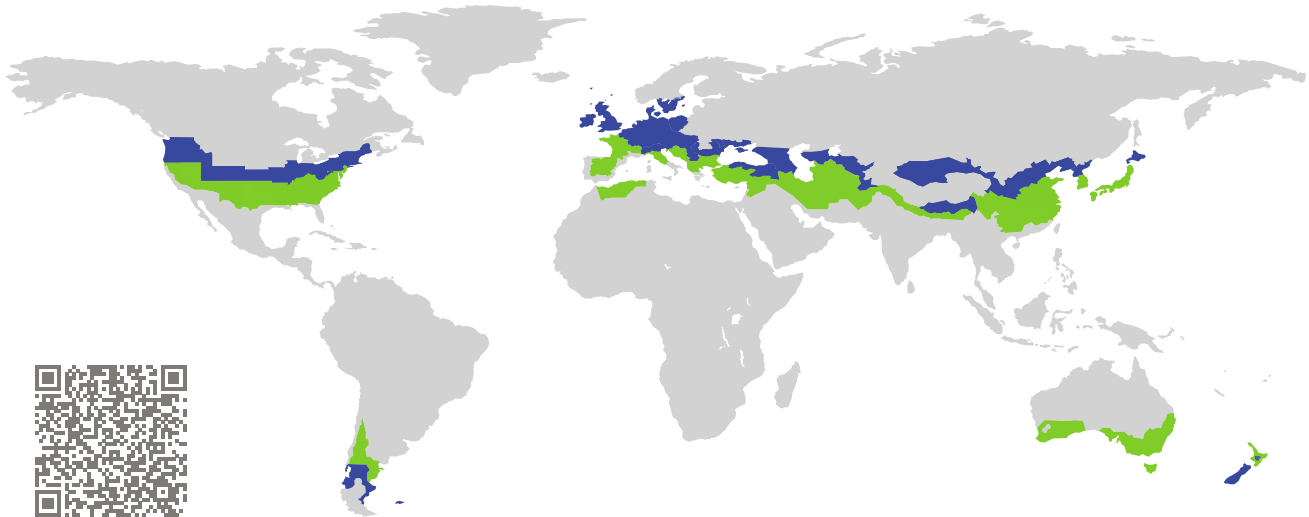


# CERTIFICATE

Certified Passive House Component

Component-ID 1655wi03 valid until 31st December 2024

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany

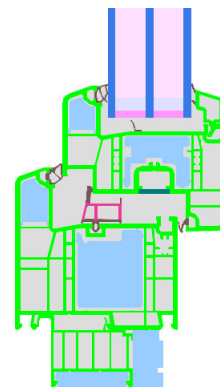


Category: **Window Frame**  
Manufacturer: **Rehau Industries SE & Co. KG,  
Erlangen,  
Germany**  
Product name: **GENEO PHZ**

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

Comfort  $U_W = 0.80 \leq 0.80 \text{ W}/(\text{m}^2 \cdot \text{K})$   
 $U_{W,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \cdot \text{K})$   
with  $U_g = 0.70 \text{ W}/(\text{m}^2 \cdot \text{K})$

Hygiene  $f_{Rsi=0.25} \geq 0.70$



Passive House  
efficiency class

phE

phD

phC

phB

phA

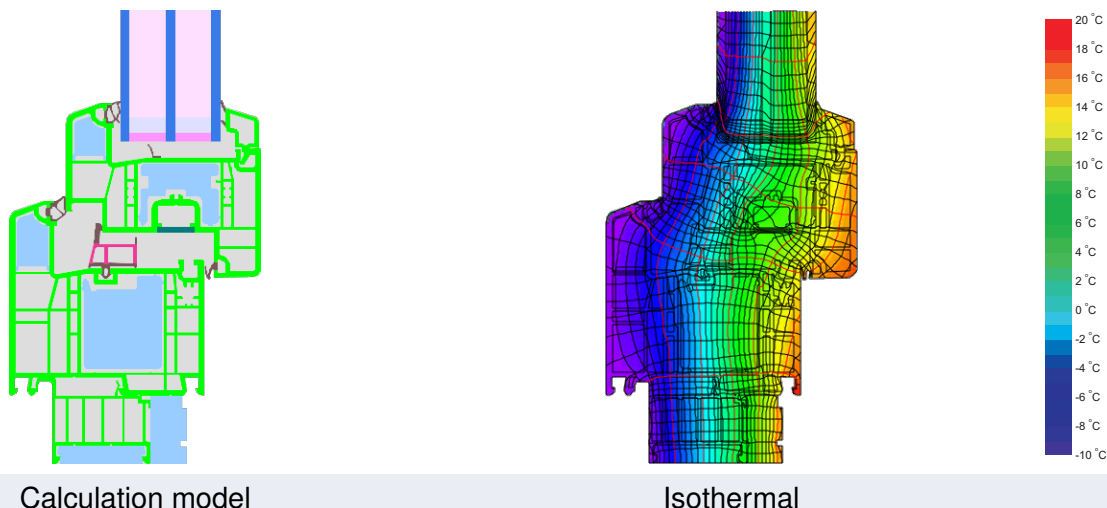
[www.passivehouse.com](http://www.passivehouse.com)

cool, temperate climate



**CERTIFIED  
COMPONENT**

Passive House Institute



Calculation model Isothermal

### Description

PVC window frame with EPS insulation (0,031 W/(mK)); glazing thickness 44 mm (4/16/4/16/4); rebate depth 17 mm; edge bond: SWISSPACER Ultimate with polysulfide secondary seal. The maximum sizes for a D/DK sash (sash Z 57, not reinforced) are for white-coloured: W 1400 x H 1400 mm or: W 1000 x H 2300 mm For non-white-coloured (e.g. laminated): W 1300 x H 1300 mm or: W 900 x H 2200 mm

### Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with  $U_g = 0.70 \text{ W}/(\text{m}^2 \cdot \text{K})$ . If a higher quality glazing is used, the window U-values will improve as follows:

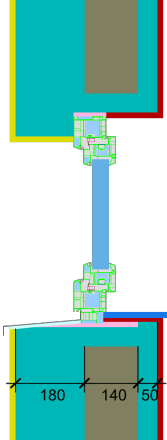
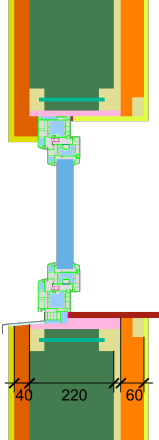
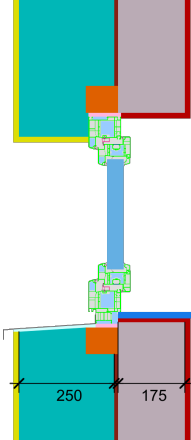
Glazing	$U_g =$	0.70	0.64	0.58	0.53	$\text{W}/(\text{m}^2 \cdot \text{K})$
		↓	↓	↓	↓	
Window	$U_W =$	0.80	0.76	0.73	0.69	$\text{W}/(\text{m}^2 \cdot \text{K})$





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](http://www.passivehouse.com) and [passipedia.org](http://passipedia.org).

## Validated installations

Formwork blocks (operable)	Lightweight timber (operable)	Exterior insulation and finishing system (EIFS) (operable)
$U_{Wall} = 0.15 \text{ W}/(\text{m}^2 \cdot \text{K})$	$U_{Wall} = 0.13 \text{ W}/(\text{m}^2 \cdot \text{K})$	$U_{Wall} = 0.13 \text{ W}/(\text{m}^2 \cdot \text{K})$
		
$\Psi_{install}$ W/(m · K)	$\Psi_{install}$ W/(m · K)	$\Psi_{install}$ W/(m · K)
Top 0.004	Top 0.013	Top 0.007
Side 0.004	Side 0.013	Side 0.007
Bottom 0.022	Bottom 0.015	Bottom 0.034
$U_{W,installed} = 0.83 \text{ W}/(\text{m}^2 \cdot \text{K})$	$U_{W,installed} = 0.84 \text{ W}/(\text{m}^2 \cdot \text{K})$	$U_{W,installed} = 0.84 \text{ W}/(\text{m}^2 \cdot \text{K})$

Frame values		Frame width $b_f$ mm	$U$ -value frame $U_f$ W/(m <sup>2</sup> · K)	$\Psi$ -glazing edge $\Psi_g$ W/(m · K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Flying Mullion (FM1)		142	0.82	0.028	0.72
Bottom (OB1)		159	0.82	0.029	0.74
Top (OH1)		129	0.78	0.029	0.74
Lateral (OJ1)		129	0.78	0.029	0.74
Spacer: SWISSPACER ULTIMATE		Secondary seal: Polysulfide			

