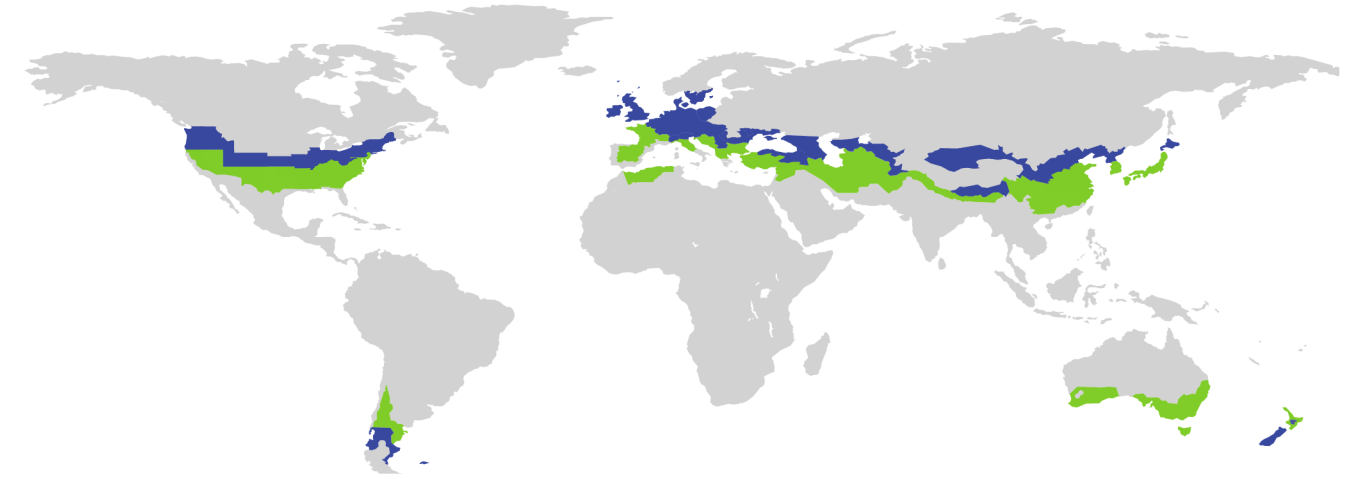


CERTIFICATE

Certified Passive House Component

ID: 0840cs03 valid until 31. December 2021

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY



Category **Construction system | Solid timber construction**
Manufacturer **PETERS SMART GROUP
TROISVIERGES
LUXEMBOURG**
Product name **SMART WOOD**

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

$$f_{R_{si}=0,25m^2K/W} \geq 0.70$$

Comfort criterion

The U-value of the installed windows is

$$U_{w,i} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

Efficiency criteria

Heat transfer coefficient of building envelope

$$U \cdot f_{PHI} \leq 0.15 \text{ W}/(\text{m}^2\text{K})$$

Temperaturfactor of opaque junctions

$$f_{R_{si}=0,25m^2K/W} \geq 0.86$$

Thermal bridge free design for key connection details

$$\Psi \leq 0.01 \text{ W}/(\text{m}^2\text{K})$$

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



Opaque building envelop

The construction system is built on a concrete floor slab supported completely by ISOQUICK Insulation. The walls are constructed with solid wood with additional insulation layer by timber studs and cellulose. The roof construction is formed with timber beams, inside is an OSB-board as airtightness layer, than an additional wood fibre board and cross battens with gypsum plaster board mounted.

Windows

The certification was done with the window smart-win solar I, which is a very slim pA-class window with triple 18 mm argon glazing, Swisspacer Ulti-mate spacer bar with PU secondary seal. A special feature of smatwin solar I is, that the reveal be-comes part of the windows frame.

In No. 01, the window is installed in flush with the exterior plaster.

In No. 02, it is installed deeper in the wall, see certification report.

Airtightness concept

The airtightness layer in walls and roof are OSB-boards, connected by airtightness tapes. The junctions of the components are also taped together. The airtightness layer in the walls is between the solid timber and the insulation layer.

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 comfortcriteria not achieved

