

CERTIFICATE

Certified Passive House Component

ID: 1413cs02 valid until 31. December 2021

Passive House Institute
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Category	Construction system Lightweigt timber Construction
Manufacturer	Circuitus AB Växjö Sweden
Product name	Circuitus

This certificate for the cold climate zone was awarded based on the following criteria

Hygiene criterion

The minimum temperature factor of the interior surfaces is

$$f_{Rsi=0,25m^2K/W} \geq 0,75$$

Comfort criterion

The U-value of the installed windows is

$$U_{w,i} \leq 0,65 \text{ W}/(\text{m}^2\text{K})$$

Efficiency criteria

Heat transfer coefficient of building envelope

$$U \cdot f_{PHI} \leq 0,12 \text{ W}/(\text{m}^2\text{K})$$

Temperaturfactor of opaque junctions

$$f_{Rsi=0,25m^2K/W} \geq 0,88$$

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 timber construction is prefabricated and delivered to the building site as a ready to assemble building kit. It is built on a concrete floor slab insulated with XPS (0.038 W/(mK) at the perimeter. The wall construction is formed by glulam timber interrupted by plywood lightweight structure with additional insulation layer by I-beams and blown-in cellulose insulation (0.039 W/(mK). The windtight layer is formed by fibrecement board. The outer finish is vertical timber board facade. The roof construction is I-beams on plywood covered trusses, insulated with blown-in cellulose.

Windows

The certification was done with the aluminum cladged timber window smartwin. fRsi is missed at the glass edge of the threshold and the bottom profile.

Airtightness concept

The airtightness layer in the walls is formed by exterior side of glulam and plywood elements. In the roof 18mm plywood boards form the airtight layer. The connections including the windows are sealed by airtight 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

