

Certificate

Certified Passive House Component

for cool, temperate climates; valid until 31.12.2016

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Skylight**
 Manufacturer: **Glas Trösch AG Isolierglas**
4922 Bützberg, SWITZERLAND
 Product name: **Composite Glazing**
– öffnungsfähiges Glasoberlicht

This certificate was awarded based on the following criteria:

Given a U_g value of $0.75 \text{ W}/(\text{m}^2\text{K})$ and a window size of 1.50 m by 1.50 m ,

$$U_{SL} = 0.94 \text{ W}/(\text{m}^2\text{K}) \leq 1.10 \text{ W}/(\text{m}^2\text{K})$$

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 skylight meets the following criterion.

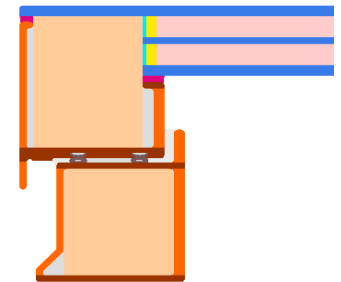
$$U_{SL,installed} \leq 1.10 \text{ W}/(\text{m}^2\text{K})$$

Thermal data

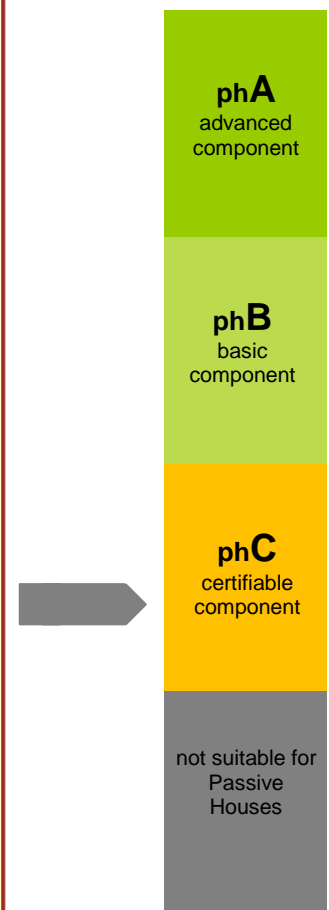
	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			SuperSp. Tri-Seal PU*	
Bottom	1.11	121	0.037	0.70
Side/top	1.11	121	0.037	

*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

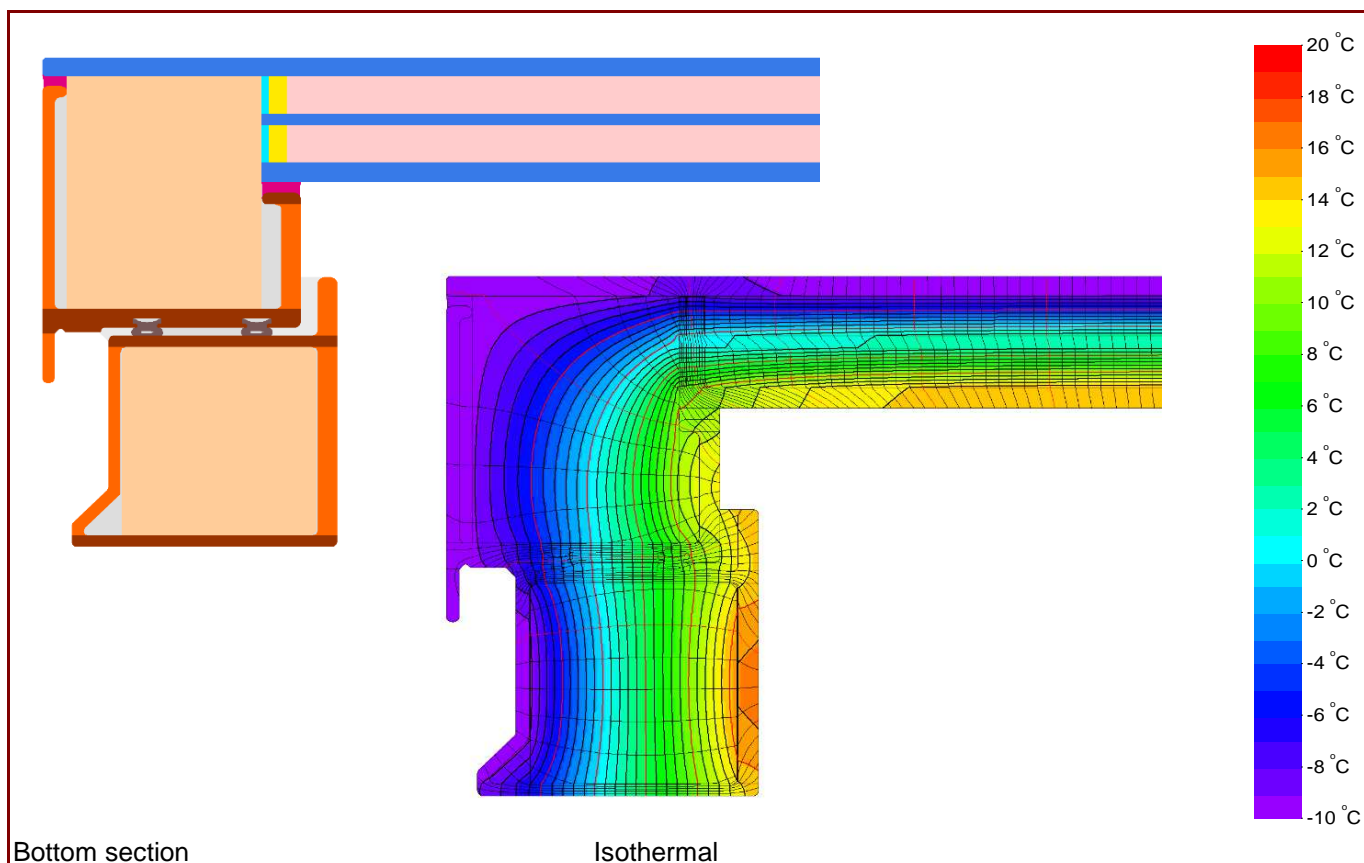


Passive House Efficiency Class



Data Sheet Glas Trösch AG Isolierglas, Composite Glazing

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Description

GRP- profile with PU insulation (0.026 W/(mK))
 Pane thickness: 53 mm (8/16/5/16/8), spacer: SuperSpacer Tri-Seal with polyurethane as secondary seal

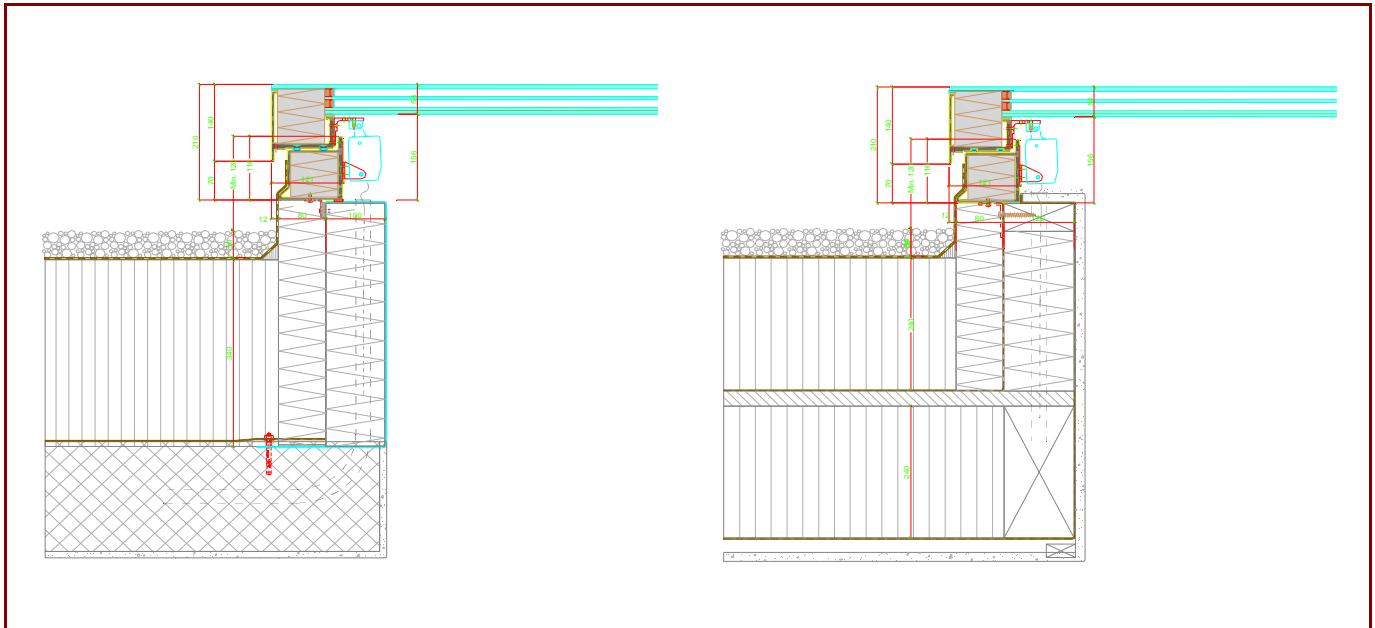
Thermal data for the skylight frame

	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			SuperSp. Tri-Seal PU*	
Bottom	1.11	121	0.037	0.70
Side/Top	1.11	121	0.037	

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

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Installation



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

		Massive roof	Timber construction roof
Position			
Bottom	[W/(mK)]	0.054	0.047
Side/Top	[W/(mK)]	0.054	0.047
$U_{\text{SL,instal.}}$	[W/(m ² K)]	1.08	1.06

Explanatory notes

The skylight U-values were calculated based on a 1.5 m by 1.5 m window $U_g = 0.75 \text{ W}/(\text{m}^2\text{K})$.
If different glazing is used, the skylight U-values will change as follows:

U Glazing	U_g [W/(m²K)]	0.76	0.78	0.84
U Skylight	U_{SL} [W/(m²K)]	0.95	0.96	1.00

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 valid for cold climate too, certificates for cold regions are valid for cool, temperate zones too.

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.