

# Certificate

## Certified Passive House component

for cool, temperate climate, valid until 31.12.2016

Passive House Institute  
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Category: **Curtain Wall**  
Manufacturer: **Raico Bautechnik GmbH**  
87772 Pfaffenhausen, GERMANY  
Product name: **THERM+ 50 H-I**

### The following comfort criteria were used in awarding this certificate:

Given a  $U_g$  value of  $0.7 \text{ W}/(\text{m}^2\text{K})$  and an element size of  $1.20 \text{ m}$  by  $2.50 \text{ m}$ ,

$$U_{CW} = 0.80 \text{ W}/(\text{m}^2\text{K}) \leq 0.80 \text{ W}/(\text{m}^2\text{K})$$

Taking into account the installation based thermal bridges, and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the facade meets the following criterion.

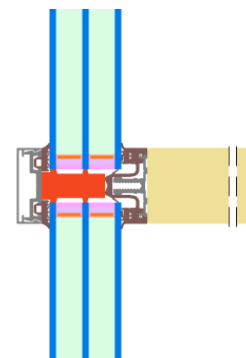
$$U_{CW, \text{eingebaut}} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

### Thermal data of the construction

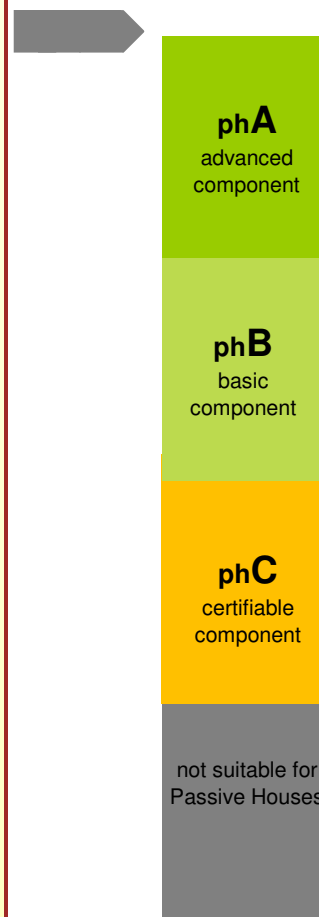
|   | $U_f$ -value<br>[W/(m <sup>2</sup> K)] | Width<br>[mm] | $\Psi_g$<br>[W/(mK)] | $f_{Rsi=0.2}$<br>[-] |
|---|--|---------------|----------------------|----------------------|
| Spacer  | Swisspacer V*                          |               |                      | 0.77                 |
| Transom (t)                                     | 0.93                                   | 50            | 0.034                |                      |
| Mullion (m)                                     | 0.93                                   | 50            | 0.034                |                      |
| Thermal glass carrier bridge $\chi_{GT}$ [W/K]: |  |               |                      | 0.004                |

\*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

Further information see data sheet



### Passive House Efficiency Class

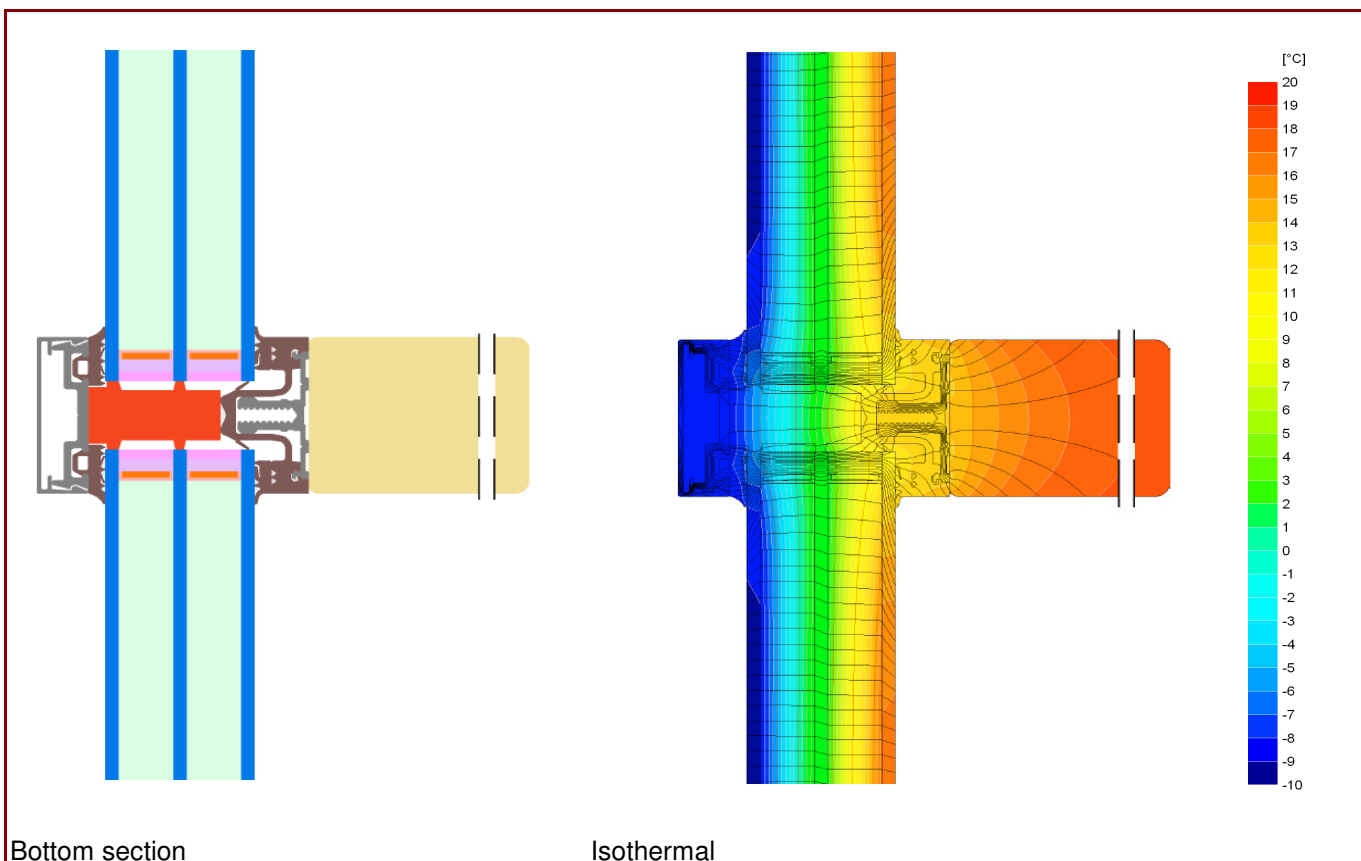


**CERTIFIED COMPONENT**

Passive House Institute

# Data Sheet Raico Bautechnik GmbH, THERM+ 50 H-I

**Manufacturer** Raico Bautechnik GmbH  
87772 Pfaffenhausen, GERMANY  
Tel.: +49 (0) 8265 911 0  
www.raico.de



## Description

Timber construction, Aluminium covering- and pressure-strip. PE-foam insulator in the glazing rebate. Plastic glass-carrier on stainless steel screws. Used Pane: 44 mm (4/16/4/16/4), intersection of the Glass: 13 mm. Used spacer: Swisspacer V

## Thermal data

|  | <b>U<sub>f</sub>-value</b><br>[W/(m²K)] | <b>Width</b><br>[mm] | <b>Ψ<sub>g</sub></b><br>[W/(mK)] | <b>f<sub>Rsi=0.20</sub></b><br>[-] |
|--|---|----------------------|----------------------------------|------------------------------------|
| Spacer   | Swisspacer V*                           |                      |                                  | 0.77                               |
| Transom (t)  | 0.93                                    | 50                   | 0.034                            |                                    |
| Mullion (m)  | 0.93                                    | 50                   | 0.034                            |                                    |
| Opening element  |   |                      |                                  |                                    |
| -  |   |                      |                                  |                                    |
| Thermal glass carrier bridge $\chi_{GT}$ [W/K]:                        |   |                      |                                  | 0.004                              |
| 1: Includes $\Delta U = 0.18$ W/(m²K), Determined by measurement (ift) |   |                      |                                  |                                    |
| 2: Determined by 3D thermal flux simul. (PHI)                          |   |                      |                                  |                                    |

Depending on the thermal losses through opaque elements, windows are categorised in to efficiency classes. These thermal losses include the losses through the frame, multiplied by its width, the thermal bridge at the edge bond as well as the length of the edge bond. Please ask the manufacturer for a detailed report.

\* Spacers of lower thermal quality leading to higher thermal losses and lower temperatures.