

Certificate

Certified Passive House component

for cool, temperate climate, valid until 31.12.2014

Passive House Institute
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Category: **Window Frame**
 Manufacturer: **SCHÜCO International KG**
06667 Weißenfels, GERMANY
 Product name: **Schüco Alu Inside SI 82**

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 a window size of 1.23 m by 1.48 m,

$$U_w = 0,79 \text{ W}/(\text{m}^2\text{K}) \leq 0.80 \text{ W}/(\text{m}^2\text{K})$$

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 window meets the following criterion.

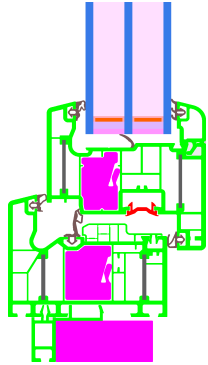
$$U_{w,installed} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

Thermal data

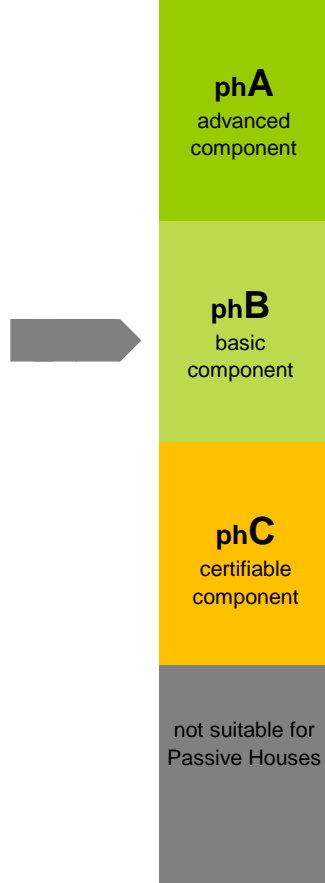
| | U_f -value [W]/(m ² K)] | Width [mm] | Ψ_g [W]/(mK)] | $f_{Rsi=0.25}$ [-] |
|----------|---|---------------|-----------------------|-----------------------|
| Spacer | SwisspacerV* | | | 0,74 |
| Bottom | 0,77 | 145 | 0,028 | |
| Side/top | 0,76 | 120 | 0,028 | |

*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
advanced component

phB
basic component

phC
certifiable component

not suitable for
Passive Houses



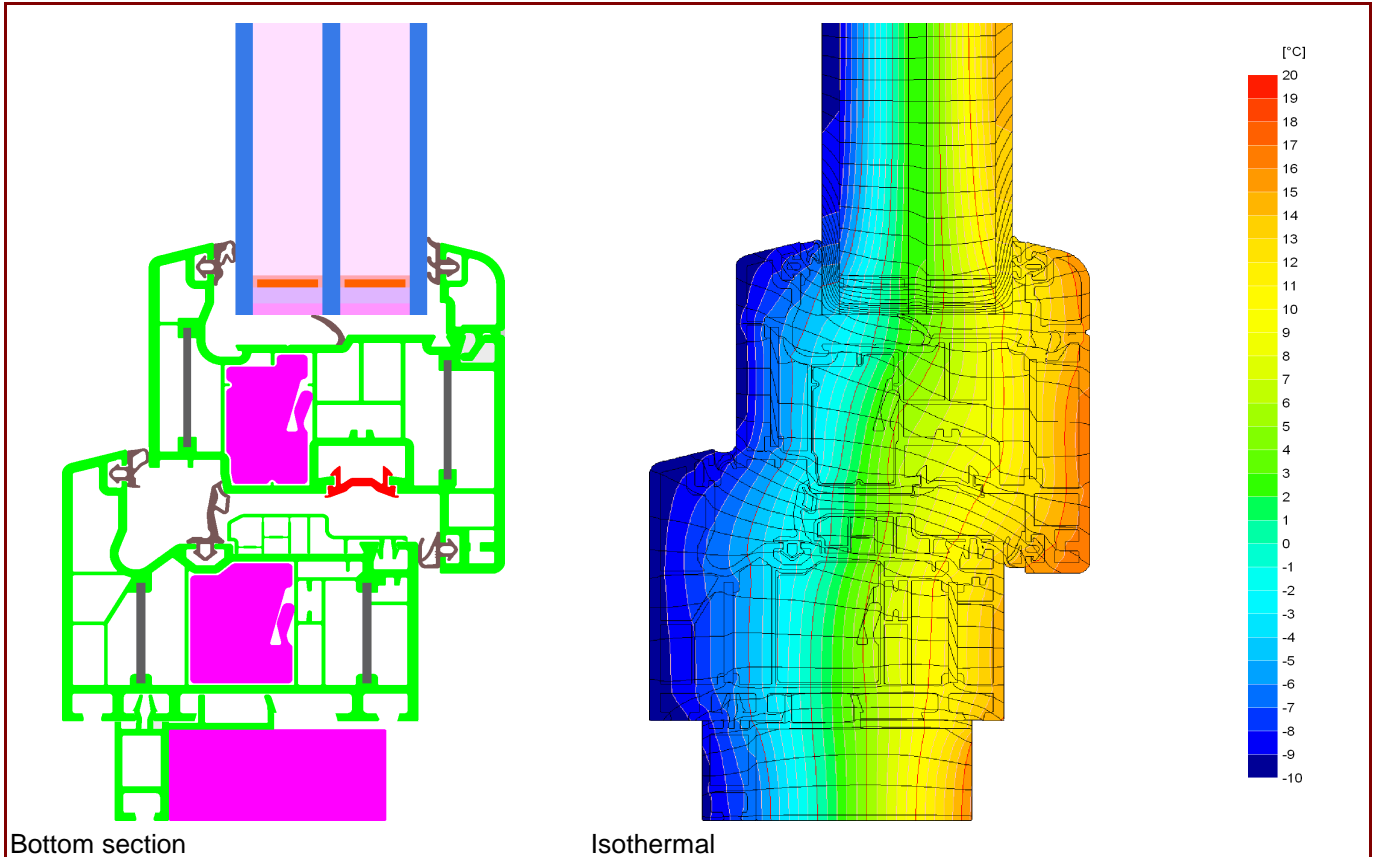
ph B

CERTIFIED COMPONENT

Passive House Institute

Data Sheet SCHÜCO International KG, Schüco Alu Inside SI 82

Manufacturer SCHÜCO International KG
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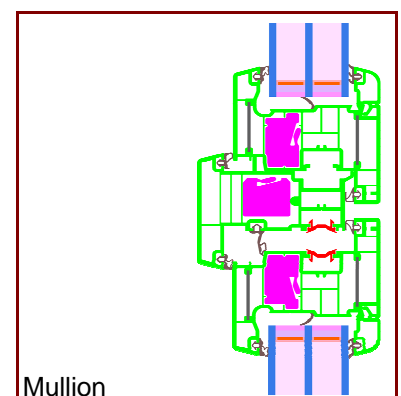


Description

Plastic windowframe with EPS-insulation (0,031 W/(mK)). Reinforced by metallic bright aluminium bars, e= 0,1.
 Used Pane: 44 mm (4/16/4/16/4), intersection of the Glass: 18 mm.

Thermal data for the window frame

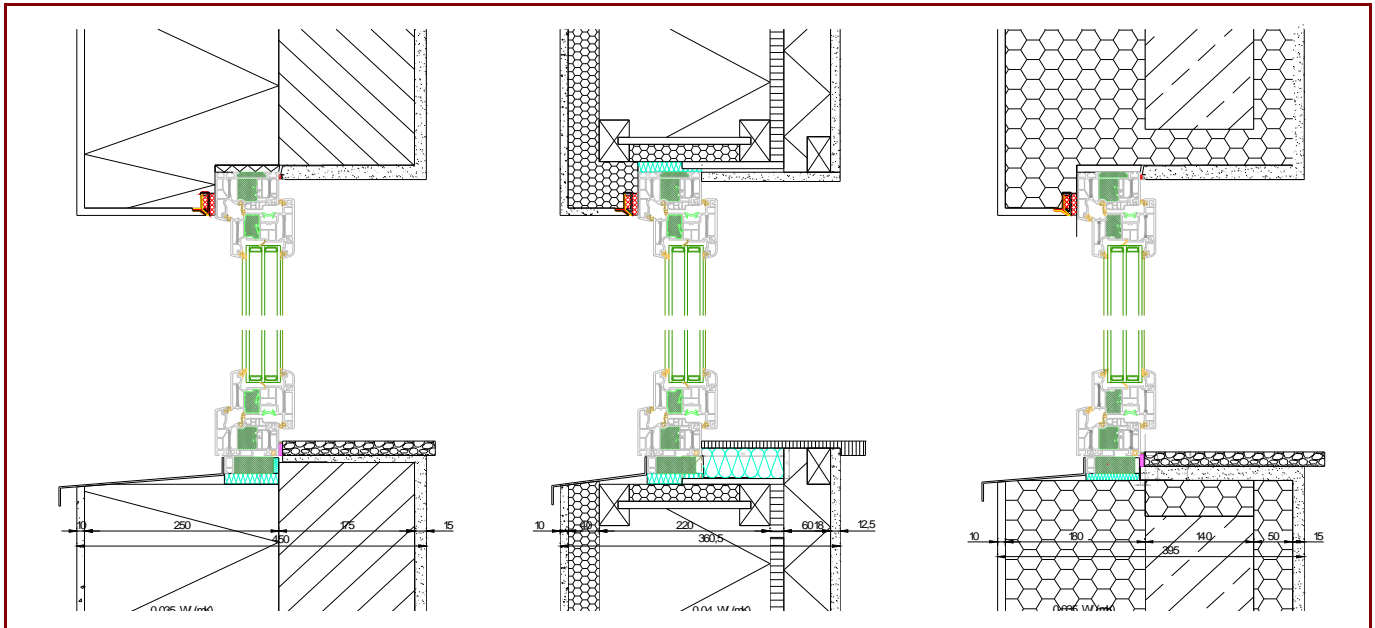
| | U_f-value [W/(m²K)] | Width [mm] | ψ_g [W/(mK)] | f_{Rsi=0.25} [-] |
|----------------|---|----------------------|----------------------------------|------------------------------------|
| Spacer | SwisspacerV* | | | |
| Bottom | 0,77 | 145 | 0,028 | 0,74 |
| Side/top | 0,76 | 120 | 0,028 | |
| Flying Mullion | 0,78 | 174 | 0,027 | 0,73 |



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

Data Sheet SCHÜCO International KG, Schüco Alu Inside SI 82

Installation



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

| Position | | EIFS | Timber construction wall | Insulated formwork blocks |
|-----------------|------------------------|-------|--------------------------|---------------------------|
| Bottom | [W/(mK)] | 0,024 | 0,015 | 0,016 |
| Side/top | [W/(mK)] | 0,011 | 0,020 | 0,009 |
| $U_{W,instal.}$ | [W/(m ² K)] | 0,83 | 0,85 | 0,82 |

Explanatory notes

The window U-values were calculated based on a 1.23 m by 1.48 m window $U_g = 0.70$ W/(m²K).
If better glazing is used, the window U-value decrease as follow:

| | | | | |
|------------------|--|------|------|------|
| U Glazing | U_g [W/(m²K)] | 0,66 | 0,60 | 0,54 |
| U Window | U_w [W/(m²K)] | 0,76 | 0,72 | 0,68 |

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 or www.passipedia.org.