CERTIFICATE

Certified Passive House Component

ID: 1020cs04 valid until 31. December 2018

Passive House Institute
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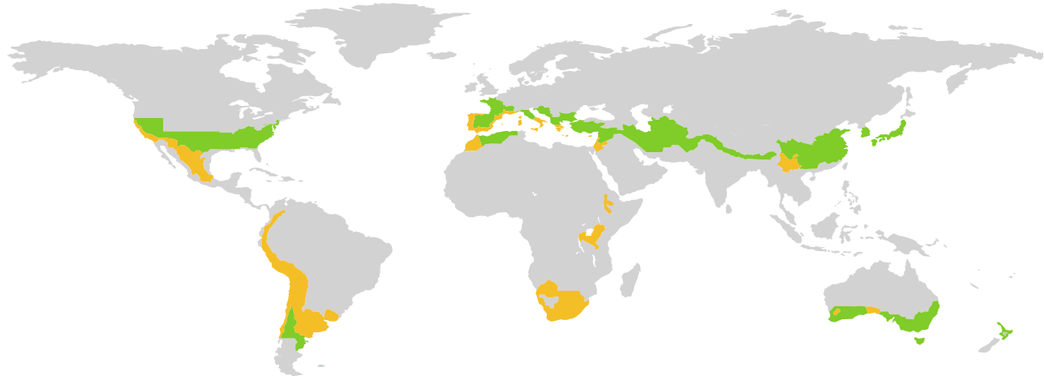
Aditional thermal bridges

Name	Thermal bridge	fRsi	Description
EWCE02	Ψ= 0.024 W/mK	0,90	WALL-CEILING
MPRI01	Ψ= -0.103 W/mK	0,84	MONO PITCH RIDGE
FSEW02	Ψ= -0.051 W/mK	0,83	FLOORSLAB-EXT. W. (CRAWL SPACE)



Catregory	**Construction system | Lightweight timber construction**
Manufacturer	**CARBONlite | design+build** **Thomastown** **AUSTRALIA**
Product name	**PANELlite**

This certificate for the warm, temperate climate zone was awarded based on the following criteria

Hygiene criterion

The minimum temperature factor of the interior surfaces is $f_{Rsi=0,25m^2K/W} \geq$ **0,65**

Comfort criterion

The U-value of the installed windows is $U_{W,i} \leq$ **1,05** W/(m²K)

Efficiency criteria

Heat transfer coefficient of building envelope	$U*f_{PHI} \leq$	**0,30** W/(m²K)
Temperaturfactor of opaque junctions	$f_{Rsi=0,25m^2K/W} \geq$	**0,82**
Thermal bridge free design for key connection details	$\Psi \leq$	**0,01** W/(mK)

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

warm, temperate climate

CERTIFIED COMPONENT

Passive House Institute

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Opaque building envelope

Timber frame construction with Insulation integrated in the compartment. Insulation consists of mineral wool (0.035 W/mK). Construction: Inside plasterboard 0.01 m, service cavity 0.045 m, 'Intello Plus' (Proclima) - humidity variable diffusion resistance sd-value 7.5+/-0.25, compartment - timber frame with insulation 0.14 m, planking OSB 0.011 m, weather tightness - 'Solitex Extasana' (Proclima) sd-value 0.05+/-0.02, counter batten for ventilation 0.018 m.

Roof construction different executions, construction compareable with wall. Construction: Inside plasterboard 0.01 m, service cavity 0.045 m, 'Intello Plus' - humidity variable diffusion resistance sd-value 7.5+/-0.25, compartment - timber frame with insulation 0.24 m, planking OSB 0.018 m, airtight layer - 'Solitex Extasana' sd-value 0.05+/-0.02, counter batten for ventilation 0.07 m, water leading layer.

Windows

The certification was achieved with the window ECO PLANO from Neuffer (01) and in addition with the Aluplast energeto5000 vinyl window (02).
The connection between the windows and the airtight layer is made by tape.

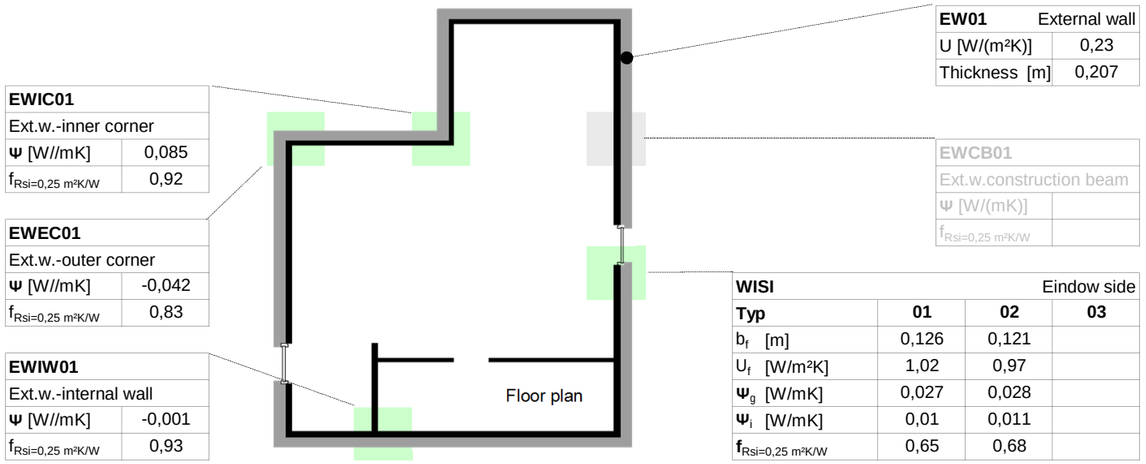
Airtightness concept

Airtightness is achieved through INTELLO PLUS from Proclima. All joints and connections are taped with the suitable tape and components from the Proclima range. Wall/slab connection is done through ORCON from PROCLIMA.

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



EW01	External wall
U [W/(m²K)]	0,23
Thickness [m]	0,207

EWCB01	
Ext.w.construction beam	
Ψ [W/(mK)]	
$f_{Rsi=0,25\ m²K/W}$	

WISI	Eindow side		
Typ	**01**	**02**	**03**
b_f [m]	0,126	0,121	
U_f [W/m²K]	1,02	0,97	
Ψ_g [W/mK]	0,027	0,028	
Ψ_i [W/mK]	0,01	0,011	
$f_{Rsi=0,25\ m²K/W}$	0,65	0,68	

EWIC01	
Ext.w.-inner corner	
Ψ [W//mK]	0,085
$f_{Rsi=0,25\ m²K/W}$	0,92

EWEC01	
Ext.w.-outer corner	
Ψ [W//mK]	-0,042
$f_{Rsi=0,25\ m²K/W}$	0,83

EWIW01	
Ext.w.-internal wall	
Ψ [W//mK]	-0,001
$f_{Rsi=0,25\ m²K/W}$	0,93

ROVE01	
Verge	
Ψ [W//mK]	-0,053
$f_{Rsi=0,25\ m²K/W}$	0,83

ROIW01	
Roof - internal wall	
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

RWSI01	
Roof window top	
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

WITO			Window top
Typ	**01**	**02**	**03**
b_f [m]	0,126	0,121	
U_f [W/m²K]	1,02	0,97	
Ψ_g [W/mK]	0,027	0,028	
Ψ_i [W/mK]	0,017	0,015	
$f_{Rsi=0,25\ m²K/W}$	0,65	0,68	
WIBO			Window bottom
b_f [m]	0,126	0,121	
U_f [W/m²K]	1,03	0,97	
Ψ_g [W/mK]	0,025	0,028	
Ψ_i [W/mK]	0,018	0,015	
$f_{Rsi=0,25\ m²K/W}$	0,65	0,68	
$U_{W,i}$ [W//m²K]	**1,05**	**1,03**	

EWCE01	
Ext.w.-ceiling	
Ψ [W//mK]	0,031
$f_{Rsi=0,25\ m²K/W}$	0,89

RO01	Roof
U [W/(m²K)]	0,16
Thickness [m]	0,313

WITH01	
Window threshold	
b_f [m]	0,129
U_f [W/m²K]	1,77
Ψ_g [W/mK]	0,026
Ψ_i [W/mK]	0,079
$f_{Rsi=0,25\ m²K/W}$	0,67
$U_{W,i}$ [W//m²K]	**1,05**

FS01	Floor slab
U [W/(m²K)]	0,32
Thickness [m]	0,250

BWBC01	Basem.w.-basem.c.
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

FSIW01	
Fl.slab-intern.w	
Ψ [W//mK]	-0,001
$f_{Rsi=0,25\ m²K/W}$	0,95

Cross section

BWFS01	Basem.w.-floor slab
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

FSBW01	Fl.slab-basem.w.
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

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

FS02	Floor slab	U [W/(m²K)]	0,28	Thickness [m]	0,164

ROEA01	Eaves
Ψ [W//mK]	-0,032
$f_{Rsi=0,25\ m²K/W}$	0,92

RWBO01	Roof window bottom
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

RWTO01	Roof window side
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

RORI01	Ridge
Ψ [W//mK]	-0,004
$f_{Rsi=0,25\ m²K/W}$	0,93

FRAW01	
Flat r. - asc. wall	
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

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

ROJU01	Junction
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

FR01	Flat roof
U [W/(m²K)]	0,17
Thickness [m]	0,313

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

TCEA01	Top ceiling - eaves
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

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

EWEO01	Ext.w. overhang
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

Longitudinal section

EWEO02	Ext.w. overhang
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

BCEW01	Basem.ce.-EW
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

FRRP01	Roof parapet
Ψ [W//mK]	-0,057
$f_{Rsi=0,25\ m²K/W}$	0,88

FSEW01	Floor slab-ext.w.
Ψ [W//mK]	-0,022
$f_{Rsi=0,25\ m²K/W}$	0,83

FSBW02	Fl.slab-basem.w.
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	

BCIW01	Basem.ce.-IW
Ψ [W//mK]	
$f_{Rsi=0,25\ m²K/W}$	