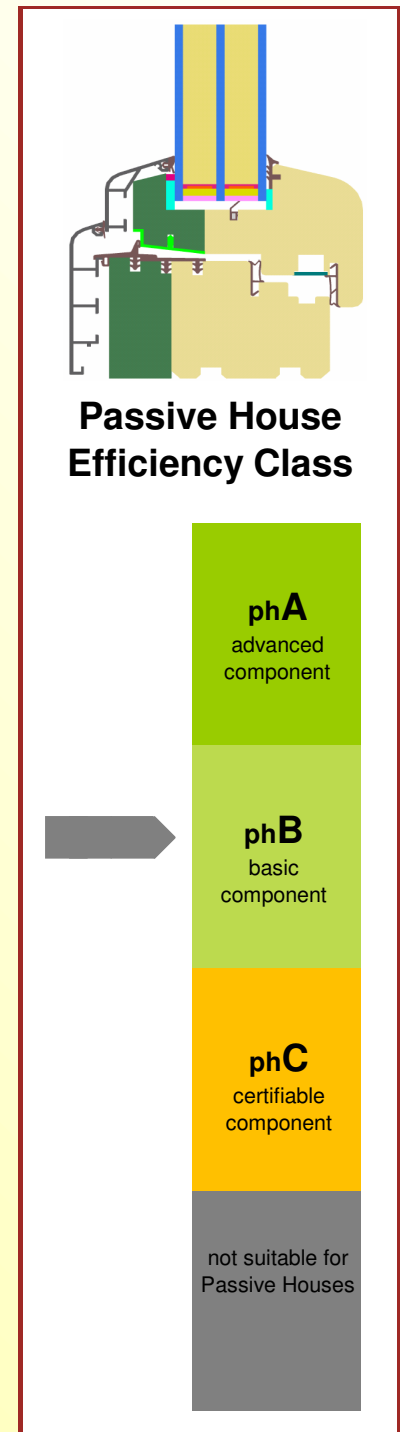
$$U_{W,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

Thermal data of the window frame

	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			ChromaTec Ultra*	
Bottom	0.70	124	0.033	0.74
Side/top	0.70	124	0.033	

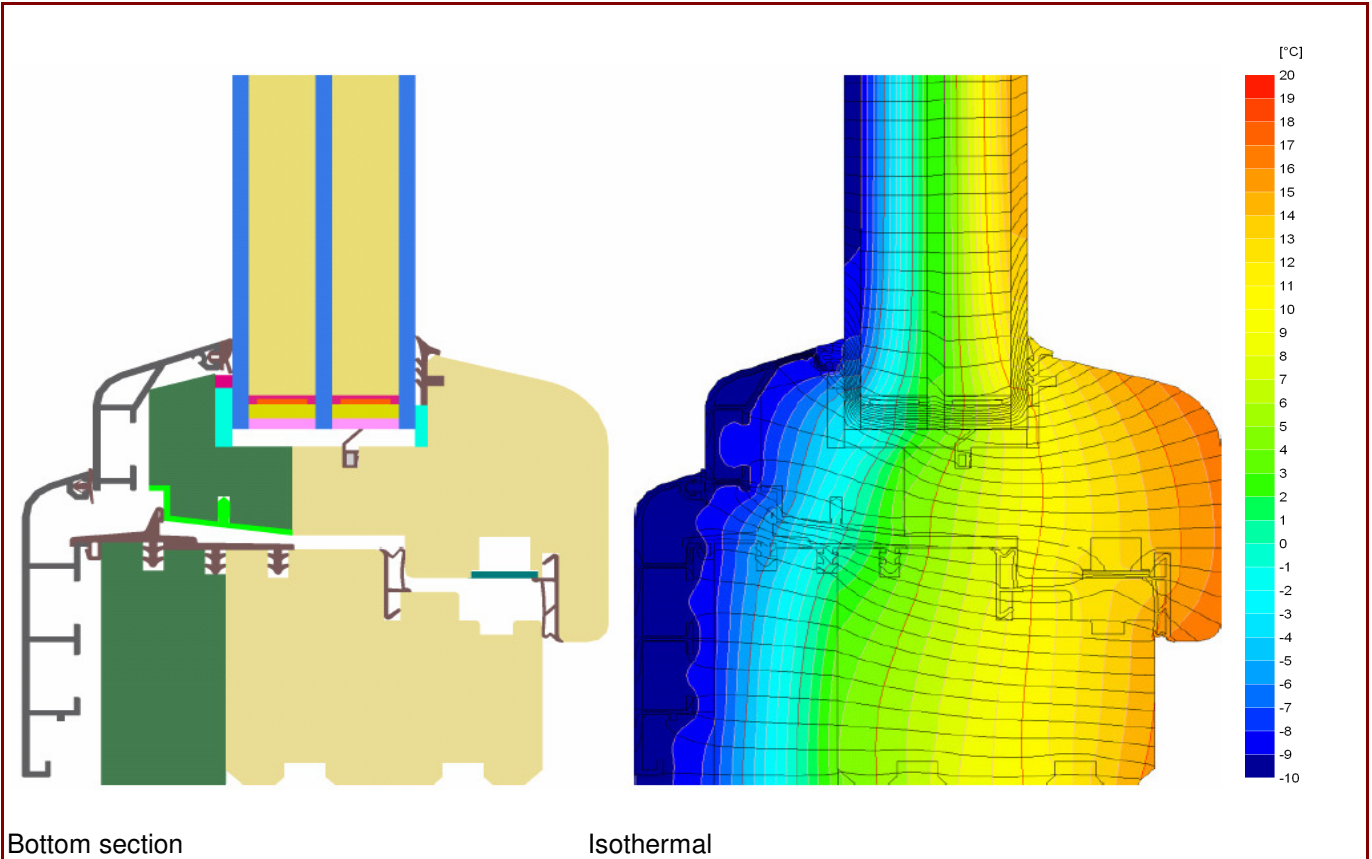
*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

Further information see data sheet



Data Sheet GTPD DOMIS DOO ČAČAK, POLAR

Manufacturer GTPD DOMIS DOO ČAČAK
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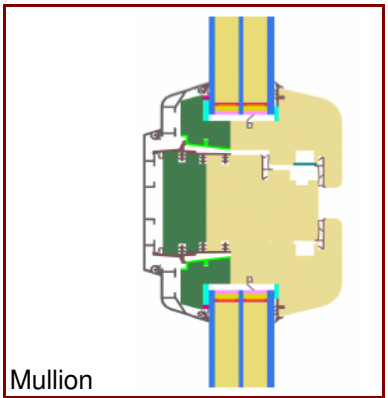


Description

Timber frame with external insulation ($\lambda = 0.035 \text{ W}/(\text{mK})$). The frame is weather-protected by aluminium profiles.
 Glazing: 4/16/4/16/4

Thermal data for the window frame

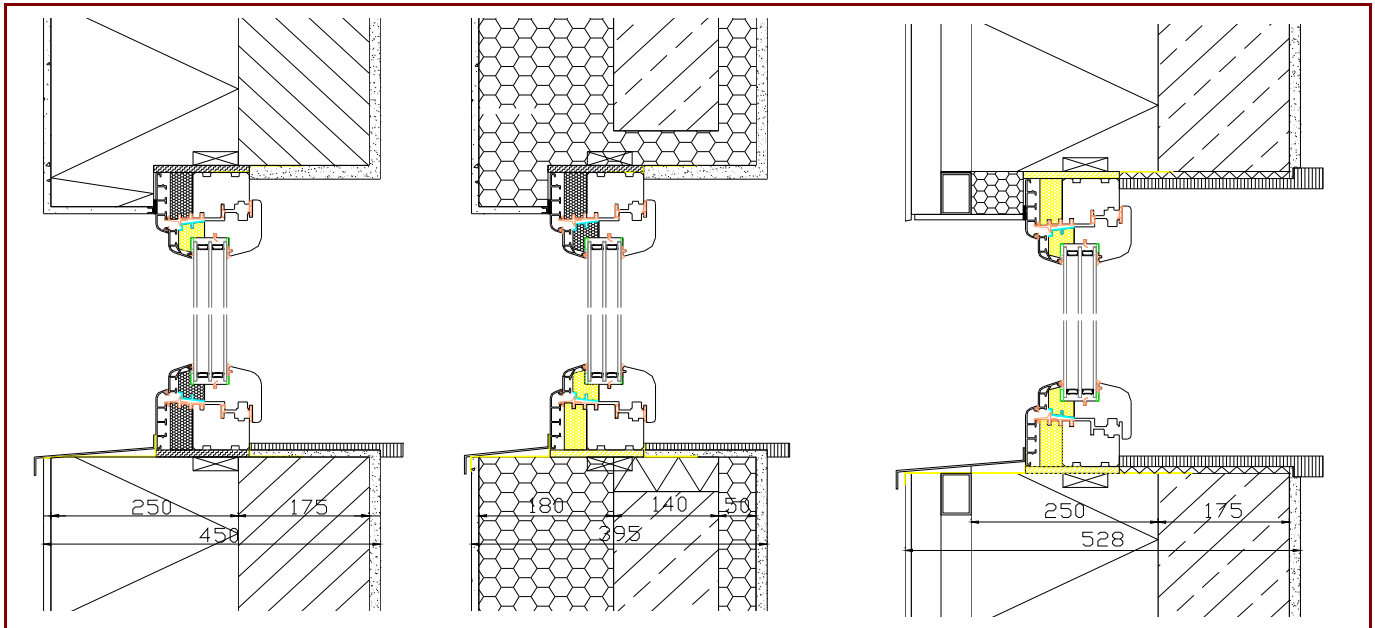
	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer	ChromaTec Ultra*			
Bottom	0.70	124	0.033	0.74
Side/top	0.70	124	0.033	
Flying Mullion	0.72	186	0.033	0.74



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

Data Sheet GTPD DOMIS DOO ČAČAK, POLAR

Installation



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

		EIFS	Insulated formwork blocks	Curtain wall
Position				
Bottom	[W/(mK)]	0.022	0.015	0.011
Side/top	[W/(mK)]	0.017	0.012	0.005
$U_{W,instal.}$	[W/(m ² K)]	0.84	0.82	0.80

Explanatory notes

The window U-values were calculated based on a 1.23 m by 1.48 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)]	0.75	0.71	0.67

Depending on the thermal losses through opaque elements, windows 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 bonded 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.