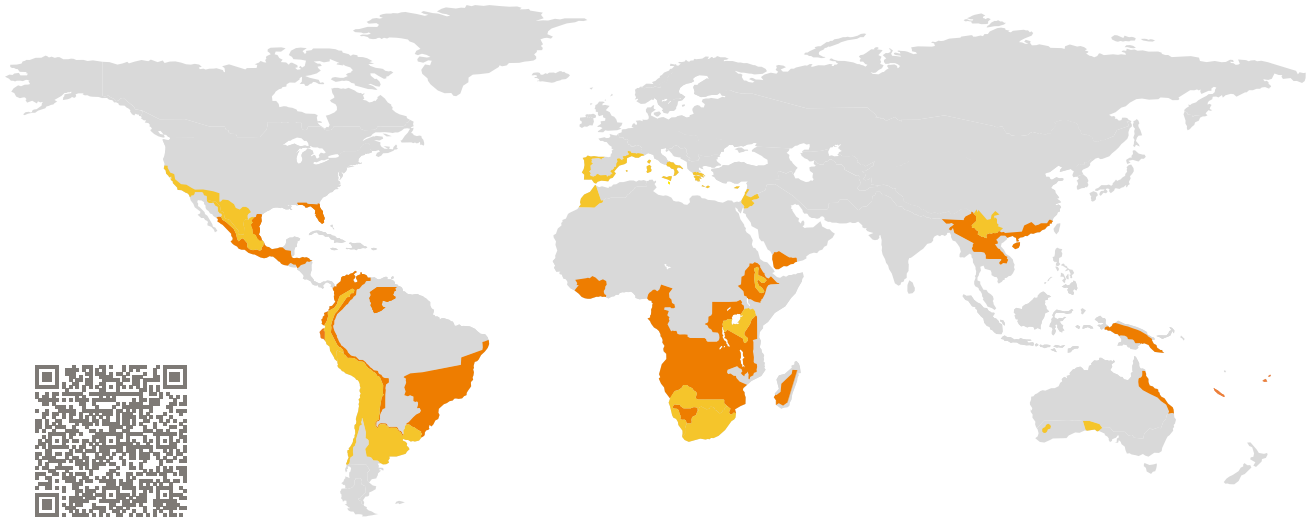


CERTIFICATE

Certified Passive House Component

Component-ID 2136wi05 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

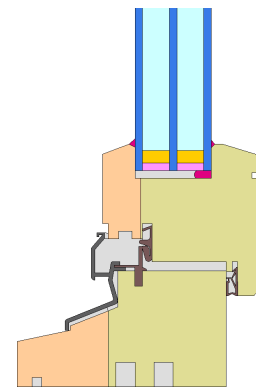


Category: **Window Frame**
Manufacturer: **Paarhammer Pty / Ltd,
Ballan,
Australia**
Product name: **Passive House IV82 Range**

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

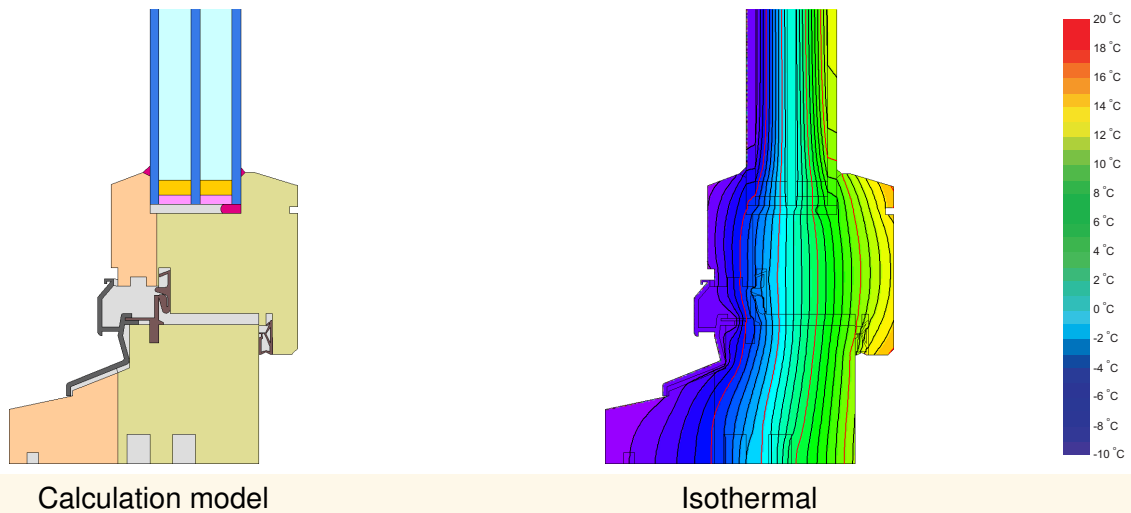
www.passivehouse.com

warm climate



**CERTIFIED
COMPONENT**

Passive House Institute



Description

Wooden frame (0.13 W/(mK)) with aluminum weather shell on sill, Accoya outer layer. Pane thickness: 40 mm (4/14/4/14/4), 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:

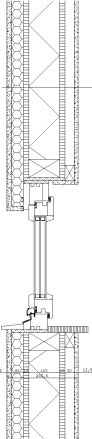
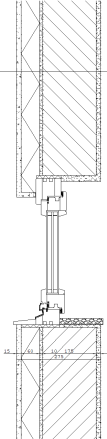
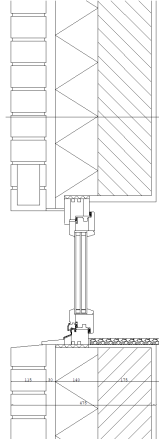
Glazing	$U_g =$	1.10	0.90	0.70	0.64	W/(m ² K)
		↓	↓	↓	↓	
Window	$U_W =$	1.20	1.07	0.93	0.89	W/(m ² K)





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

Lightweight timber (operable)		Exterior insulation and finishing system (EIFS) (operable)		Cavity wall (operable)	
$U_{\text{Wall}} = 0.27 \text{ W}/(\text{m}^2 \text{ K})$		$U_{\text{Wall}} = 0.47 \text{ W}/(\text{m}^2 \text{ K})$		$U_{\text{Wall}} = 0.44 \text{ W}/(\text{m}^2 \text{ K})$	
 <ul style="list-style-type: none"> Exterior plaster 1.0 W/(mK) Wood fibre board 0.050 W/(mK) Cellulose 0.040 W/(mK) OSB-board 0.13 W/(mK) Insulation 0.040 W/(mK) Plasterboard 0.25 W/(mK) 		 <ul style="list-style-type: none"> Exterior plaster 1.0 W/(mK) EPS 0.035 W/(mK) Adhesive 0.70 W/(mK) Sand-lime brick 1.0 W/(mK) Interior plaster 0.57 W/(mK) 		 <ul style="list-style-type: none"> Clinker Brick 1.2 W/(mK) Air gap EPS 0.035 W/(mK) Sand-lime brick 1.0 W/(mK) Interior plaster 0.57 W/(mK) 	
Ψ_{install}	W/(m K)	Ψ_{install}	W/(m K)	Ψ_{install}	W/(m K)
Top	0.014	Top	0.012	Top	0.014
Side	0.014	Side	0.012	Side	0.014
Bottom	0.018	Bottom	0.041	Bottom	0.037
$U_{W,\text{installed}} = 1.24 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,\text{installed}} = 1.25 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,\text{installed}} = 1.25 \text{ W}/(\text{m}^2 \text{ K})$	

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) 	133	1.20	0.027	0.66
Bottom	(OB1) 	128	1.29	0.026	0.65
Top	(OH1) 	123	1.17	0.027	0.66
Lateral	(OJ1) 	123	1.17	0.027	0.66
Spacer: TGI-Spacer Precision		Secondary seal: Polysulfide			

