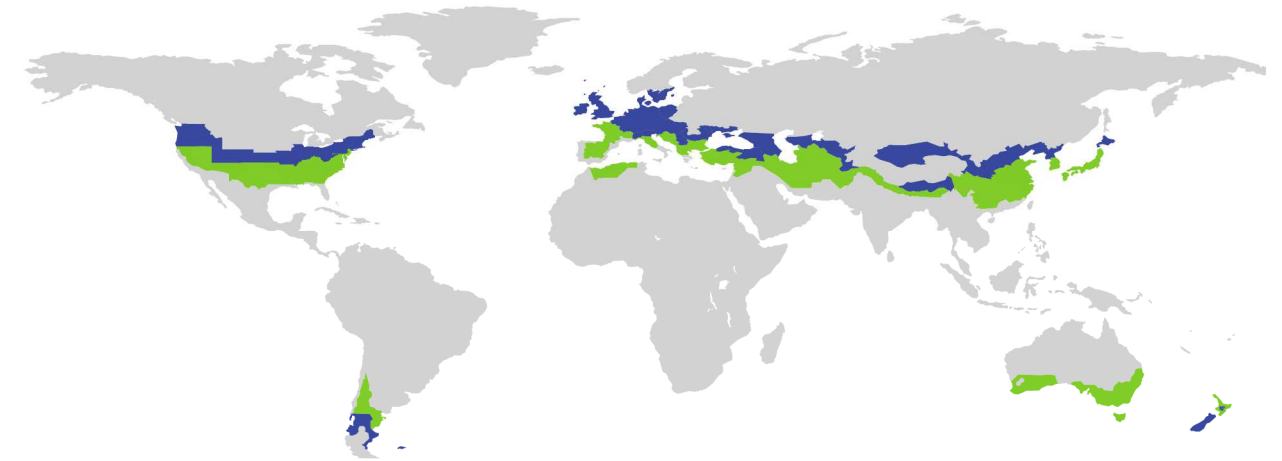


CERTIFICATE

Certified Passive House Component

ID: 0867ws03 valid until 31. December 2020

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
Germany



Category **Construction system | Lightweight timber Construction**
Manufacturer **ECOCOCON Ltd.**
Company ID code: 302094574
Lithuania
Product name **ECOCOCON Straw Panels**

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 envelop

Modular Straw-Timber frame Construction. Thickness of straw panels is always 40cm. The straw is pressed homogenously at 110kg/m3 in a double wooden loadbearing timber frame 45x95mm. Top and bottom of the panels are covered with ply-wood. The flat, cut straw surface is visible inside and outside and when connecting the panels to each other. Clay plaster can be applied directly to the straw on the inside. The outside is covered with an airtight membrane (see below) and a wood fiber board. The wood fiber board can be plastered or a ventilated facade can be installed.

The system is based on an external insulated floor slab.

Windows

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

In No. 01, the window is installed in the center of the wall.

In No. 02, it is installed in flush with the exterior plaster.

In No. 03, the windows are installed right at the inner edge, see certification report.

Airtightness concept

A diffusion open, but airtight membrane with $sd < 0,2m$ is wrapped on the outside of the straw during construction. The membrane doubles as quick weather protection during construction. The membrane is taped to the airtight layer of the floor and roof. The membrane is later covered with wood fiber boards. The membrane is pulled to the inside at the window openings. Windows are then taped to the membrane.

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 be reasonable from the economic point of view.

Thermal bridge not calculated
Criteria achieved

Efficiency criteria not achieved
Hygiene- or comfort criterion not achieved

