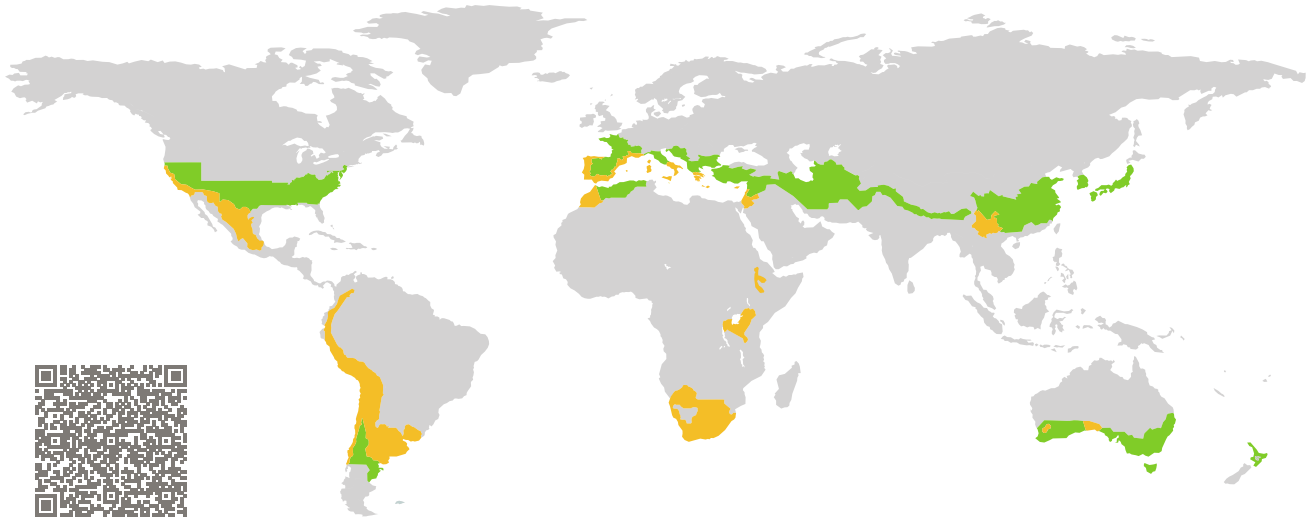


CERTIFICATE

Certified Passive House Component

Component-ID 1615wi04 valid until 31st December 2020

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

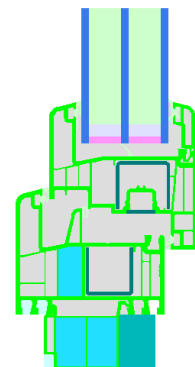


Category: **Window Frame**
Manufacturer: **GEALAN Fenster-Systeme GmbH,
Madrid,
Spain**
Product name: **Certification S9000plus**

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

Comfort $U_W = 1.00 \leq 1.00 \text{ W}/(\text{m}^2 \text{ K})$
 $U_{W,\text{installed}} \leq 1.05 \text{ W}/(\text{m}^2 \text{ K})$
with $U_g = 0.90 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene $f_{Rsi=0.25} \geq 0.65$



warm, temperate climate



ph C

**CERTIFIED
COMPONENT**

Passive House Institute

Passive House
efficiency class

phE

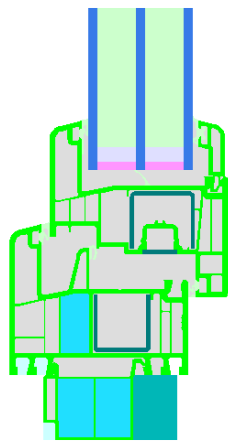
phD

phC

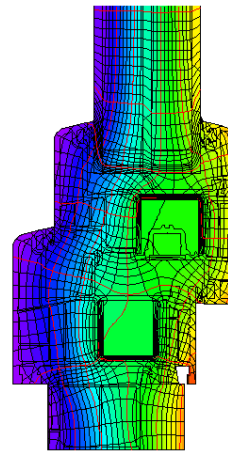
phB

phA

www.passivehouse.com



Calculation model



Isothermal

Description

PVC frame with PU foam (IKD[®], 0.026 W/(mK)) insulated chamber. Frame 6004 with reinforcement 6715 and bottom frame extension 7202 IKD, frame 6009 IKD with reinforcement 6716 and frame extension 7299 IKD, mullion 6088 with reinforcement 6711, sash 6003 with reinforcement 6706. Pane thickness: 48 mm (4/18/4/18/4), rebate depth: 23 mm. Maximum window size up to 30 kg/m² glass weight: White frame 0.95 * 2.3 m, max. 2.2 m³. Coloured frame: 0.95 * 2.10 m, max. 2.2 m².

Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with $U_g = 0.90$ W/(m² K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	$U_g =$	0.90	0.64	0.58	0.52	W/(m ² K)
		↓	↓	↓	↓	
Window	$U_W =$	1.00	0.82	0.78	0.74	W/(m ² K)

Transparent building components are classified 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 which have been certified for climate zones with higher 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 W/(m ² K)	Ψ -panel edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Top	(to)		118	1.01	0.026	0.71
Top Variant 1	(to)		132	0.97	0.026	0.72
Side	(s)		118	1.01	0.026	0.71
Side Variant 1	(s)		132	0.97	0.026	0.72
Bottom	(bo)		148	0.96	0.026	0.71
Bottom Variant 1	(bo)		174	1.07	0.026	0.71
Mullion flying	(fm)		170	1.08	0.025	0.66
			Spacer: SWISSPACER ULTIMATE		Secondary seal: Polysulfid	

Validated installations

