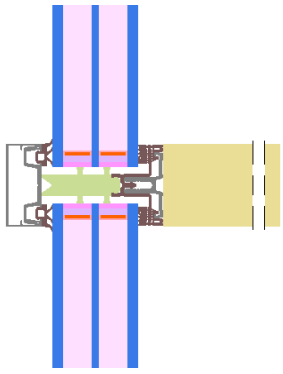
Certificate

Certified Passive House component
for cool, temperate climate, valid until 31.12.2016

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Curtain Wall**
Manufacturer: **GUTMANN AG**
91781 Weißenburg, GERMANY
Product name: **Lara GF 50 - PH**



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 0,7 W/(m²K) and an element size of 1.20 m by 2.50 m,

U_{CW} = 0,80 W/(m²K) ≤ 0.80 W/(m²K)

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 facede meets the following criterion.

$U_{CW,eingebaut}$ ≤ 0.85 W/(m²K)

Thermal data of the construction

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0,2}$ [-]
Spacer			Swisspacer V*	
Transom (t)	0,91	50	0,036	0,78
Mullion (m)	0,91	50	0,036	
Thermal glass carrier bridge χ_{GT} [W/K]:				0,004

*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

phA
CERTIFIED COMPONENT
Passive House Institute

Data Sheet GUTMANN AG, Lara GF 50 - PH

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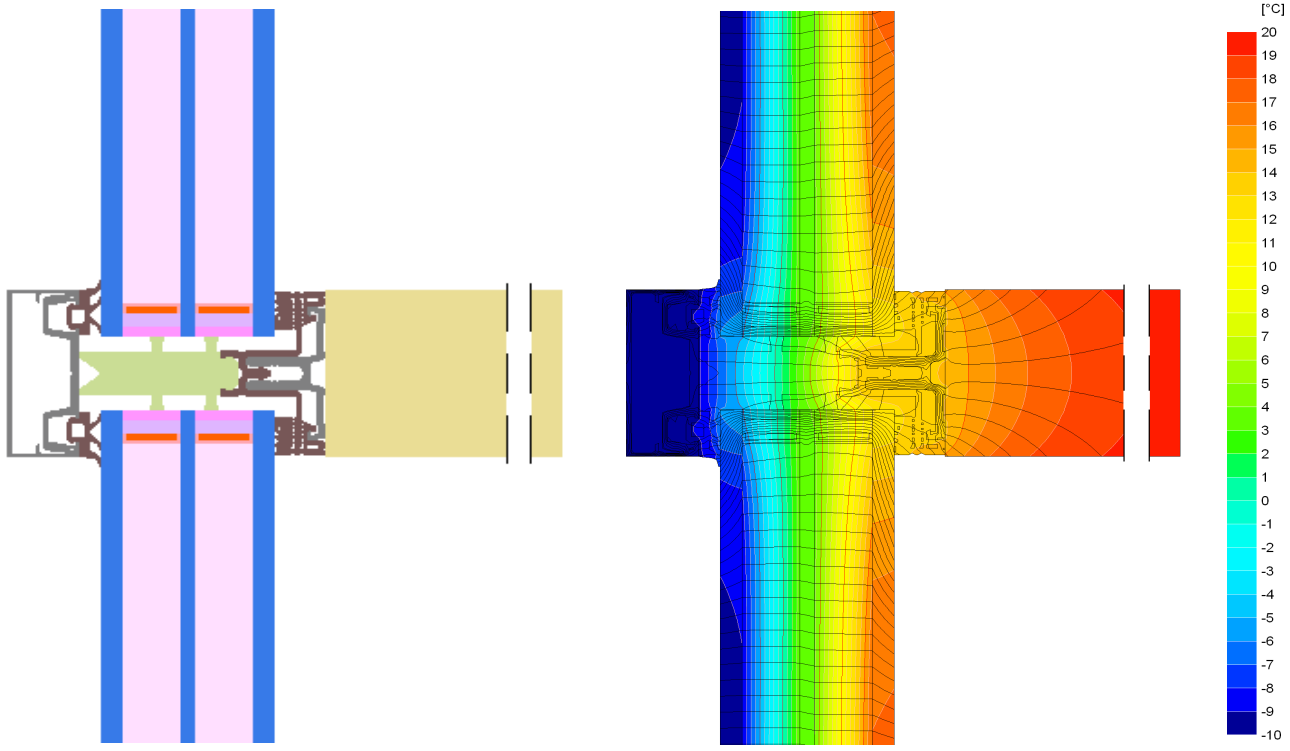

Bottom section Isothermal

Description

Timber construction, Aluminium covering- and pressure-strip. PE-foam insulator in the glazing rebate (0,035 W/(mK)). Plastic glass-carier on stainless steel screws. Used Pane: 48 mm (6/16/4/16/6), intersection of the Glass: 14 mm. Used spacer: Swisspacer V

Thermal data

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.20}$ [-]
Spacer			Swisspacer V*	
Transom (t)	0,91	50	0,036	0,78
Mullion (m)	0,91	50	0,036	
Opening element				
-				
Thermal glass carrier bridge χ_{GT} [W/K]:				0,004

1: Includes ΔU = 0,23 W/(m²K), Determined by 3D thermal flux simul. (PHI)
2: Standard value according to the PHI criteria for transparent components

Depending on the thermal losses through opaque elements, windows are categorised in 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.

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