

# CERTIFICATE

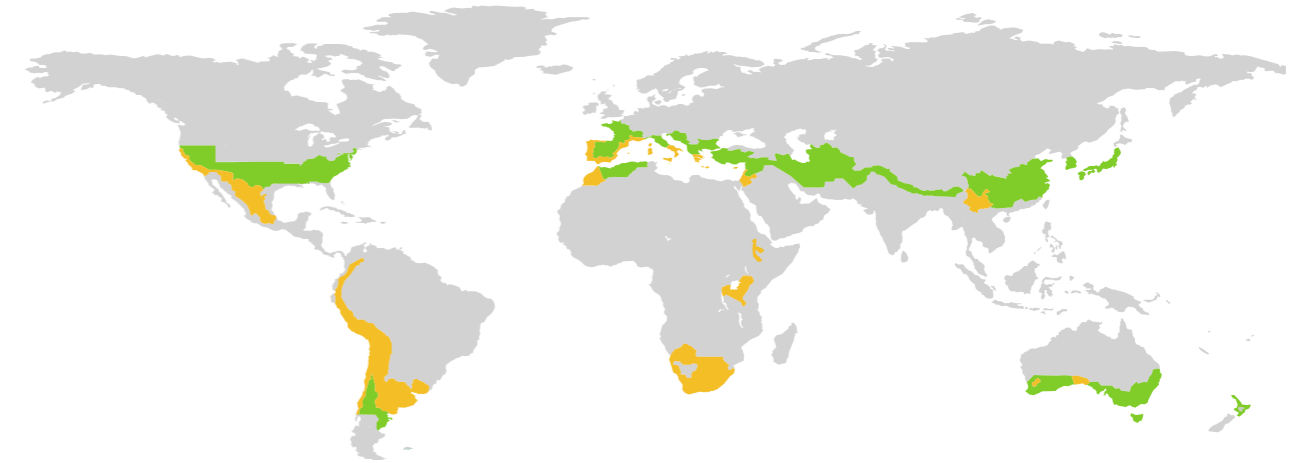
Certified Passive House Component

ID: 1426rc04 valid until 31. December 2021

Passive House Institute  
Dr. Wolfgang Feist  
64342 Darmstadt  
GERMANY

## Additional thermal bridges

Name	Thermal bridge	$f_{Rsi}$	Description
RWBO/TO/SI 02	$\Psi = 0,209 \text{ W/(mK)}$	0,84	Skylight variant 02
ROEJ 01	$\Psi = -0,071 \text{ W/(mK)}$	0,95	Roof expansion joint 01
ROEJ 02	$\Psi = -0,055 \text{ W/(mK)}$	0,98	Roof expansion joint 02



Category	<b>Roof system   Solid construction with EIFS</b>
Manufacturer	<b>VEDAG (China) Trade Co. Ltd. 200122 Shanghai CHINA</b>
Product name	<b>Passive House Roof System</b>

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

### Hygiene criterion

The minimum temperature factor of the interior surfaces is  $f_{Rsi=0,25m^2K/W} \geq 0,65$

### Comfort criterion

The U-value of the installed windows is  $U_{W,i} \leq 1,05 \text{ W/(m}^2\text{K)}$

### Efficiency criteria

Heat transfer coefficient of building envelope  $U \cdot f_{PHI} \leq 0,30 \text{ W/(m}^2\text{K)}$

Temperature factor of opaque junctions  $f_{Rsi=0,25m^2K/W} \geq 0,82$

Thermal bridge-free design for key connection details  $\Psi \leq 0,01 \text{ W/(mK)}$

An airtightness concept for all components and connection details was provided

warm, temperate climate



**CERTIFIED COMPONENT**

Passive House Institute

**Opaque building envelope**

The VEDAG Roof Waterproofing System ensures both comprehensive weather proofing and Passive House standard thermal protection. The system is intended to be used with reinforced concrete construction with EIFS and comprises an exterior insulation finishing system of G-EPS (0,033 W/mK) installed using compatible adhesive materials. VEDAG membranes are applied on top of the insulation to form the weather barrier. The system has been assessed according to the Passive House Institute's criteria for roof systems and has been validated as suitable for Passive House projects in the cool-temperate and warm-temperate climate zone.

**Windows**

Analysis was undertaken for two separate roof window types; the 'Composite Glazing - öfönungsfähiges Glasoberlicht' from Glas Trösch ( $U_w = 0,94 \text{ W/m}^2\text{K}$  with  $U_g = 0,75 \text{ W/m}^2\text{K}$ ) and the 'Nauheimer Lichtkuppel' from Hans Börner GmbH & Co. KG ( $U_w = 0,68 \text{ W/m}^2\text{K}$  with  $U_g = 0,89 \text{ W/m}^2\text{K}$ ), based on dimensions 1,5 x 1,5 m. The calculations undertaken demonstrate that the window installation locations are suited to the cool-temperate climate, with no risk of surface condensation and subsequent mould growth.

**Airtightness concept**

Air tightness is achieved by the following procedure: Roof windows are to be constructed with permanently elastic + tight materials. Internal surfaces are to be plastered over the entire surface; internal surfaces in lightweight construction are to be covered over the entire surface with continuous, airtight membranes; windows are to be properly connected with suitable airtight window connection membranes or profiles.

**Explanatory notes**

The Passive House Institute has defined international component criteria for seven climate zones based on hygiene-, comfort- and affordability criteria. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. This use might make sense in certain circumstances.

Thermal bridge not calculated  
Criteria achieved

Efficiency criteria not achieved  
Hygiene or comfort criterion not achieved

