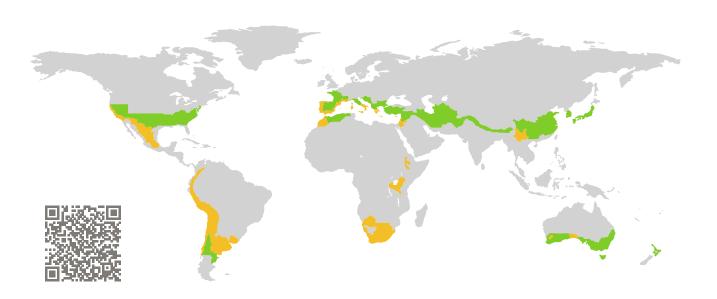
# **CERTIFICATE**

**Certified Passive House Component** 

Component-ID 1089wi04 valid until 31st December 2018

Passive House Institute Dr. Wolfgang Feist 64283 Darmstadt Germany



Category: Window Frame

Manufacturer: Industrias REHAU,

Gavá, Spain

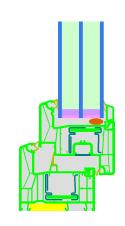
Product name: SYNEGO PHZ

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

Comfort  $U_W = 0.99 \le 1.00 \text{ W/(m}^2 \text{ K)}$ 

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

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





phE

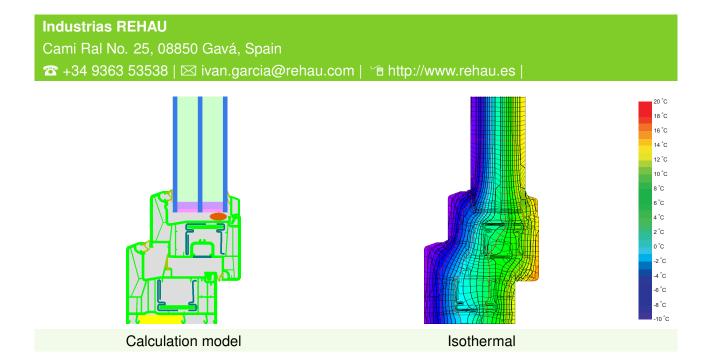
ph**D** 

phC

ph

ph**A** 





#### **Description**

PVC-frame with thermally seperated reinforcements and insulation (0.032 W/(mK)) inside the blind-frame. Pane thickness: 48 mm (4/18/4/18/4), rebate depth: 19 mm, spacer: SWISSPACER Ultimate

#### **Explanation**

The window U-values were calculated for the test window size of 1.23 m  $\times$  1.48 m with  $U_g = 0.90$  W/(m<sup>2</sup> K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing 
$$U_g = \begin{array}{cccccc} 0.90 & 0.70 & 0.68 & 0.64 & \text{W/(m}^2 \, \text{K)} \\ \downarrow & \downarrow & \downarrow & \downarrow \\ \text{Window} & U_W = \begin{array}{cccccc} 0.99 & 0.86 & 0.84 & 0.82 & \text{W/(m}^2 \, \text{K)} \end{array}$$

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.

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Frame values			Frame width  b <sub>f</sub> mm	$U$ -value frame $U_f$ W/(m $^2$ K)	$\Psi$ -panel edge $\Psi_g$ W/(m K)	Temp. Factor f <sub>Rsi=0.25</sub> [-]
Тор	(to)	7	117	1.01	0.025	0.70
Side	(s)	Ŋ-	117	1.01	0.025	0.70
Bottom	(bo)	Ţ	117	1.01	0.025	0.70
Mullion	(fm)	7	164	0.97	0.024	0.71
	Sp	acer: SW	ISSPACER Ultimate	e Secoi	Secondary seal: Polysulfide	

### Validated installations

