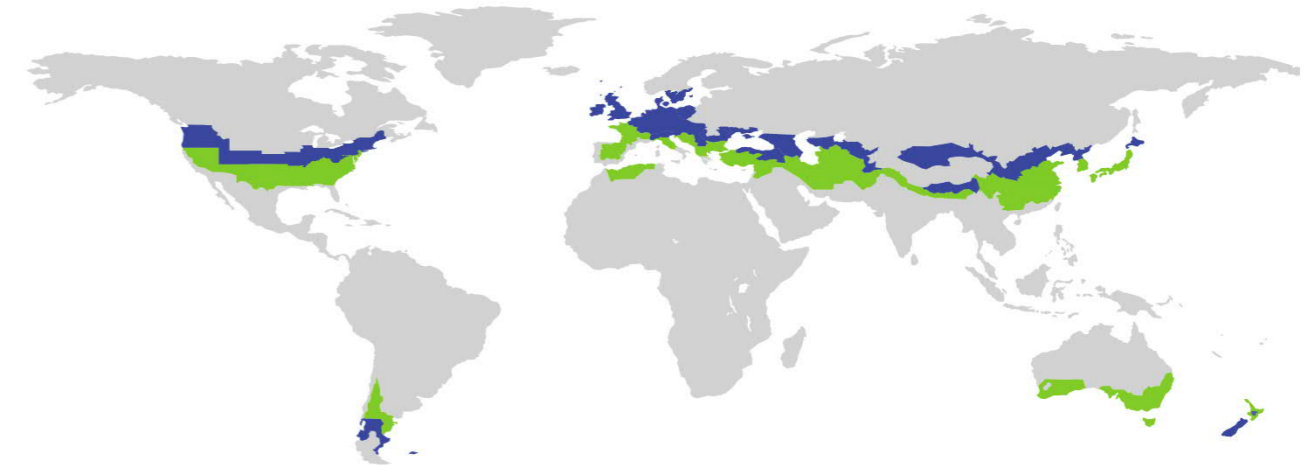
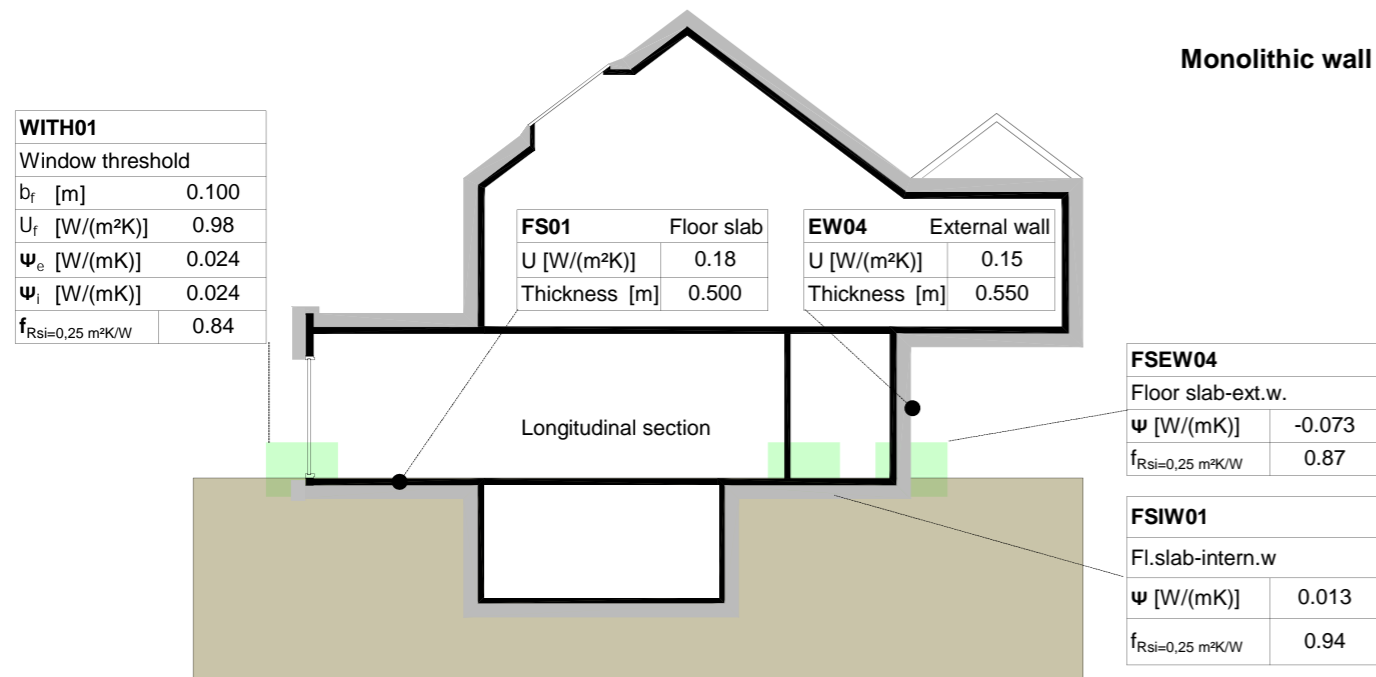


CERTIFICATE

Certified Passive House Component

ID: 1177fs03 valid until 31. December 2018

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY



Category **Florslab insulation system**
 Manufacturer **Holzmann GmbH & Co. KG**
Bad Laer
Germany
 Product name **Bodenplattenschalung Thermo System**

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

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

Comfort criterion

The U-value of the installed windows is

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

Efficiency criteria

Heat transfer coefficient of building envelope

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

Temperaturfactor of opaque junctions

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

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.



Opaque building envelope

The floor slab insulation system consists of a 16 cm thick XPS insulation, 0.038 W / (mK), to ground and 20 cm to the side as flank insulation as a lost formwork. The thickness of the floor plate is 25 cm, followed by a 4 cm sound insulation, 4 cm screed and 1 cm flooring. The thermal characteristics were determined for four different wall constructions:

EW1: Sand-lime brick wall with EIFS of 25 cm EPS, 0.035 W / (mK).

EW2: Lightweight timber wall with insulated installation layer, cellulose main-insulation, 0.04 W / (mK), 220 mm thick.

EW3: Sand-lime brick wall with facing brick, insulation made of 18 cm PU foam, 0.027 W / (mK).

EW4: Monolithic aerated concrete wall, 48 cm, 0.08 W / (mK) and 4 cm insulating plaster 0.08 W / (mK).

Windows

The certification was carried out with a standard passive house window frame with barrier-free threshold, $U_f = 0.98 \text{ W / (m}^2\text{K)}$, $b_f = 0.1 \text{ m}$. If specific window frames are used, the characteristic values have to be proven in each individual case.

Airtightness concept

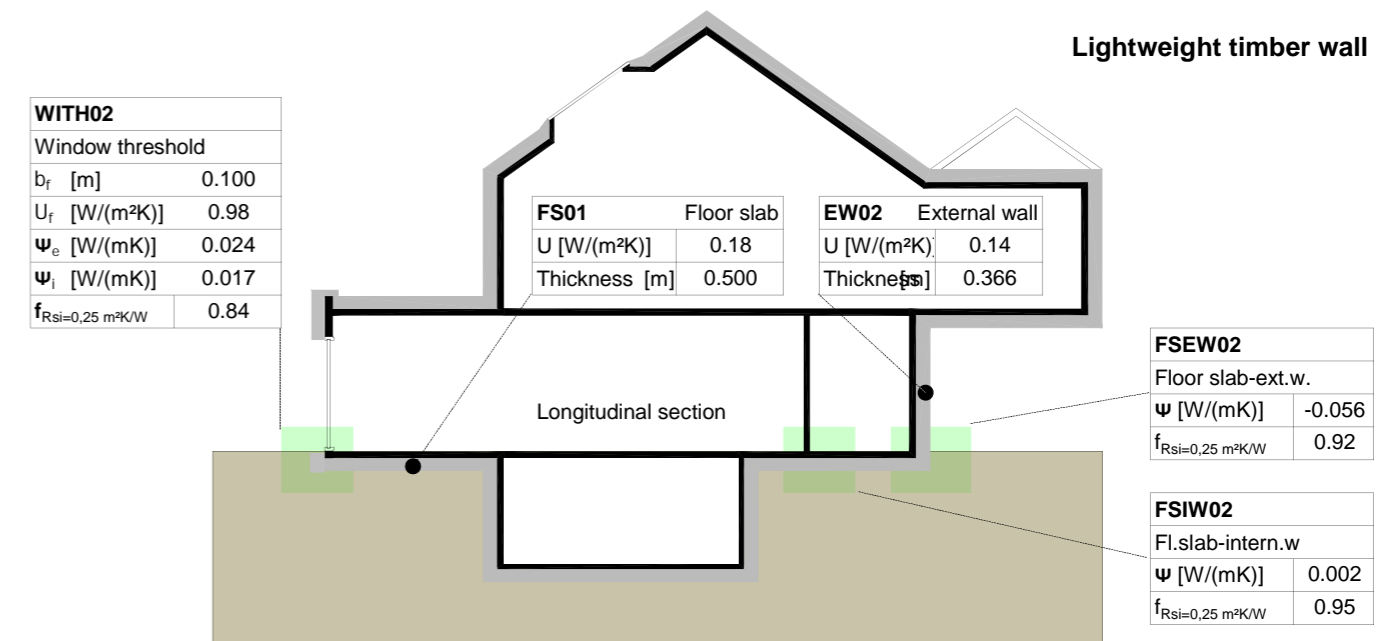
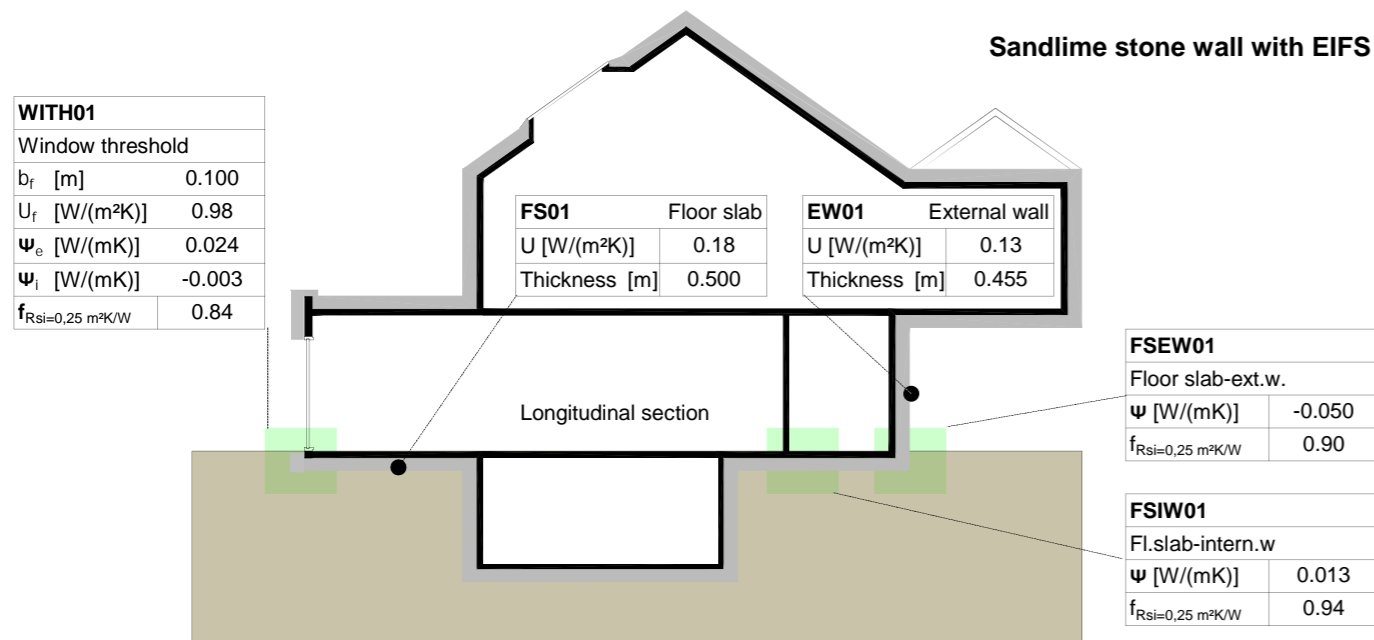
At the floor slab, a liquid seal on concrete represents the airtight layer. In the wall construction with interior plaster, this is the airtight level of the wall. The connection to the floor slab is done by plastering. The airtight level of the lightweight timber wall is the stiffening OSB board. It is sealed to the bottom plate by means of suitable adhesive tape. The sealing of the windows also takes place with suitable adhesive tapes.

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



Thermal bridge not calculated
Criteria achieved
Efficiency criteria not achieved
Hygiene- or comfort criterion not achieved

