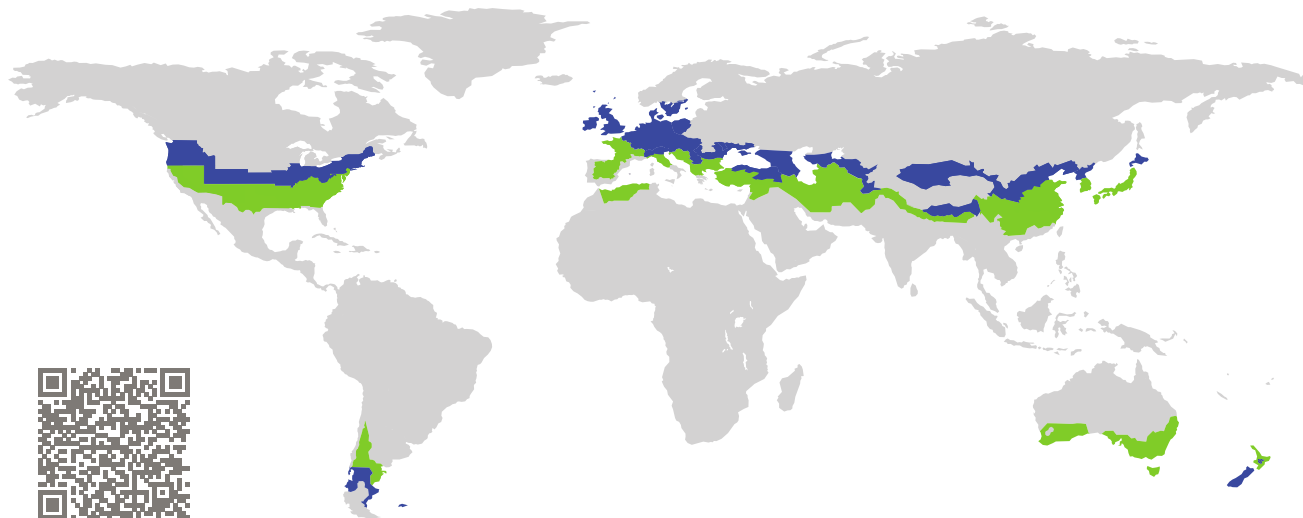


# CERTIFICATE

Certified Passive House Component

Component-ID 0222cw03 valid until 31st Decembar 2018

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany

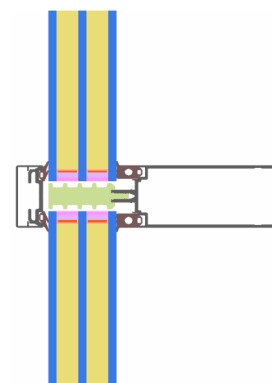


Category: **Curtain Wall**  
Manufacturer: **Kawneer Aluminium Deutschland, Inc., Iserlohn, Germany**  
Product name: **Fassade AA100 HI**

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



cool, temperate climate



**CERTIFIED COMPONENT**

Passive House Institute

Passive House  
efficiency class

phE

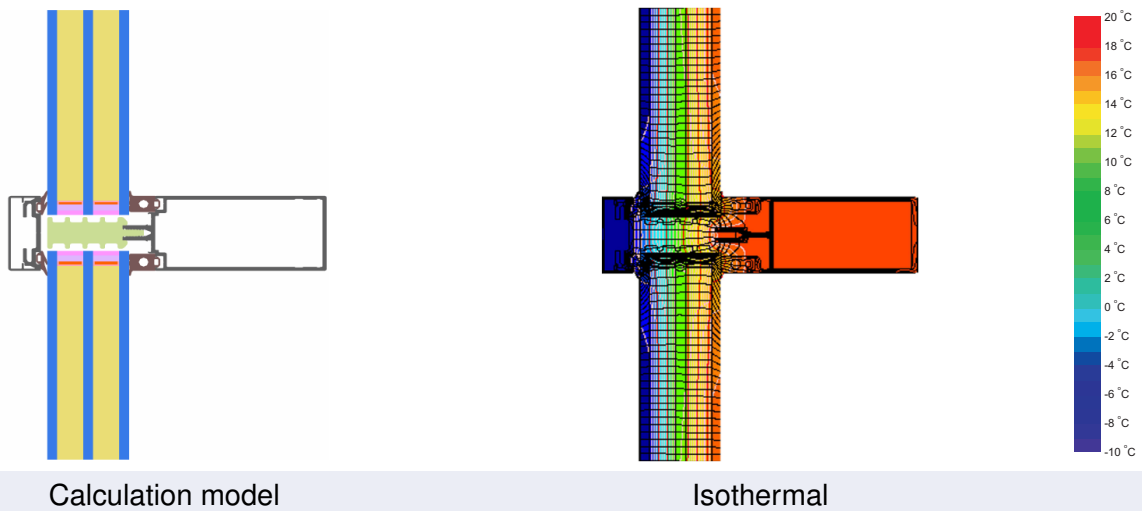
phD

phC

phB

phA

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



### Description

PVC Mullion and Transnom, reinforced by internal steel beam. Outer devices form aluminium. Insulated bPE-foam (0,038 W/(mK)). Used Pane: 50 mm (6/16/6/16/6), intersection of the Glass: 13 mm. The losses by the screws were determined by measurement, the losses caused by the glass carrier by 3D-simulation (PHI). Used spacer: Swissspacer

### 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	0.69	0.58	0.53	W/(m <sup>2</sup> K)
		↓	↓	↓	↓	
Element	$U_{CW}$	0.80	0.79	0.69	0.64	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	0.81	0.037	0.79
Side fixed	(sf)		50	0.81	0.037	0.79
Bottom fixed	(bof)		50	0.81	0.037	0.79
Mullion fixed	(m)		50	0.81	0.037	0.79
Transom fixed	(tf)		50	0.81	0.037	0.79
Transom 1 casement	(t1)		180	1.30	0.031	0.79
Spacer: SWISSPACER V			Secondary seal: Polysulfide			
Thermal glass carrier bridge <sup>2</sup> $\chi_{GT} = 0.004$ W/K						

### Validated installations

Insulated formwork blocks		Exterior insulation and finishing system (EIFS) (fixed glazed)		Lighthweight timber (fixed glazed)	
$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)	$\Psi_{install}$	W/(m K)
Top	0.031	Top	0.028	Top	0.044
Left	0.031	Left	0.028	Left	0.044
Right	0.031	Right	0.028	Right	0.044
Bottom	0.040	Bottom	0.043	Bottom	0.043
$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)		$U_{W,installed} = 0.84$ W/(m <sup>2</sup> K)		$U_{W,installed} = 0.85$ W/(m <sup>2</sup> K)	

<sup>1</sup> Includes  $\Delta U = 0.15$  W/(m<sup>2</sup> K). Determined through measurement

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

