

# Certificate

## Certified Passive House Component

for cool, temperate climate, valid until 31.12.2015

Passive House Institute  
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Category: **Curtain Wall**  
 Manufacturer: **Aluprof S.A.**  
**43-300 Bielsko-Biała, POLAND**  
 Product name: **MB-TT50**

The following comfort criteria were used in awarding this certificate:

Given a  $U_g$  value of  $0.70 \text{ W}/(\text{m}^2\text{K})$  and an element size of  $1.20 \text{ m}$  by  $2.50 \text{ m}$ ,

$$U_{CW} = 0.78 \text{ W}/(\text{m}^2\text{K}) \leq 0.80 \text{ W}/(\text{m}^2\text{K})$$

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.

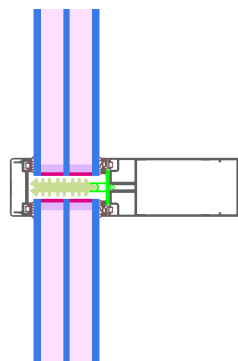
$$U_{CW, \text{installed}} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

### Thermal data of the construction

|                                                 | $U_f$ -value<br>[W/(m <sup>2</sup> K)] | Width<br>[mm] | $\Psi_g$<br>[W/(mK)]      | $f_{Rsi=0.25}$<br>[-] |
|-------------------------------------------------|----------------------------------------|---------------|---------------------------|-----------------------|
| Spacer                                          |                                        |               | ULTIMATE Swisspacer S.HD* |                       |
| Transom (t)                                     | 0.86                                   | 50            | 0.030                     | 0.82                  |
| Mullion (m)                                     | 0.84                                   | 50            | 0.030                     |                       |
| 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**

phA+  
very adv. component

phA  
advanced component

phB  
basic component

phC  
certifiable component

not suitable for Passive Houses



**phA+**

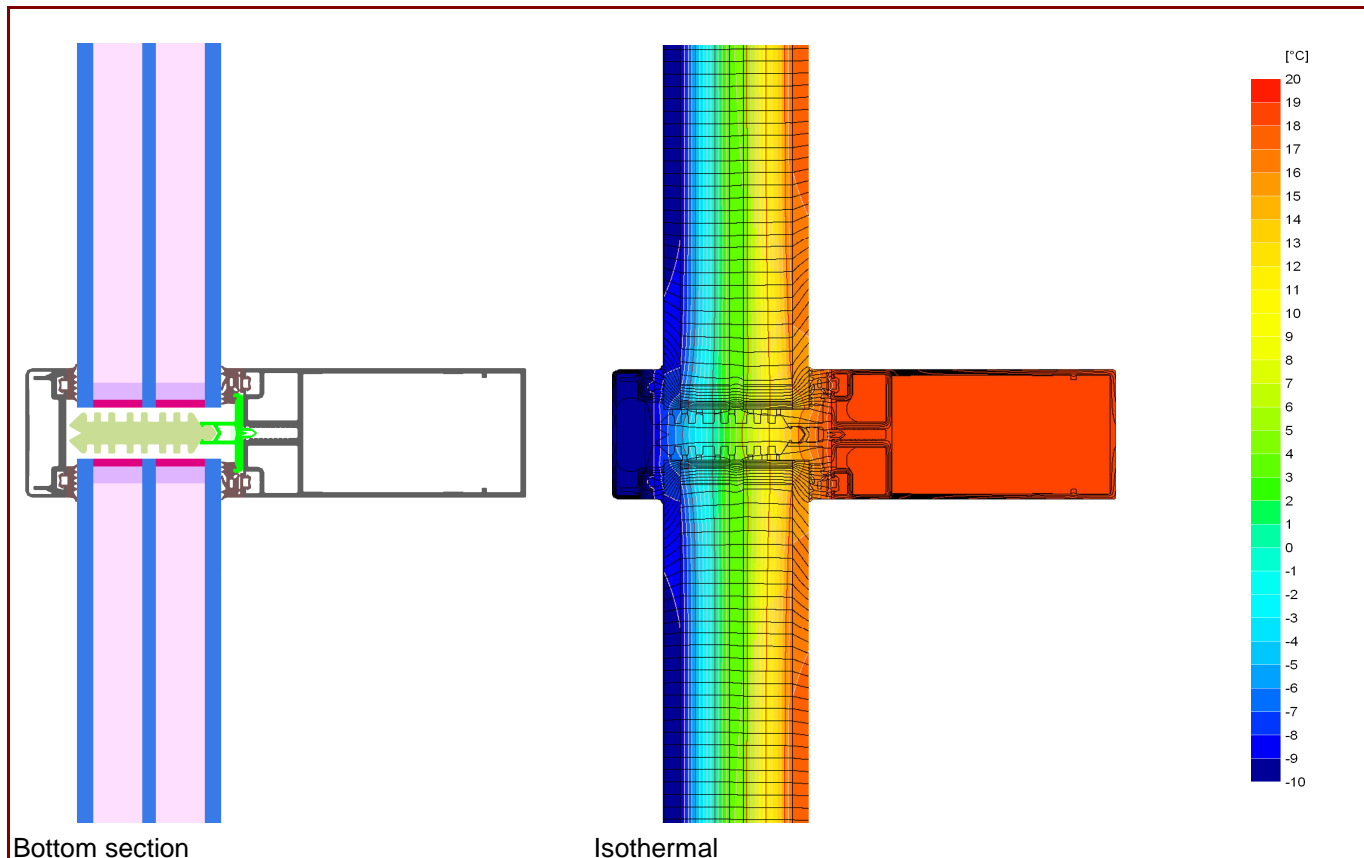
**CERTIFIED COMPONENT**

Passive House Institute

# Data Sheet Aluprof S.A., MB-TT50

**Manufacturer** Aluprof S.A.  
43-300 Bielsko-Biała, POLAND

www.aluprof.eu



## 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: 53 mm (6/18/5/18/6), intersection of the Glass: 15 mm. Used spacer: ULTIMATE Swisspacer with silicone secondary sealing

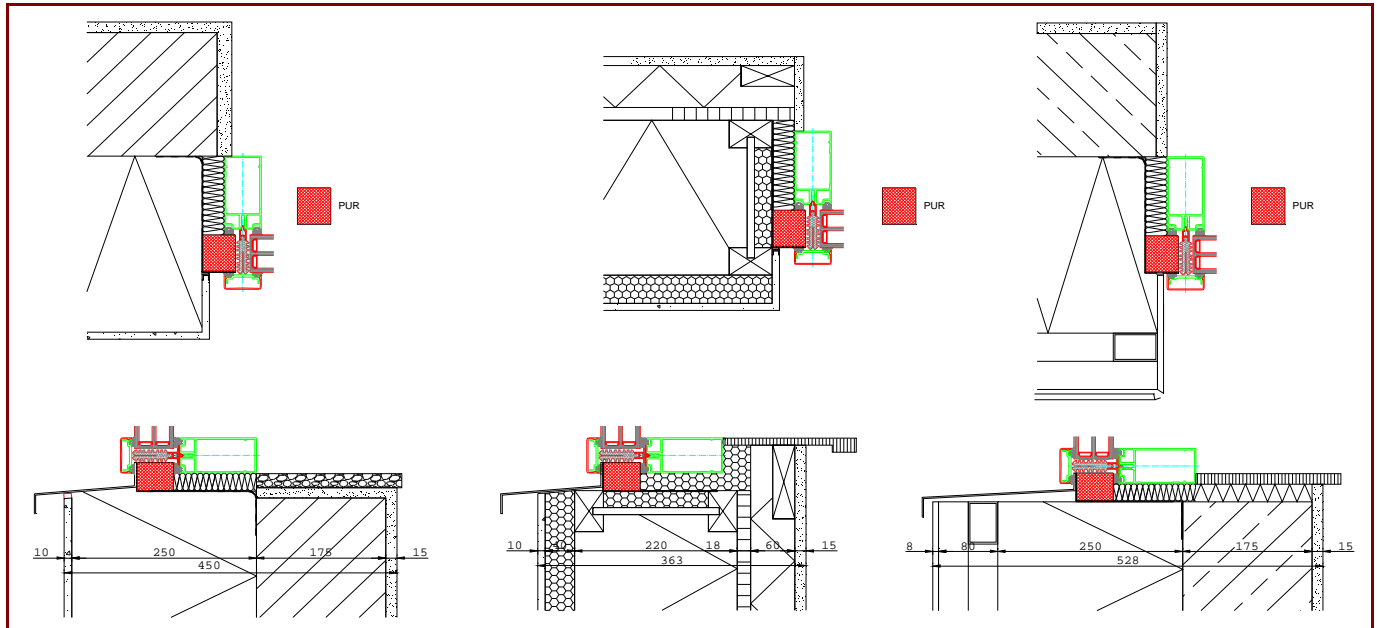
## Thermal data

|                                                                                   | $U_f$ -value <sup>1</sup><br>[W/(m²K)] | Width<br>[mm] | $\Psi_g$<br>[W/(mK)]      | $f_{Rsi=0.25}$<br>[-] |
|-----------------------------------------------------------------------------------|----------------------------------------|---------------|---------------------------|-----------------------|
| Spacer                                                                            |                                        |               | ULTIMATE Swisspacer S.HD* |                       |
| Transom (t)                                                                       | 0.86                                   | 50            | 0.030                     | 0.82                  |
| Mullion (m)                                                                       | 0.84                                   | 50            | 0.030                     |                       |
| -                                                                                 |                                        |               |                           |                       |
| -                                                                                 |                                        |               |                           |                       |
| Thermal glass carrier bridge $\chi_{GT}$ [W/K]:                                   |                                        |               |                           | 0.0040                |
| 1: Includes $\Delta U = 0.27$ W/(m²K), determined by 3D thermal flux simul. (PHI) |                                        |               |                           |                       |
| 2: nonmetallic including bolting                                                  |                                        |               |                           |                       |

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

# Data Sheet Aluprof S.A., MB-TT50

## Installation



### Installation based thermal bridge $\Psi_{instal.}$ in Passive House suitable walls

|                                     |                        | EIFS  | Timber construction wall | Ventilated facing |
|-------------------------------------|------------------------|-------|--------------------------|-------------------|
| <b>Position</b>                     |                        |       |                          |                   |
| <b>Bottom</b>                       | [W/(mK)]               | 0.024 | 0.047                    | 0.022             |
| <b>Side/top</b>                     | [W/(mK)]               | 0.033 | 0.034                    | 0.031             |
| <b><math>U_{CW,instaled}</math></b> | [W/(m <sup>2</sup> K)] | 0.82  | 0.83                     | 0.82              |

### Explanatory notes

The facade-U-values were calculated based on a 1.20 m by 2.50 m element  $U_g = 0.70$  W/(m<sup>2</sup>K).  
If better glazing is used, the facade-U-value decrease as follow:

|                  |                                                 |      |      |      |
|------------------|-------------------------------------------------|------|------|------|
| <b>U Glazing</b> | <b><math>U_g</math> [W/(m<sup>2</sup>K)]</b>    | 0.66 | 0.60 | 0.57 |
| <b>U Facade</b>  | <b><math>U_{CW}</math> [W/(m<sup>2</sup>K)]</b> | 0.74 | 0.69 | 0.66 |

Depending on the thermal losses through opaque elements, transparent components are categorised according 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 containing all calculations and results.

For further information, please visit [www.passivehouse.com](http://www.passivehouse.com) or [www.passipedia.org](http://www.passipedia.org).