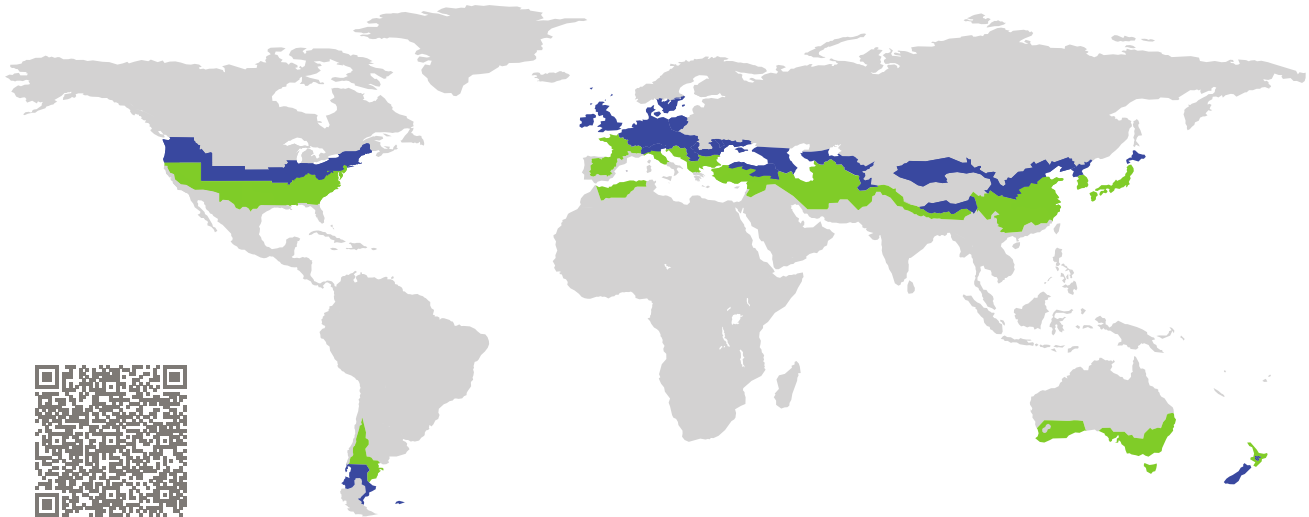


CERTIFICATE

Certified Passive House Component

Component-ID 2144wi03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany

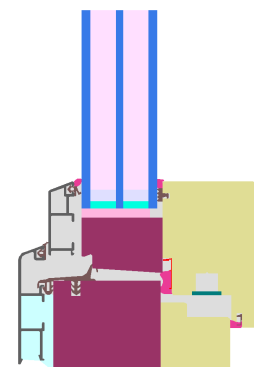


Category: **Window Frame**
Manufacturer: **Zunhua City Dongfang Doors & Windows Co., Ltd.,
Zunhua City, Hebei Province,
China**
Product name: **DF120**

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

Comfort $U_W = 0.76 \leq 0.80 \text{ W}/(\text{m}^2 \text{ K})$
 $U_{W,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \text{ K})$
with $U_g = 0.70 \text{ W}/(\text{m}^2 \text{ K})$

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



cool, temperate climate



CERTIFIED COMPONENT

Passive House Institute

Passive House
efficiency class

phE

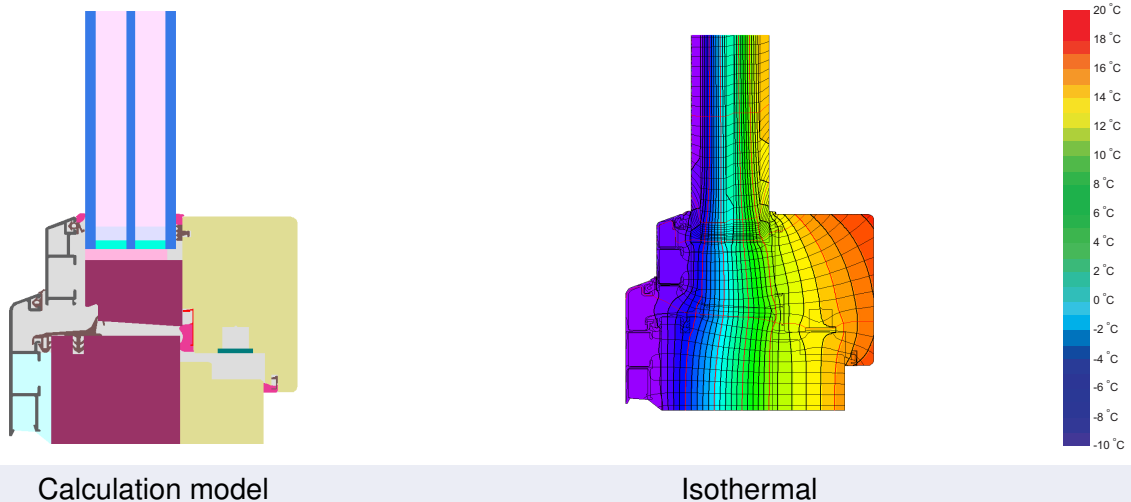
phD

phC

phB

phA

www.passivehouse.com



Calculation model Isothermal

Description

Timber frame with aluminium shell and insulation (EPS 0.048 W/(mK)); Pane thickness: 42 mm (5/14/4/14/5); Rebate depth: 20 mm; Spacer: Technoform-Spacer SP16; Secondary sealing: Butyl

Explanation

The window U-values were calculated for the test window size of 1.23 m × 1.48 m with $U_g = 0.70 \text{ W}/(\text{m}^2 \text{ K})$. If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	$U_g =$	0.70	0.64	0.58	0.24	W/(m ² K)
		↓	↓	↓	↓	
Window	$U_W =$	0.76	0.72	0.67	0.43	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

formwork blocks		Exterior insulation and finishing system		Ventilated facade	
$U_{Wall} = 0.15 \text{ W}/(\text{m}^2 \text{ K})$		$U_{Wall} = 0.13 \text{ W}/(\text{m}^2 \text{ K})$		$U_{Wall} = 0.13 \text{ W}/(\text{m}^2 \text{ K})$	
<p>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)</p>		<p>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)</p>		<p>Ventilated facade – substructure Mineral wool 0.035 W/(mK) Concrete 2.3 W/(mK) Interior plaster 0.57 W/(mK)</p>	
<p>Insulation 0.040 W/(mK)</p>		<p>Suitable fastening, e.g. mounting frame or bracket, but only protruding as far as necessary for fixing the window</p>		<p>Suitable fastening, e.g. mounting frame or bracket, but only protruding as far as necessary for fixing the window</p>	
$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)
Top	0.025	Top	0.013	Top	0.009
Side	0.025	Side	0.013	Side	0.009
Bottom	0.041	Bottom	0.019	Bottom	0.015
$U_{W,installed} = 0.84 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,installed} = 0.80 \text{ W}/(\text{m}^2 \text{ K})$		$U_{W,installed} = 0.79 \text{ W}/(\text{m}^2 \text{ K})$	

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 $f_{Rsi=0.25}$ [-]
Mullion 1 casement	(1M1)	155	0.69	0.030	0.76
Bottom	(OB1)	105	0.67	0.027	0.72
Top	(OH1)	105	0.67	0.027	0.72
Lateral	(OJ1)	105	0.67	0.027	0.72
		Spacer:	Secondary seal:		

