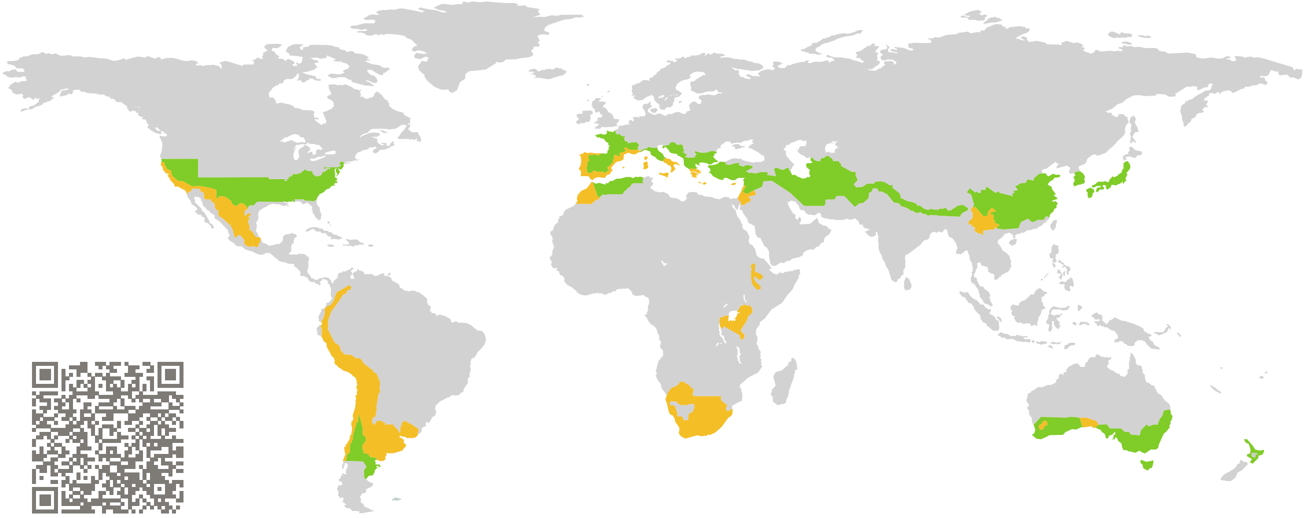
CERTIFICATE

Certified Passive House Component

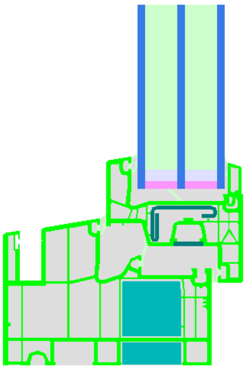
Component-ID 1481wi04 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Window Frame**
Manufacturer:	**Piva Group S.p.A., Roncanova di Gazzo Veronese (VR), Italy**
Product name:	**PVC Piva Serie MD R**

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



Comfort	$U_W = 0.98$	$\leq$	$1.00\ \mathrm{W/(m^2\,K)}$
	$U_{W,\mathrm{installed}}$	$\leq$	$1.05\ \mathrm{W/(m^2\,K)}$
	with U_g	$=$	$0.90\ \mathrm{W/(m^2\,K)}$
Hygiene	$f_{Rsi=0.25}$	$\geq$	0.65

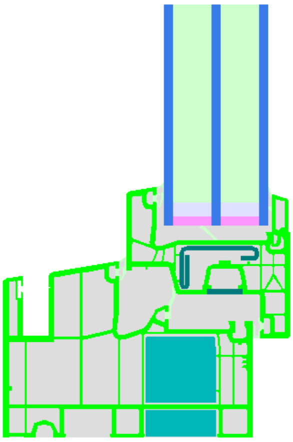
warm, temperate climate

CERTIFIED COMPONENT

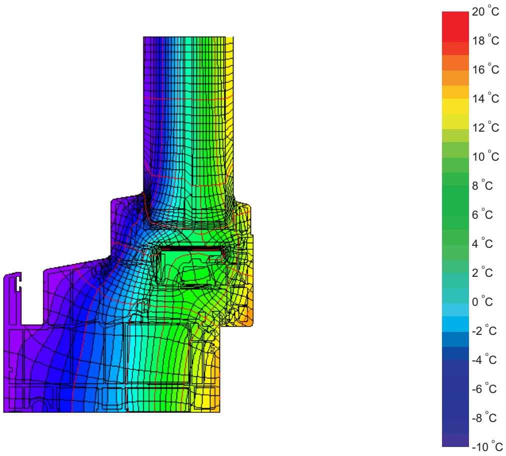
Passive House Institute

Passive House efficiency class	phE	▼ phD	phC	phB	phA

www.passivehouse.com



Calculation model



Isothermal

Description

PVC-windowframe ingrated roller shutter. Reinforced by steel inside the bottom and lateral sash as well as in the top frame. Insulated by EPS (0.035 W/(mK)). Pane thickness: 48 mm (4/18/4/18/4), rebate depth: 18 mm. Spacer: Multitech.

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/(m^2 K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	U_g =	0.90	0.70	0.62	0.54	W/(m^2 K)
		↓	↓	↓	↓	
Window	U_W =	0.98	0.87	0.82	0.78	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.

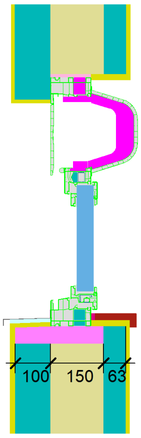
The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense 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

Solid timber (operable)

$U_{\text{Wall}} = 0.17\ \text{W/(m}^2\,\text{K)}$

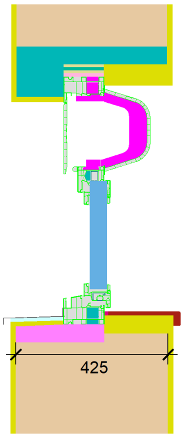


Ψ_{install}	W/(m K)
Top	0.024
Side	0.021
Bottom	0.024

$U_{W,\text{installed}} = 1.04\ \text{W/(m}^2\,\text{K)}$

Monolithic construction (operable)

$U_{\text{Wall}} = 0.19\ \text{W/(m}^2\,\text{K)}$

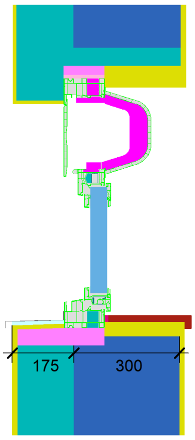


Ψ_{install}	W/(m K)
Top	0.022
Side	0.019
Bottom	0.028

$U_{W,\text{installed}} = 1.04\ \text{W/(m}^2\,\text{K)}$

Exterior insulation and finishing system (EIFS) (operable)

$U_{\text{Wall}} = 0.17\ \text{W/(m}^2\,\text{K)}$



Ψ_{install}	W/(m K)
Top	0.018
Side	0.015
Bottom	0.040

$U_{W,\text{installed}} = 1.04\ \text{W/(m}^2\,\text{K)}$

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 $f_{Rsi=0.25}$ [-]
Mullion 1 casement	(1M1)	132	1.24	0.026	0.67
Flying Mullion	(FM1)	146	1.16	0.026	0.62
Bottom	(OB1)	116	0.95	0.026	0.70
Top	(OH1)	362	0.93	0.026	0.69
Lateral	(OJ1)	116	0.95	0.026	0.70

Spacer: MULTITECH Secondary seal: Polysulfide