

Certificate

Certified Passive House Component

for cool, temperate climates; valid until 31.12.2014

Passive House Institute
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Category: **Window Frame**
Manufacturer: **POL-SKONE Sp. z o. o.**
20-328 LUBLIN, POLAND
Product name: **EC90 PLUS**

This certificate was awarded based on the following criteria:

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,

$$U_w = 0.77 \text{ W}/(\text{m}^2\text{K}) \leq 0.80 \text{ W}/(\text{m}^2\text{K})$$

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.

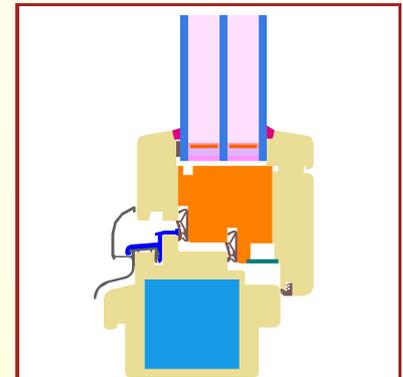
$$U_{w,\text{installed}} \leq 0.85 \text{ W}/(\text{m}^2\text{K})$$

Thermal data

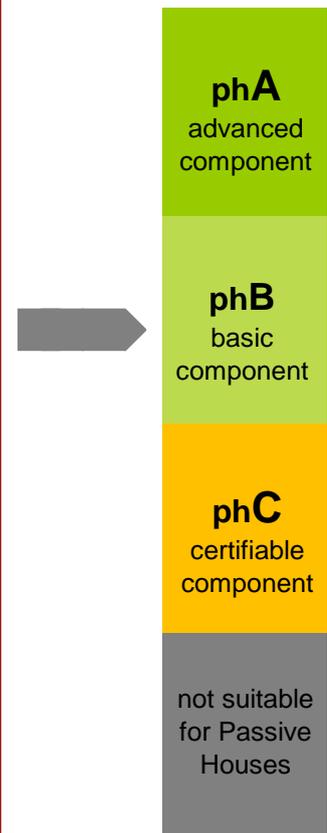
| | U_f -value [W]/(m ² K)] | Width [mm] | Ψ_g [W]/(mK)] | $f_{Rsi=0.25}$ [-] |
|----------|---|---------------|-----------------------|-----------------------|
| Spacer | | | Swisspacer V* | |
| Bottom | 0.75 | 137.6 | 0.030 | 0.75 |
| Side/top | 0.67 | 133.9 | 0.032 | |

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

For further information, please see the data sheet

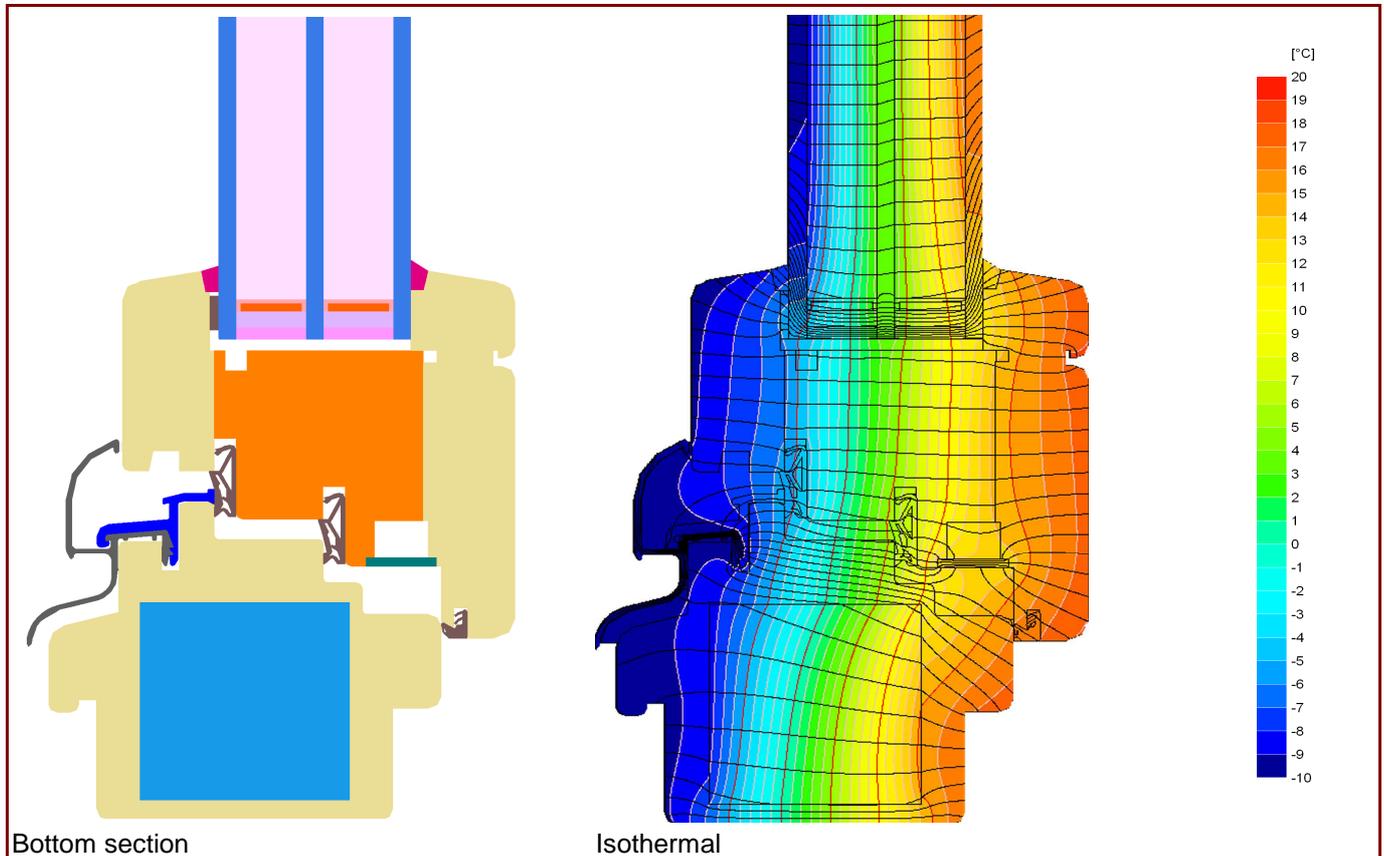


Passive House Efficiency Class



Data Sheet POL-SKONE Sp. z o. o., EC90 PLUS

Manufacturer POL-SKONE Sp. z o. o.
 ul. Lucyny Herc 8, 20-328 LUBLIN, POLAND
 Tel.: 0048817443011
 Email: poczta@pol-skone.eu, www.pol-skone.eu

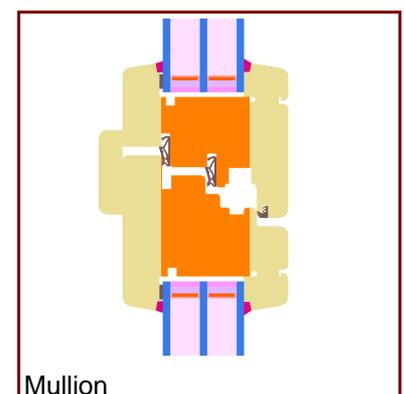


Description

Timberframe with insulation of puren and sash insulation of compacfoam. Pane thickness: 44 mm (4/16/4/16/4), Rebate depth: 17 mm.

Thermal data for the window frame

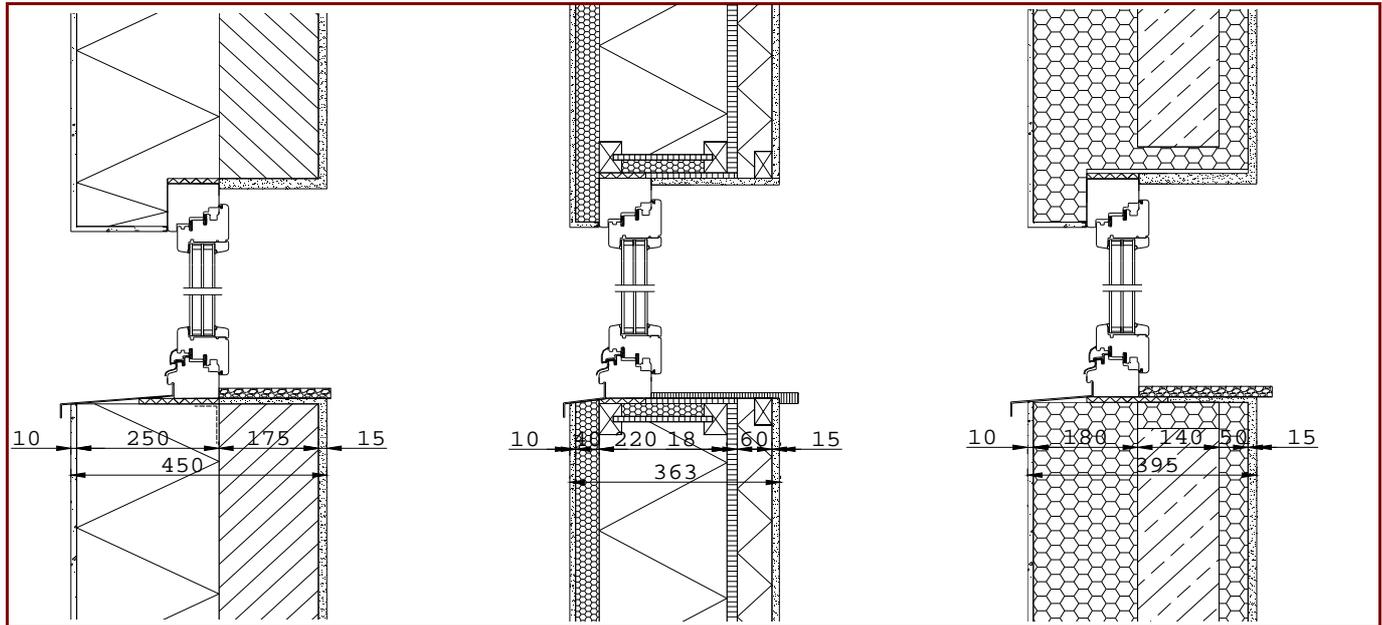
| | U_f -value [W/(m ² K)] | Width [mm] | Ψ_g [W/(mK)] | $f_{Rsi=0.25}$ [-] |
|----------------|--|---------------|----------------------|-----------------------|
| Spacer | Swisspacer V* | | | 0.75 |
| Bottom | 0.75 | 138 | 0.030 | |
| Side/Top | 0.67 | 134 | 0.032 | |
| Flying Mullion | 0.63 | 147 | 0.030 | |



* Spacers of lower thermal quality lead to higher thermal losses and lower glass edge temperatures.

Data Sheet POL-SKONE Sp. z o. o., EC90 PLUS

Installation



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

| Position | | EIFS | Timber construction wall | Insulated formwork blocks |
|-----------------|------------------------|--------|--------------------------|---------------------------|
| Bottom | [W/(mK)] | 0.026 | 0.032 | 0.021 |
| Side/Top | [W/(mK)] | -0.004 | 0.017 | 0.002 |
| $U_{W,instal.}$ | [W/(m ² K)] | 0.78 | 0.83 | 0.79 |

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-values decrease as follows:

| | | | | |
|------------------|--|------|------|------|
| U Glazing | U_g [W/(m²K)] | 0.64 | 0.58 | 0.54 |
| U Window | U_w [W/(m²K)] | 0.73 | 0.69 | 0.67 |

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, the frame width, the thermal bridge at the glass edge as well as the length of the glass edge. Certificates for arctic regions are too valid vor cold, certificates for cold regions are too valid for cool, temperate zones.

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.