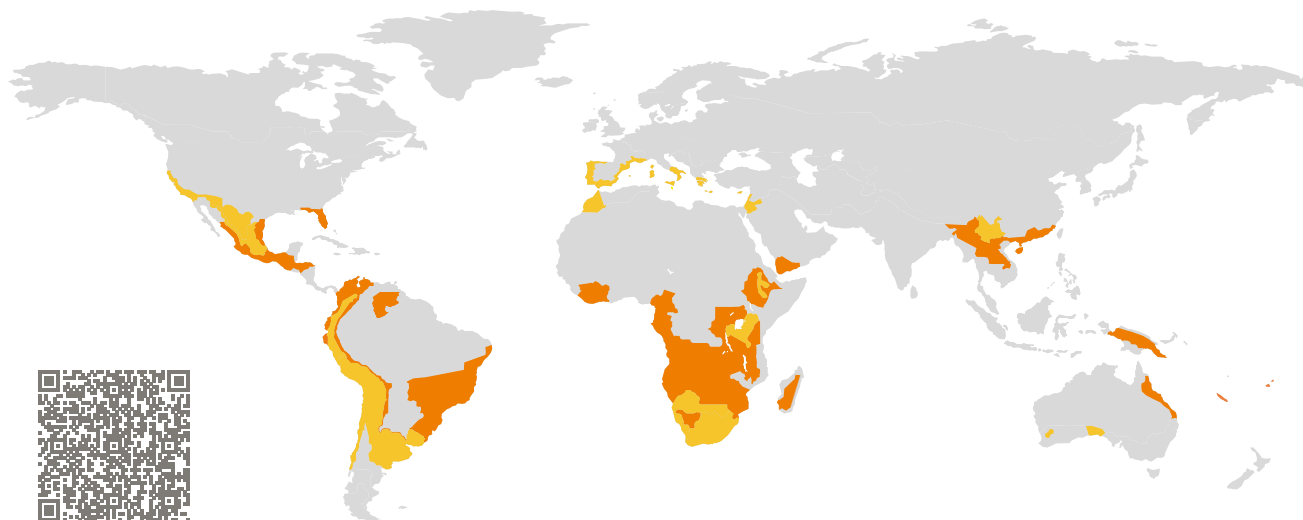


CERTIFICATE

Certified Passive House Component

Component-ID 1950wi05 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

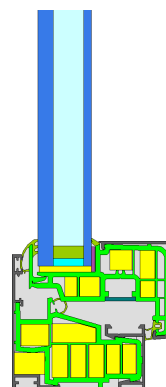


Category: **Window Frame**
Manufacturer: **ALUMINIOS VALVERDE DEL VALLES, SL, Granollers, Spain**
Product name: **Refine HO PR RPT 70 c16**

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

Comfort $U_{W=1.20} \leq 1.20 \text{ W}/(\text{m}^2 \text{ K})$
 $U_{W,\text{installed}} \leq 1.25 \text{ W}/(\text{m}^2 \text{ K})$
with $U_g = 1.10 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene $f_{Rsi=0.25} \geq 0.55$



Passive House
efficiency class

phE

phD

phC

phB

phA

www.passivehouse.com

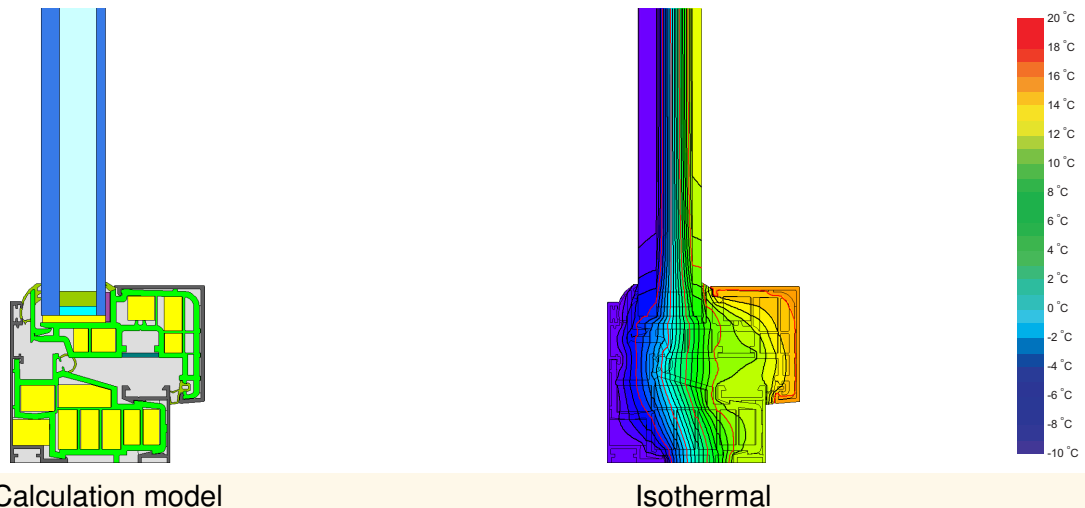
warm climate



phB

**CERTIFIED
COMPONENT**

Passive House Institute



Calculation model

Isothermal

Description

Vinyl-frame with aluminium facing shell. Cavities partly insulated with PUR-foam (0.027 W/(mK)). Max. dimensions: 1.60m (width), 2.80 m (height) (150kg). Pane thickness: 28 mm (8/16/4/0/0), rebate depth: 13 mm

Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with $U_g = 1.10$ W/(m² K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	$U_g =$	1.10	1.00	0.90	0.80	W/(m ² K)
		↓	↓	↓	↓	
Window	$U_W =$	1.20	1.12	1.04	0.97	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.

Validated installations

Ventilated facade		Exterior insulation and finishing system (EIFS) (operable)		Cavity wall (operable)	
$U_{Wall} = 0.46 \text{ W}/(\text{m}^2 \text{ K})$		$U_{Wall} = 0.47 \text{ W}/(\text{m}^2 \text{ K})$		$U_{Wall} = 0.44 \text{ W}/(\text{m}^2 \text{ K})$	
<p> Ventiliertes facade – Außenputz 0,100 W/(mK) EPS 0,030 W/(mK) Dämm-Linse 0,100 W/(mK) Innenseiteputz 0,010 W/(mK) Luftschicht 0,010 W/(mK) Luftschicht-Ebene </p> <p> Luftschicht-Anschluss durch Fliesenschichtung Allright tape connection with fleece backing </p> <p> Luftschicht-Anschluss durch Fliesenschichtung Allright tape connection with fleece backing </p>		<p> Exterior Plaster 0,100 W/(mK) EPS 0,030 W/(mK) Dämm-Linse 0,100 W/(mK) Innenseiteputz 0,010 W/(mK) Allright barrier </p> <p> Außenputz 0,100 W/(mK) EPS 0,030 W/(mK) Dämm-Linse 0,100 W/(mK) Innenseiteputz 0,010 W/(mK) Luftschicht-Ebene </p> <p> Luftschicht-Anschluss durch Fliesenschichtung mit Fliesenschichtung Allright tape connection with fleece backing </p> <p> Luftschicht-Anschluss durch Fliesenschichtung mit Fliesenschichtung Allright tape connection with fleece backing </p>		<p> Cluster Brick 1,200 W/(mK) All right EPS 0,030 W/(mK) Dämm-Linse 0,100 W/(mK) Innenseiteputz 0,010 W/(mK) Luftschicht-Ebene </p> <p> Cluster MW 1,200 W/(mK) Allright EPS 0,030 W/(mK) Dämm-Linse 0,100 W/(mK) Innenseiteputz 0,010 W/(mK) Luftschicht-Ebene </p> <p> Luftschicht-Anschluss durch Fliesenschichtung Allright tape connection with fleece backing </p> <p> Luftschicht-Anschluss durch Fliesenschichtung Allright tape connection with fleece backing </p>	
$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)
Top	0.016	Top	0.018	Top	0.017
Side	0.016	Side	0.018	Side	0.017
Bottom	0.021	Bottom	0.019	Bottom	0.023
$U_{W,installed} = 1.25 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,installed} = 1.25 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,installed} = 1.25 \text{ W}/(\text{m}^2 \text{ K})$	

Frame values		Frame width b_f mm	U -value frame U_f W/(m ² K)	Ψ -glazing edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Flying Mul- lion	(FM1)	109	1.34	0.034	0.63
Bottom	(OB1)	78	1.14	0.035	0.64
Top	(OH1)	78	1.14	0.035	0.64
Lateral	(OJ1)	78	1.14	0.035	0.64
Spacer: TGI-Spacer Precision			Secondary seal: Butyl		

