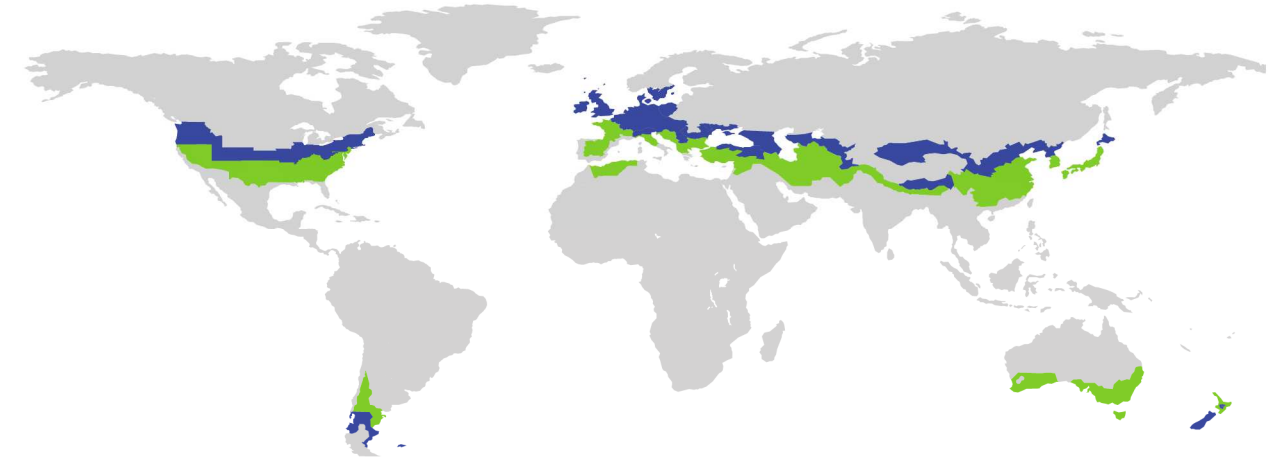


CERTIFICATE

Certified Passive House Component

ID: 0886ws03 valid until 31. December 2018

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY



Category **Construction system | Solid construction with EIFS**
Manufacturer **Montanari Luigi srl**
Reggio Emilia
Italy
Product name **Sistema Passivo**

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

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

Temperature factor 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 envelope

The construction system is built on a concrete foundation slab on a bed of cellular glass gravel. The structure allows for either load bearing brick masonry, or concrete frame with brick infill walls, with external insulation of EPS with graphite and external plaster.

The roof construction is formed with wood rafters with approx. 70 cm spacing; external wood fiber insulation is installed in two layers, the lower one of which is spaced with wood joists to facilitate the installation of the ventilation joists. Vapor control in the roof is achieved with a vapor break on the inside of the insulation, and a transpirant membrane on the outside, with a ventilation layer before the roof finish.

Windows

The certification was done with the window smartwin solar, which is a very slim phA-class window with triple 18 mm argon glazing, Swisspacer Ulti-mate spacer bar with PU secondary seal.

In No. 01, the window is installed partial in the brick wall.

Airtightness concept

The airtightness layer of the walls is the interior plaster, integrated with cement-lime mortar for service cavities in the external walls and at the intersections of internal partition walls with the external walls. The windows are connected via approved compression tapes combined with an acrylic sealant. An airtight membrane is installed in the roof on the inside of the insulation, connected to the plaster via a plasterable tape.

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

