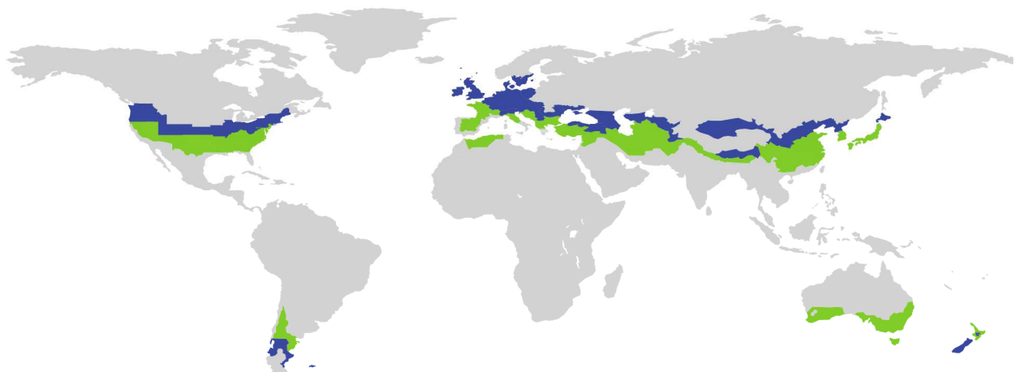
CERTIFICATE

Certified Passive House Component

ID: 0886cs03 valid until 31. December 2025

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY



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

Montanari Luigi srl
Via O. Tenni 128/B, 42123 Reggio Emilia, GERMANY
Phone: | +390522327824 | montanari@montanarisrl.net | http://www.montanarisrl.net/

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.

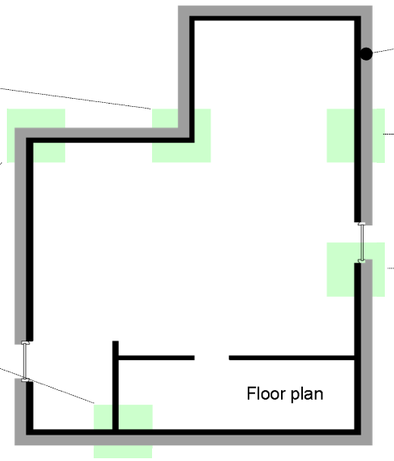
Airtightness concept

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.

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.

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



EWIC01	
Ext.w.-inner corner	
Ψ [W//mK]	0.021
$f_{Rsi=0,25\ m^2K/W}$	0.98

EWEC01	
Ext.w.-outer corner	
Ψ [W//mK]	-0.067
$f_{Rsi=0,25\ m^2K/W}$	0.92

EWIW01	
Ext.w.-internal wall	
Ψ [W//mK]	-0.008
$f_{Rsi=0,25\ m^2K/W}$	0.97

EW01	External wall
U [W/(m²K)]	0.14
Thickness [m]	0.520

EWCB01	
Ext.w.construction beam	
Ψ [W/(mK)]	0.009
$f_{Rsi=0,25\ m^2K/W}$	0.96

WISI			Eindow side
Typ	01	02	03
b_f [m]	0.062		
U_f [W/m²K]	0.83		
$Ψ_g$ [W/mK]	0.020		
$Ψ_i$ [W/mK]	0.009		
$f_{Rsi=0,25\ m^2K/W}$	0.85		

ROVE01	
Verge	
Ψ [W//mK]	-0.040
$f_{Rsi=0,25\ m^2K/W}$	0.95

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

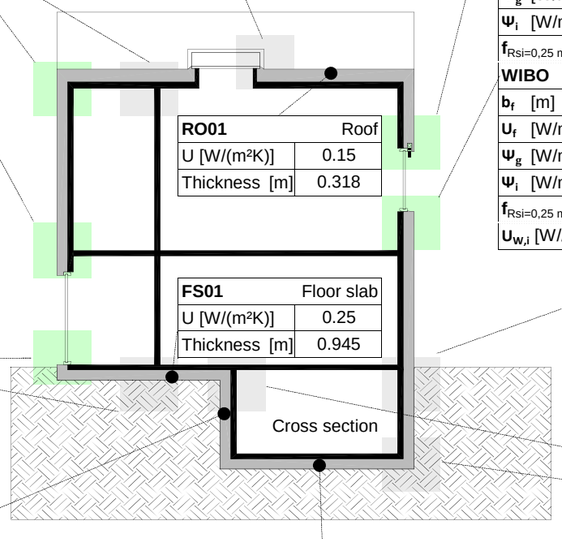
RWSI01	
Roof window top	
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

WITO			Window top
Typ	01	02	03
b_f [m]	0.062		
U_f [W/m²K]	0.83		
$Ψ_g$ [W/mK]	0.020		
$Ψ_i$ [W/mK]	0.009		
$f_{Rsi=0,25\ m^2K/W}$	0.85		

WIBO			Window bottom
b_f [m]	0.062		
U_f [W/m²K]	0.93		
$Ψ_g$ [W/mK]	0.020		
$Ψ_i$ [W/mK]	0.045		
$f_{Rsi=0,25\ m^2K/W}$	0.85		
$U_{w,i}$ [W//m²K]	**0.83**		

EWCE01	
Ext.w.-ceiling	
Ψ [W//mK]	0.007
$f_{Rsi=0,25\ m^2K/W}$	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]	-0.014
$f_{Rsi=0,25\ m^2K/W}$	0.82
$U_{w,i}$ [W//m²K]	**0.78**



RO01	Roof
U [W/(m²K)]	0.15
Thickness [m]	0.318

FS01	Floor slab
U [W/(m²K)]	0.25
Thickness [m]	0.945

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

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

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

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

ROEA01	Eaves
Ψ [W//mK]	-0.044
$f_{Rsi=0,25\ m^2K/W}$	0.93

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

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

RORI01	Ridge
Ψ [W//mK]	-0.017
$f_{Rsi=0,25\ m^2K/W}$	0.94

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

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

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

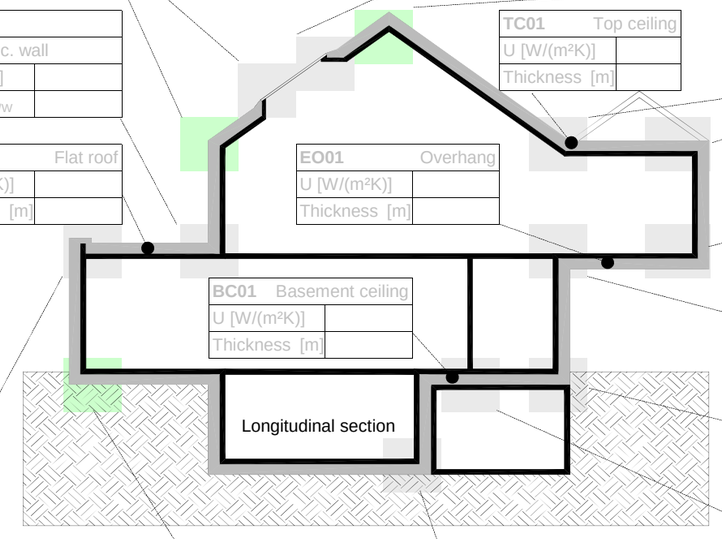
TCEA01	Top ceiling - eaves
Ψ [W//mK]	
$f_{Rsi=0,25\ m^2K/W}$	

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

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

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

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



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

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

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

FSEW01	Floor slab-ext.w.
Ψ [W//mK]	-0.112
$f_{Rsi=0,25\ m^2K/W}$	0.87

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

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