

CERTIFICATE

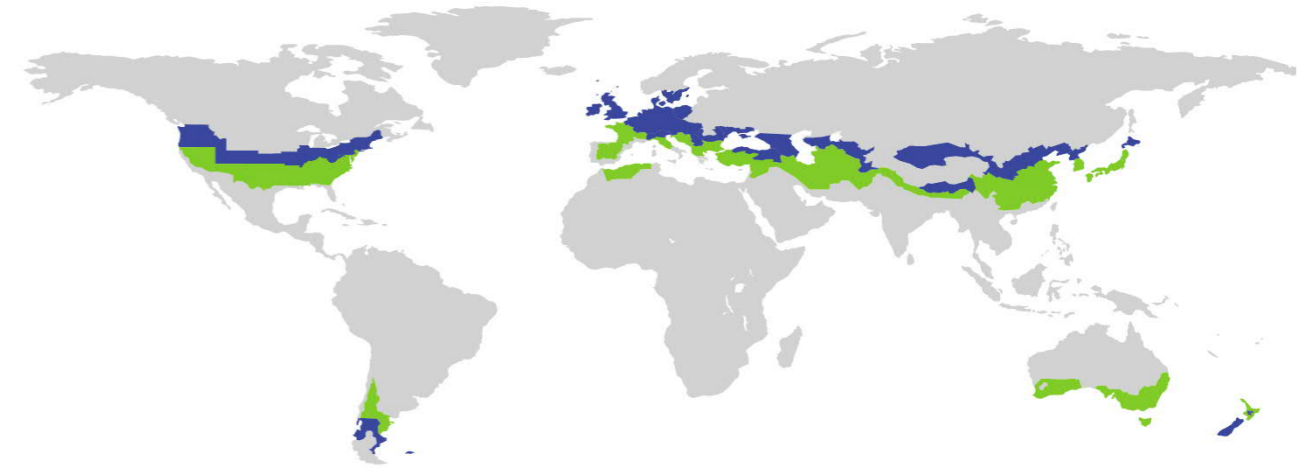
Certified Passive House Component

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Passive House Institute
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Additional thermal bridges

Name	Thermal bridge	f_{Rsi}	Description
MRR101	$\Psi = -0.093 \text{ W/(mK)}$	0.92	Monopitched Roof Ridge
ROPA01	$X = 0.0035 \text{ W/K}$	0.98	Anchor-screw trough external insulation



Category	Roof system Lightweigt timber Construction
Manufacturer	Braas GmbH Oberursel Deutschland
Product name	Braas Clima Comfort - Neubau Kombidämmung

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

Hygiene criterion

The minimum temperature factor of the interior surfaces is $f_{Rsi=0,25m^2K/W} \geq 0.70$

Comfort criterion

The U-value of the installed roof windows is $U_{W,i} \leq 1.00 \text{ W/(m}^2\text{K)}$

Efficiency criteria

Heat transfer coefficient of building envelope $U * f_{PHI} \leq 0.15 \text{ W/(m}^2\text{K)}$

Temperaturfactor of opaque junctions $f_{Rsi=0,25m^2K/W} \geq 0.86$

Thermal bridge free design for key connection details $\Psi \leq 0.01 \text{ W/(m}^2\text{K)}$

An airtightness concept for all components and connection details was provided.

cool, temperate climate



**CERTIFIED
COMPONENT**

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Opaque building envelop

For certification, a Sand-Lime stone wall with EPS-insulation was taken into account.

The roof is insulated in two layers: Mineral wool insulation (0.035 W/(mK)), 14 cm in between the rafters. For U-value calculation rafters 140/120 with e = 80 cm were taken into account.

Braas Clima Comfort insulation, applied on top of the rafters, 0.021 W/(m²K), 12 cm. Stainless steel screws, fitted in the rafters, providing protection against wind suction. The thermal bridge effects of these screws were determined by 3D thermal flux simulation.

To the interior an installation level follows, which terminates towards the room with a plasterboard panel.

Windows

The certification was carried out with the roof window Velux GGU -K-008230 with a 3 + 2-glazing and the insulation-set BDX. This is installed in the roof together with an insulation and mounting frame made of PU-foam/- recycling sandwich panels.

Airtightness concept

The airtight layer is formed by the plastic film DivoDämm membrane 4. Depending on the requirements, the film can be arranged on the room side, or under the on-top-of-rafter insulation (in this case, the rafters have to be integrated carefully). The adhesive tape Braas DivoTape easy is used to glue the film webs together. Connections to other components as required also with this adhesive tape or the plasto-elastic adhesive DivoDämmfix type A.

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

