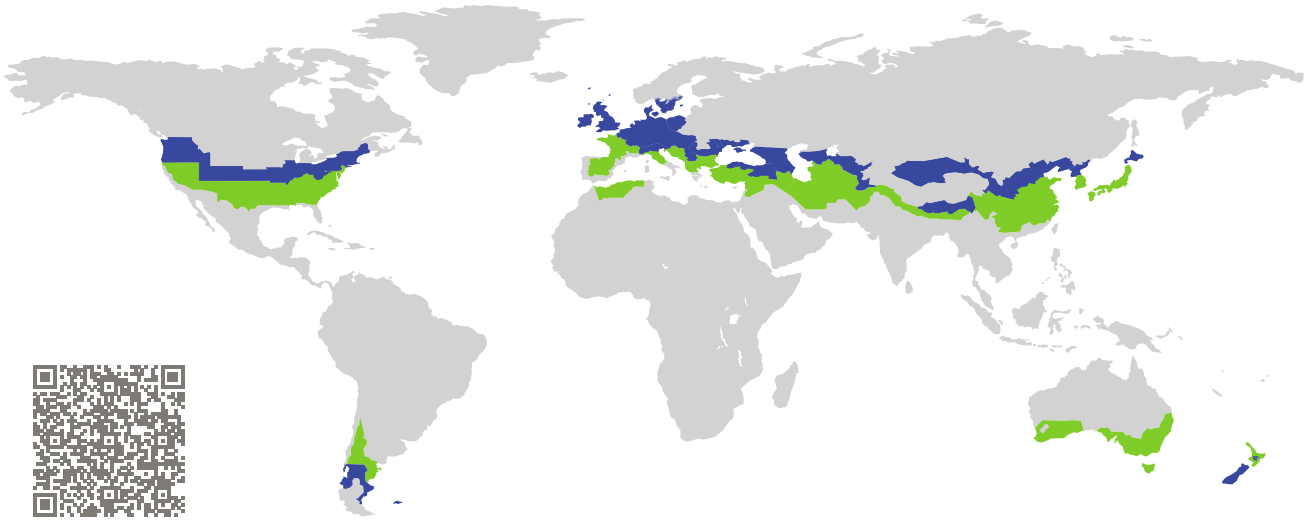
CERTIFICATE

Certified Passive House Component

Component-ID 0156cw03 valid until 31st December 2026

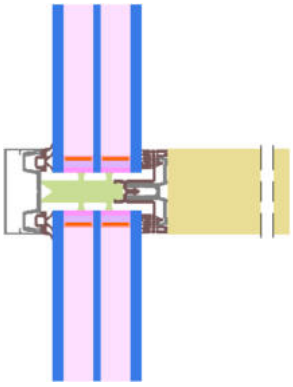
Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category: **Curtain Wall**

Manufacturer: **GUTMANN Bausysteme GmbH, Weißenburg, Germany**

Product name: **Lara GF 50 - PH**



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

Comfort	U_{CW}= 0.80	≤	0.80 W/(m² K)
	$U_{CW,installed}$	≤	0.85 W/(m² K)
	with U_g	=	0.70 W/(m² K)
Hygiene	$f_{Rsi=0.25}$	≥	0.70

cool, temperate climate

phA

CERTIFIED COMPONENT

Passive House Institute

Passive House efficiency class	phE	phD	phC	phB	phA

www.passivehouse.com

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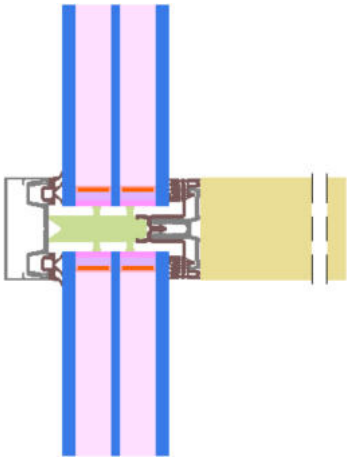
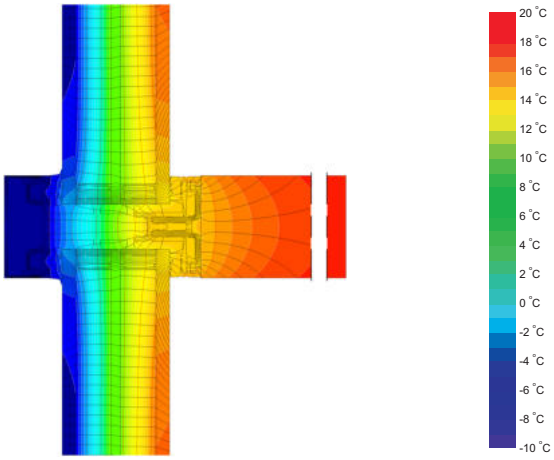


Calculation model



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. The screw-losses were carried out by 3D-thermal flux simulation (PHI), for the glass-carrier losses, the default-vaues according to the certification criteria were taken into account. Used spacer: Swisspacer V. The glazing was calculated with a 3 mm secondary seal. As it is often the case that this is thicker, today the calculation is carried out with a 6 mm secondary seal. This leads to a higher glazing edge thermal bridge, which can also be estimated by way of the spacer certificates: www.passivhauskomponenten.org / glazing edge bonds. The higher rates of heat loss can be compensated for by using e. g. improved glazing.

Explanation

The element U-values were calculated for the test element size of 1.20 m × 2.50 m with U_g = 0.70 W/(m² K). If a higher quality glazing is used, the element U-values will improve as follows:

Glazing	U_g =	0.70	0.69	0.58	0.53	W/(m² K)
		↓	↓	↓	↓	
Element	U_{CW}	0.80	0.79	0.69	0.64	W/(m² K)

Transparent building components are sorted 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 that have been certified for climate zones with higher thermal 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.

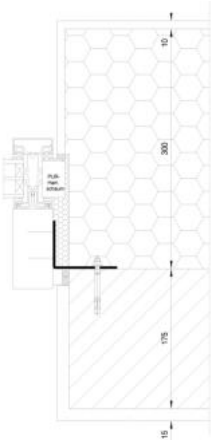
Further information relating to certification
can be found on www.passivehouse.com and passipedia.org.

Frame values		Frame width b_f mm	U-value frame U_f [1] W/(m² K)	Ψ-glazing edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Mullion fixed	(0M1)	50	0.91	0.036	0.78
Transom fixed	(0T1)	50	0.91	0.036	0.78
Bottom fixed	(FB1)	50	0.91	0.036	0.78
Top fixed glazing	(FH1)	50	0.91	0.036	0.78
Jamb fixed glazing	(FJ1)	50	0.91	0.036	0.78
Spacer: SWISSPACER V			Secondary seal: Polysulfide		

Thermal glass carrier bridge[2] χ_{GT} = 0.004 W/K

Validated installations

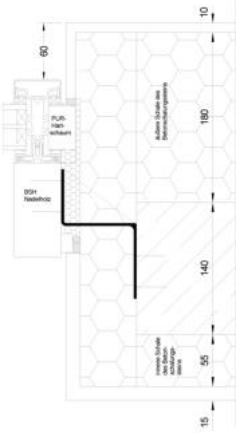
Exterior insulation and finishing system (EIFS) (fixed glazed)



$\Psi_{install}$	W/(m K)
Top	0.013
Left	0.013
Right	0.013
Bottom	0.013

$U_{W,installed}$ = 0.82 W/(m² K)

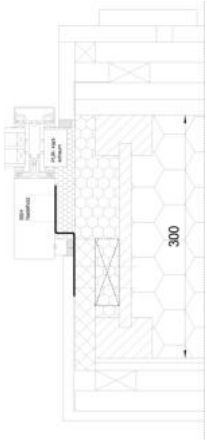
Formwork blocks (fixed)



$\Psi_{install}$	W/(m K)
Top	0.011
Left	0.011
Right	0.011
Bottom	0.011

$U_{W,installed}$ = 0.82 W/(m² K)

Lightweight timber (fixed glazed)



$\Psi_{install}$	W/(m K)
Top	0.018
Left	0.018
Right	0.018
Bottom	0.018

$U_{W,installed}$ = 0.83 W/(m² K)

Disclaimer: The Passive House Institute GmbH (PHI) conducts heat-transfer analyses in accordance with the standards set out in Criteria and Algorithms for Certified Passive House Components: Transparent Building Components and Opening Elements in the Building Envelope, based on information provided by the manufacturer. PHI does not verify on-site implementation. It is the responsibility of the project leader to ensure that installed components match the certified specifications in terms of geometry, configuration, and materials. Manufacturers must make full product information available upon request to parties involved in a construction project. These parties may compare the provided information with project documentation and perform on-site inspections as part of the quality-assurance process.

[1] Includes ΔU = 0.23 W/(m² K) – Determined through 3D FEM simulation
[2] Standard value. Glass carrier type: Non-metallic glass carrier with screws