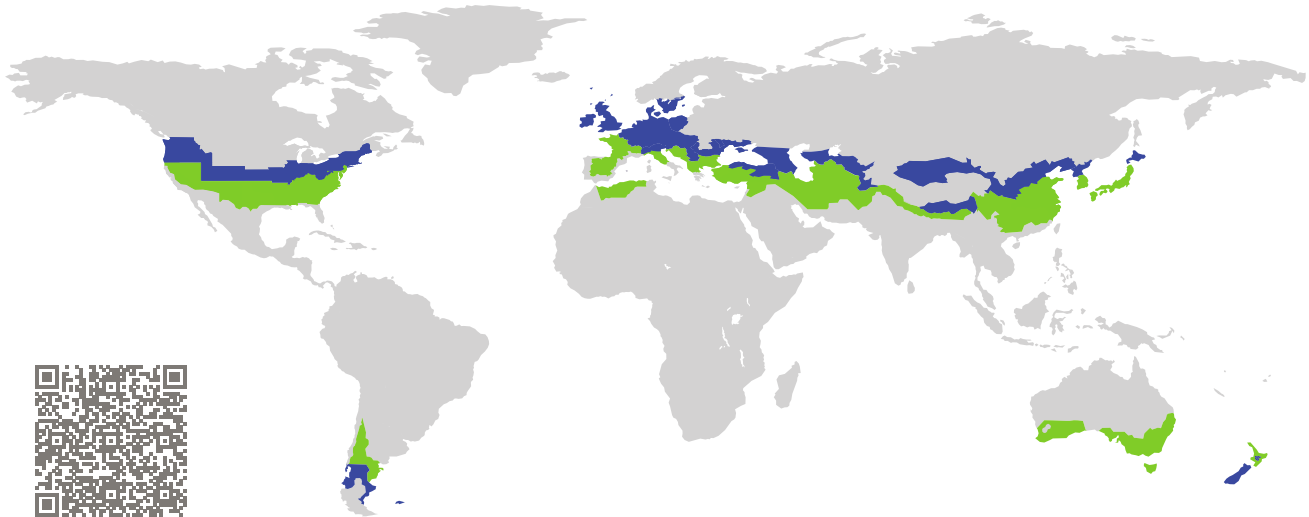


# CERTIFICATE

Certified Passive House Component

Component-ID 0726cw03 valid until 31st December 2021

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany

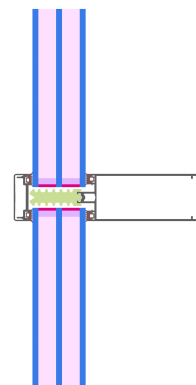


Product name: **MB-SR50N HI+**

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

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

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



Passive House  
efficiency class

phE

phD

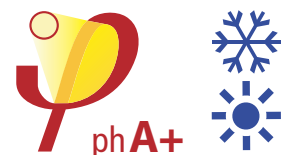
phC

phB

phA

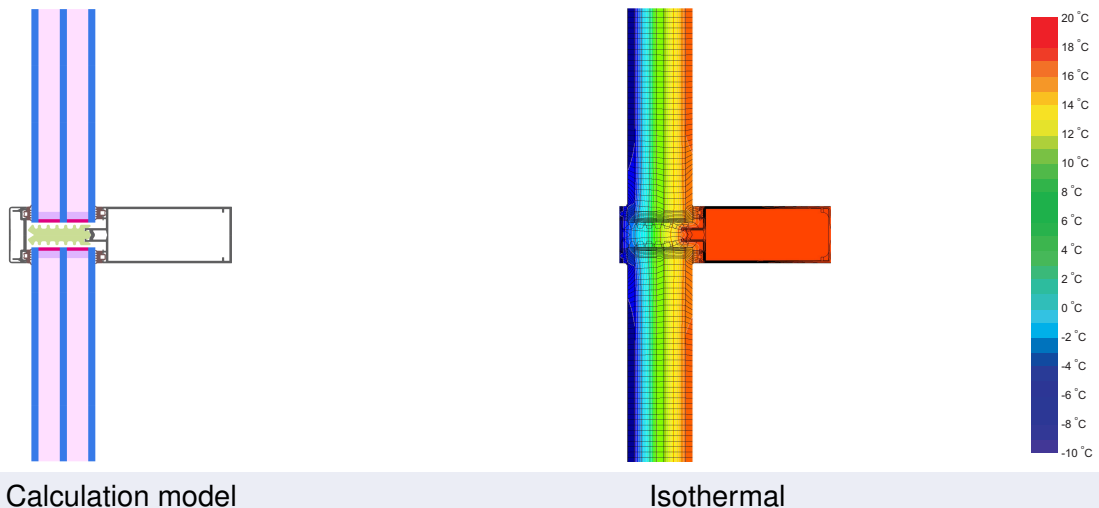
phA+

cool, temperate climate



**CERTIFIED  
COMPONENT**

Passive House Institute



## Description

Mullion and transom facade of aluminium. Aluminium cover- and pressure- strip. PE foam insulator inside of the rebate (0.035 W/(mK)). Used Pane: 54 mm (6/18/6/18/6), intersection of the Glass: 14 mm. The screw-losses were carried out by 3D-thermal flux simulation (PHI), for the glass-carrier losses, the default-values according to the certification criteria were taken into account. Used spacer: ULTIMATE Swisspacer with silicone secondary sealing

## Explanation






The element U-values were calculated for the test element size of 1.20 m × 2.50 m with  $U_g = 0.70 \text{ W}/(\text{m}^2 \text{ K})$ . If a higher quality glazing is used, the element U-values will improve as follows:

Glazing	$U_g =$	0.70	0.64	0.53	0.48	W/(m <sup>2</sup> K)
		↓	↓	↓	↓	
Element	$U_{CW}$	0.80	0.74	0.64	0.59	W/(m <sup>2</sup> K)

Transparent building components are sorted into efficiency classes depending on the heat losses through the opaque part. The frame U-Values, frame widths, thermal bridges at the glazing edge and the glazing edge lengths are included in these heat losses. A more detailed report of the calculations performed in the context of certification is available from the manufacturer.

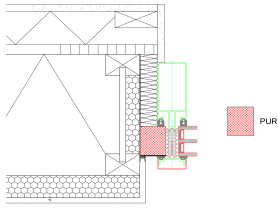
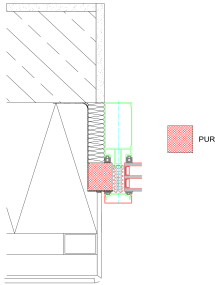
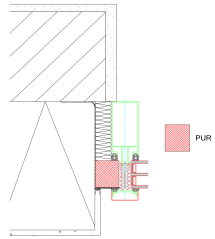
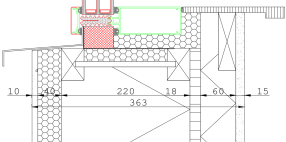
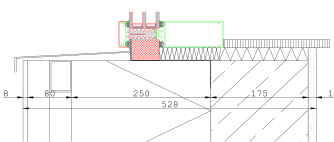
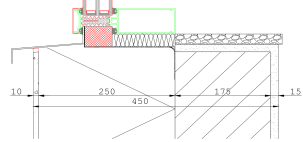
The Passive House Institute has defined international component criteria for seven climate zones. In principle, components that have been certified for climate zones with higher thermal requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense to use a component of a higher thermal quality which has been certified for a climate zone with more stringent requirements.

Further information relating to certification can be found on [www.passivehouse.com](http://www.passivehouse.com) and [passipedia.org](http://passipedia.org).

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	0.94	0.032	0.83
Side fixed	(sf)		50	0.97	0.032	0.83
Bottom fixed	(bof)		50	0.94	0.032	0.83
Mullion fixed	(m)		50	0.97	0.032	0.83
Transom fixed	(tf)		50	0.94	0.032	0.83
Spacer: SWISSPACER Ultimate			Secondary seal: Polysulfid			

Thermal glass carrier bridge <sup>2</sup>  $\chi_{GT} = 0.004$  W/K

## Validated installations

Lightweight timber (fixed glazed)		Ventilated facade (fixed glazing)		Exterior insulation and finishing system (EIFS) (fixed glazed)	
					
					
$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)
Top	0.049	Top	0.024	Top	0.026
Left	0.035	Left	0.033	Left	0.024
Right	0.035	Right	0.033	Right	0.024
Bottom	0.049	Bottom	0.024	Bottom	0.026
$U_{W,installed} = 0.85$ W/(m <sup>2</sup> K)		$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)		$U_{W,installed} = 0.83$ W/(m <sup>2</sup> K)	

<sup>1</sup> Includes  $\Delta U = 0.28$  W/(m<sup>2</sup> K). Determined through 3D - FEM Simulation

<sup>2</sup> Standard value . Glass carrier type : Non-Metallic Glass Carrier with Screws

