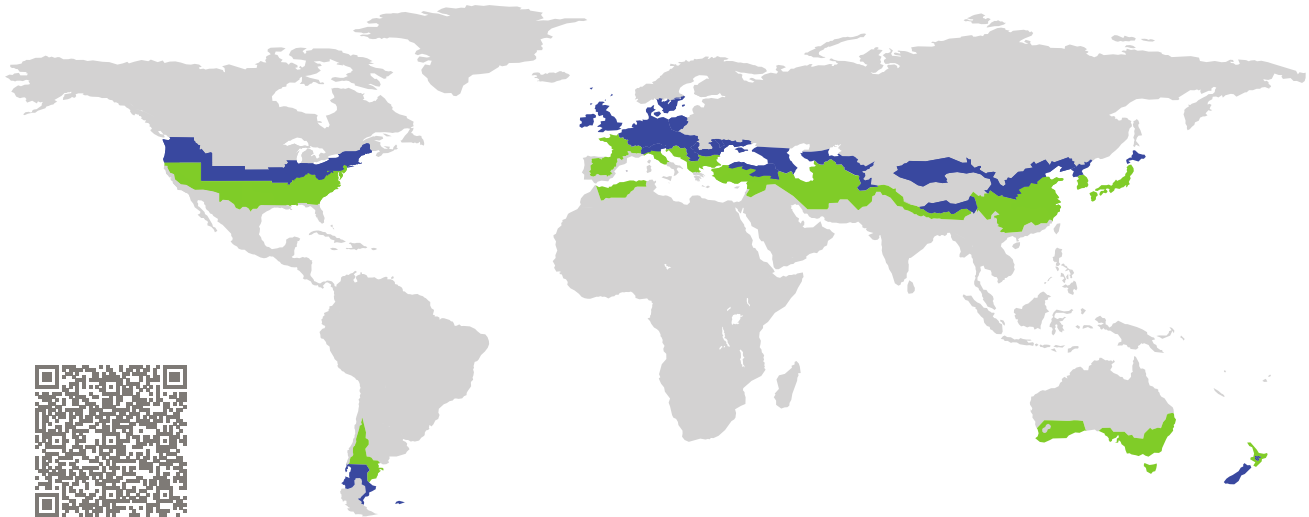# CERTIFICATE

Certified Passive House Component

Component-ID 2252wi03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

Category:	**Window Frame**
Manufacturer:	**Qingdao Jerdvin Household Co. Ltd, Qingdao, China**
Product name:	**Z136**

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

Comfort
$U_W = 0.79 \leq 0.80\,\mathrm{W/(m^2\,K)}$
$U_{W,installed} \leq 0.85\,\mathrm{W/(m^2\,K)}$
with $U_g = 0.70\,\mathrm{W/(m^2\,K)}$

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

cool, temperate climate

ph**B**

CERTIFIED COMPONENT

Passive House Institute
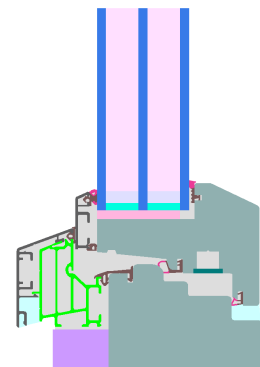
Passive House efficiency class	ph**E**	ph**D**	ph**C**	ph**B**	ph**A**

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Calculation model	Isothermal
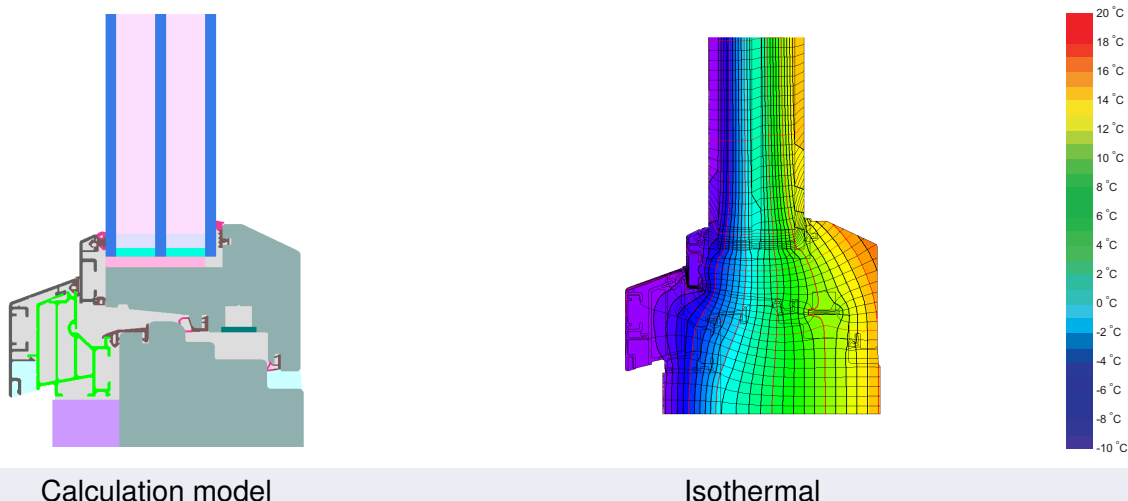
Description

Timber frame with shell (aluminium and PVC) and insulation (XPS 0.035 W/(Wm) and PU foam 0.04 W/(mK)); Pane thickness: 51 mm (5/18/5/18/5); Rebate depth: 15 mm; Spacer: Swisspacer Ultimate; Secondary sealing: Butyl Spacer: Swisspacer Ultimate with butyl as secondary seal.

Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with U_g = 0.70 W/(m² K). If a higher quality glazing is used, the window U-values will improve as follows:
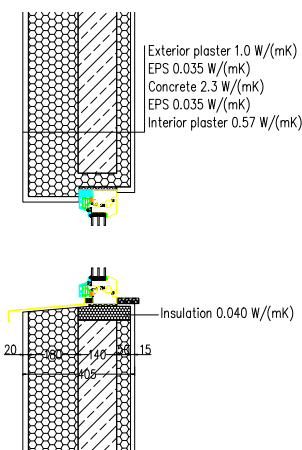
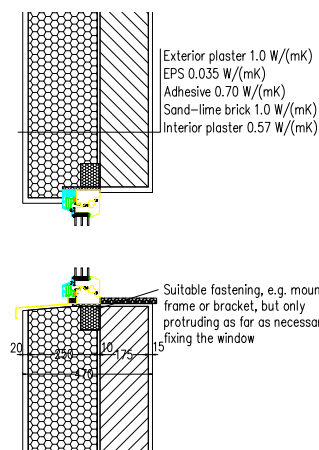| Glazing	U_g =	0.70	0.64	0.58	0.54	W/(m² K)
		↓	↓	↓	↓	
Window	U_W =	0.79	0.74	0.70	0.67	W/(m² K)

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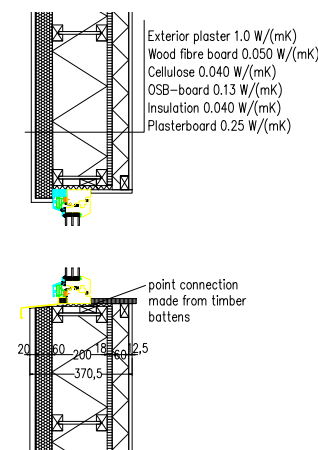
The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense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

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Validated installations

formwork blocks	Exterior insulation and finishing system	lightweight timber
$U_{\text{Wall}} = 0.15\,\text{W/(m}^2\,\text{K)}$	$U_{\text{Wall}} = 0.13\,\text{W/(m}^2\,\text{K)}$	$U_{\text{Wall}} = 0.13\,\text{W/(m}^2\,\text{K)}$

formwork blocks — $U_{\text{Wall}} = 0.15\,\text{W/(m}^2\,\text{K)}$

Exterior plaster 1.0 W/(mK)
EPS 0.035 W/(mK)
Concrete 2.3 W/(mK)
EPS 0.035 W/(mK)
Interior plaster 0.57 W/(mK)

Insulation 0.040 W/(mK)

Exterior insulation and finishing system — $U_{\text{Wall}} = 0.13\,\text{W/(m}^2\,\text{K)}$

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)

Suitable fastening, e.g. mounting frame or bracket, but only protruding as far as necessary for fixing the window

lightweight timber — $U_{\text{Wall}} = 0.13\,\text{W/(m}^2\,\text{K)}$

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)

point connection made from timber battens

Ψ_{install}	W/(m K)	Ψ_{install}	W/(m K)	Ψ_{install}	W/(m K)
Top	0.016	Top	0.008	Top	0.015
Side	0.016	Side	0.008	Side	0.015
Bottom	0.034	Bottom	0.016	Bottom	0.021
$U_{W,\text{installed}} = 0.85\,\text{W/(m}^2\,\text{K)}$		$U_{W,\text{installed}} = 0.82\,\text{W/(m}^2\,\text{K)}$		$U_{W,\text{installed}} = 0.84\,\text{W/(m}^2\,\text{K)}$	

Frame values			Frame width b_f mm	U-value frame U_f W/(m² K)	Ψ-glazing edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Mullion 1 casement	(1M1)		143	0.80	0.023	0.73
Bottom	(OB1)		103	0.82	0.023	0.73
Top	(OH1)		103	0.80	0.023	0.73
Lateral	(OJ1)		103	0.80	0.023	0.73
Spacer: SWISSPACER ULTIMATE				Secondary seal: Butyl		

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