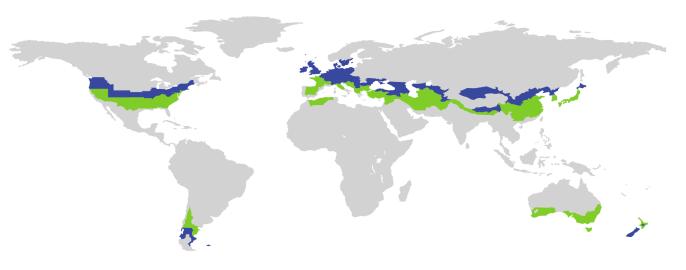# CERTIFICATE

Certified Passive House Component

ID: 0840cs03 valid until 31. December 2025

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

Comfort criterion

The U-value of the installed windows is	$U_{W,i} \leq$	**0.85** W/(m²K)

Efficiency criteria

Heat transfer coefficient of building envelope	$U*f_{PHI} \leq$	**0.15** W/(m²K)
Temperaturfactor of opaque junctions	$f_{Rsi=0,25m^2K/W} \geq$	**0.86**
Thermal bridge free design for key connection details	$\Psi \leq$	**0.01** W/(m²K)

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

cool, temperate climate

CERTIFIED COMPONENT

Passive House Institute

Schreinerei B. Peters S.àr.l.
Z.I. IN DEN ALLERN 1, 9911 TROISVIERGES, Luxembourg
Phone: | 00352 97 96 40 | info@petersgroup.lu | www.petersgroup.lu

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 phA-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.

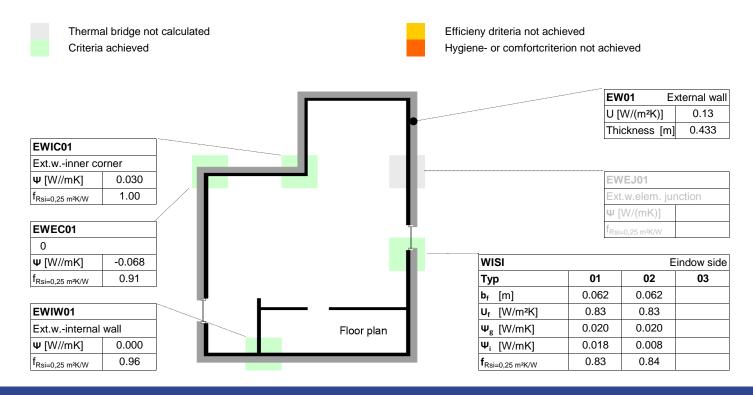In No. 01, the window is installed in flush with the exterior plaster.

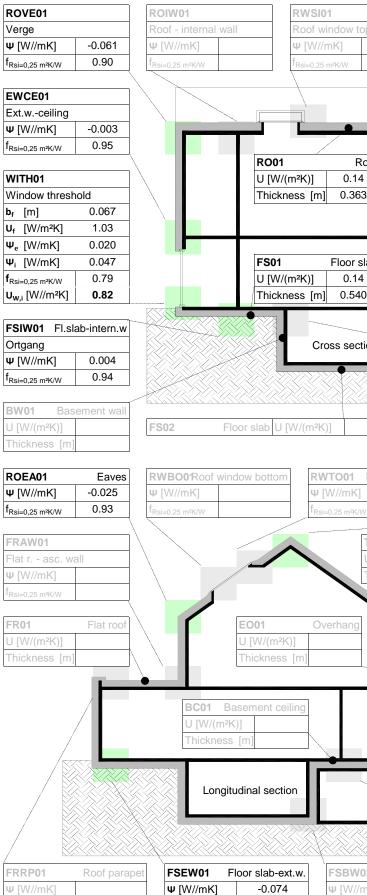In No. 02, it is installed deeper in the wall, see certi-fication report.

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.

Explainatory 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.

Legend:
- Thermal bridge not calculated
- Criteria achieved
- Efficieny driteria not achieved
- Hygiene- or comfortcriterion not achieved

ROVE01	Verge
Ψ [W//mK]	-0.061
$f_{Rsi=0,25\ m^2K/W}$	0.90

EWCE01	Ext.w.-ceiling
Ψ [W//mK]	-0.003
$f_{Rsi=0,25\ m^2K/W}$	0.95

WITH01	Window threshold
b_f [m]	0.067
U_f [W/m²K]	1.03
Ψ_e [W/mK]	0.020
Ψ_i [W/mK]	0.047
$f_{Rsi=0,25\ m^2K/W}$	0.79
$U_{w,i}$ [W/m²K]	**0.82**

FSIW01	Fl.slab-intern.w
Ortgang	
Ψ [W//mK]	0.004
$f_{Rsi=0,25\ m^2K/W}$	0.94

BW01	Basement wall
U [W/(m²K)]	
Thickness [m]	

ROEA01	Eaves
Ψ [W//mK]	-0.025
$f_{Rsi=0,25\ m^2K/W}$	0.93

FRAW01	Flat r. - asc. wall
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

FR01	Flat roof
U [W/(m²K)]	
Thickness [m]	

FRRP01	Roof parapet
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

RO01	Roof
U [W/(m²K)]	0.14
Thickness [m]	0.363

FS01	Floor slab
U [W/(m²K)]	0.14
Thickness [m]	0.540

Cross section

FS02	Floor slab	U [W/(m²K)]		Thickness [m]	

ROIW01	Roof - internal wall
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

RWBO01	Roof window bottom
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

RWTO01	Roof window side
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

TC01	Top ceiling
U [W/(m²K)]	
Thickness [m]	

EO01	Overhang
U [W/(m²K)]	
Thickness [m]	

BC01	Basement ceiling
U [W/(m²K)]	
Thickness [m]	

Longitudinal section

RWSI01	Roof window top
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

WITO			Window top
Typ	01	02	03
b_f [m]	0.062	0.062	
U_f [W/m²K]	0.83	0.83	
Ψ_g [W/mK]	0.020	0.020	
Ψ_i [W/mK]	0.017	0.012	
$f_{Rsi=0,25\ m^2K/W}$	0.85	0.88	

WIBO			Window bottom
b_f [m]	0.062	0.062	
U_f [W/m²K]	0.93	0.93	
Ψ_g [W/mK]	0.020	0.020	
Ψ_i [W/mK]	0.029	0.032	
$f_{Rsi=0,25\ m^2K/W}$	0.85	0.85	
$U_{w,i}$ [W//m²K]	**0.84**	**0.82**	

BWBC01	Basem.w.-basem.c.
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

BWFS01	Basem.w.-floor slab
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

FSBW01	Fl.slab-basem.w.
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

RORI01	Ridge
Ψ [W//mK]	-0.039
$f_{Rsi=0,25\ m^2K/W}$	0.93

ROJU01	Junction
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

TCEA01	Top ceiling - eaves
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

EWEO01	Ext.w. overhang
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

EWEO02	Ext.w. overhang
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

BCEW01	Basem.ce.-EW
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

FSEW01	Floor slab-ext.w.
Ψ [W//mK]	-0.074
$f_{Rsi=0,25\ m^2K/W}$	0.93

FSBW02	Fl.slab-basem.w.
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

BCIW01	Basem.ce.-IW
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

EW01	External wall
U [W/(m²K)]	0.13
Thickness [m]	0.433

EWIC01	Ext.w.-inner corner
Ψ [W/mK]	0.030
$f_{Rsi=0,25\ m^2K/W}$	1.00

EWEC01	
0	
Ψ [W/mK]	-0.068
$f_{Rsi=0,25\ m^2K/W}$	0.91

EWIW01	Ext.w.-internal wall
Ψ [W/mK]	0.000
$f_{Rsi=0,25\ m^2K/W}$	0.96

EWEJ01	Ext.w.elem. junction
Ψ [W/(mK)]	
$f_{Rsi=0,25\ m^2K/W}$	

Floor plan

WISI			Eindow side
Typ	01	02	03
b_f [m]	0.062	0.062	
U_f [W/m²K]	0.83	0.83	
Ψ_g [W/mK]	0.020	0.020	
Ψ_i [W/mK]	0.018	0.008	
$f_{Rsi=0,25\ m^2K/W}$	0.83	0.84	