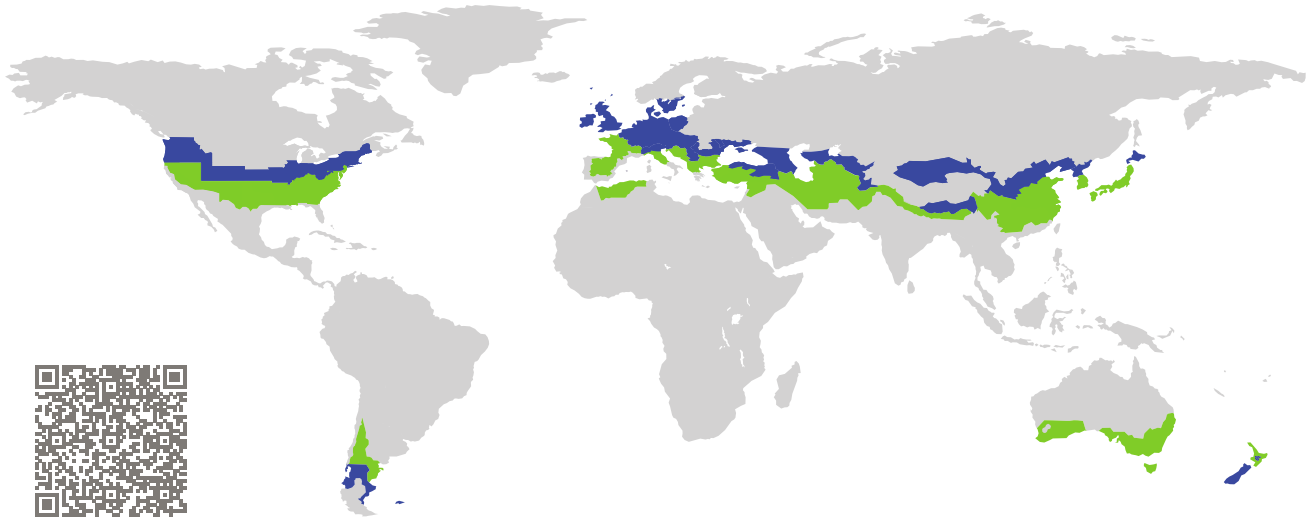


# CERTIFICATE

Certified Passive House Component

Component-ID 1022cw03 valid until 31st December 2020

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany

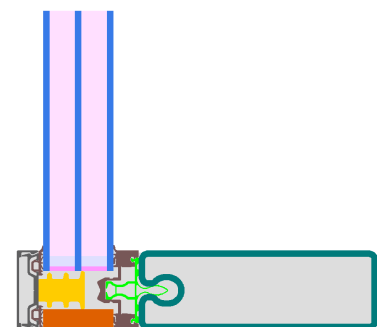


Category: **Curtain Wall**  
Manufacturer: **RAICO Bautechnik GmbH,  
Pfaffenhausen,  
Germany**  
Product name: **THERM+50 FS-I**

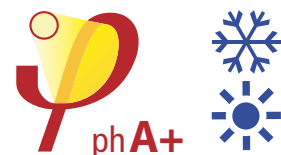
**This certificate was awarded based on the following  
criteria for the cool, temperate climate zone**

Comfort  $U_{CW} = 0.79 \leq 0.80 \text{ W}/(\text{m}^2 \text{ K})$   
 $U_{CW, \text{installed}} \leq 0.85 \text{ W}/(\text{m}^2 \text{ K})$   
with  $U_g = 0.70 \text{ W}/(\text{m}^2 \text{ K})$

Hygiene  $f_{Rsi=0.25} \geq 0.70$



cool, temperate climate



**CERTIFIED  
COMPONENT**

Passive House Institute

Passive House  
efficiency class

phE

phD

phC







phB

phA

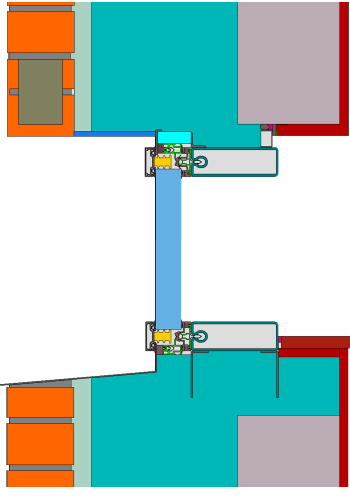
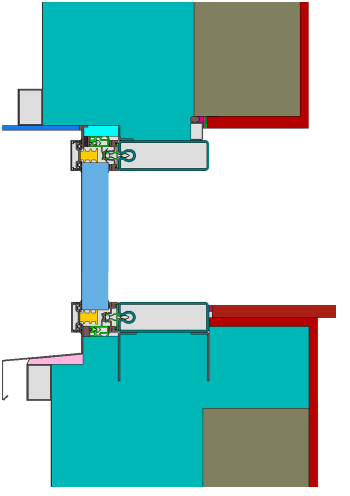
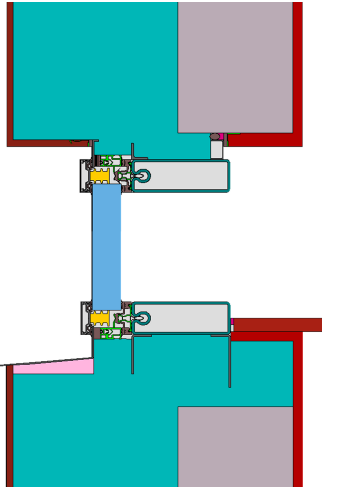
phA+

[www.passivehouse.com](http://www.passivehouse.com)



Frame values			Frame width $b_f$ mm	$U$ -value frame $U_f^1$ W/(m <sup>2</sup> K)	$\Psi$ -panel edge $\Psi_g$ W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Top fixed	(tof)		50	0.78	0.030	0.78
Side fixed	(sf)		50	0.78	0.030	0.78
Bottom fixed	(bof)		50	0.78	0.030	0.78
Mullion fixed	(m)		50	0.90	0.031	0.78
Transom fixed	(tf)		50	0.93	0.030	0.78
Transom 1 casement	(t1)		90	1.07	0.028	0.68
Spacer: SWISSPACER Ultimate			Secondary seal: Polysulfid			
Thermal glass carrier bridge <sup>2</sup> $\chi_{GT} = 0.004$ W/K						

### Validated installations

Cavity wall (fixed glazing)	Ventilated facade (fixed glazing)	Exterior insulation and finishing system (EIFS) (fixed glazed)
$U_{Wall} = 0.13$ W/(m <sup>2</sup> K)	$U_{Wall} = 0.13$ W/(m <sup>2</sup> K)	$U_{Wall} = 0.13$ W/(m <sup>2</sup> K)
		
$\Psi_{install}$ W/(m K)	$\Psi_{install}$ W/(m K)	$\Psi_{install}$ W/(m K)
Top 0.043	Top 0.042	Top 0.044
Left 0.043	Left 0.042	Left 0.044
Right 0.043	Right 0.042	Right 0.044
Bottom 0.054	Bottom 0.054	Bottom 0.050
$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)	$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)	$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)

<sup>1</sup> Includes  $\Delta U = 0.21$  W/(m<sup>2</sup> K). Determined through 3D - FEM Simulation

<sup>2</sup> Determined through 3D - FEM Simulation . Glass carrier type : Non-Metallic

