

# Certificate

## Certified Passive House Component

for cool, temperate climates; valid until 31.12.2016

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
GERMANY

Category: **Sky Lite**  
Manufacturer: **Hans Börner GmbH & Co. KG**  
**64569 Nauheim, GERMANY**  
Product name: **Nauheimer Lichtkuppel**

This certificate was awarded based on the following criteria:

Given a  $U_g$  value of  $0.89 \text{ W}/(\text{m}^2\text{K})$  and a window size of  $1.50 \text{ m}$  by  $1.50 \text{ m}$ ,

$$U_{SL} = 0.67 \text{ W}/(\text{m}^2\text{K}) \leq 1.10 \text{ W}/(\text{m}^2\text{K})$$

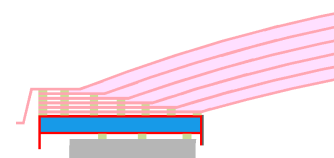
Taking into account the installation based thermal bridges and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the sky lite meets the following criterion.

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

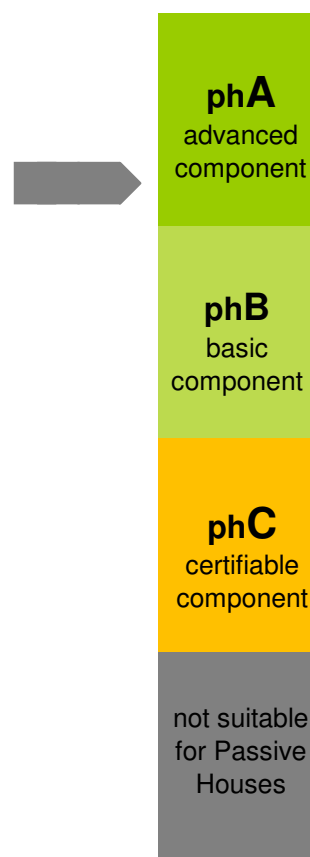
### Thermal data

	$U_f$ -value [W/(m <sup>2</sup> K)]	Width [mm]	$\Psi_g$ [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer	non-existent			0.71
Bottom	0.29	201	0.034	
Side/top	0.29	201	0.034	

For further information, please see the data sheet



### Passive House Efficiency Class

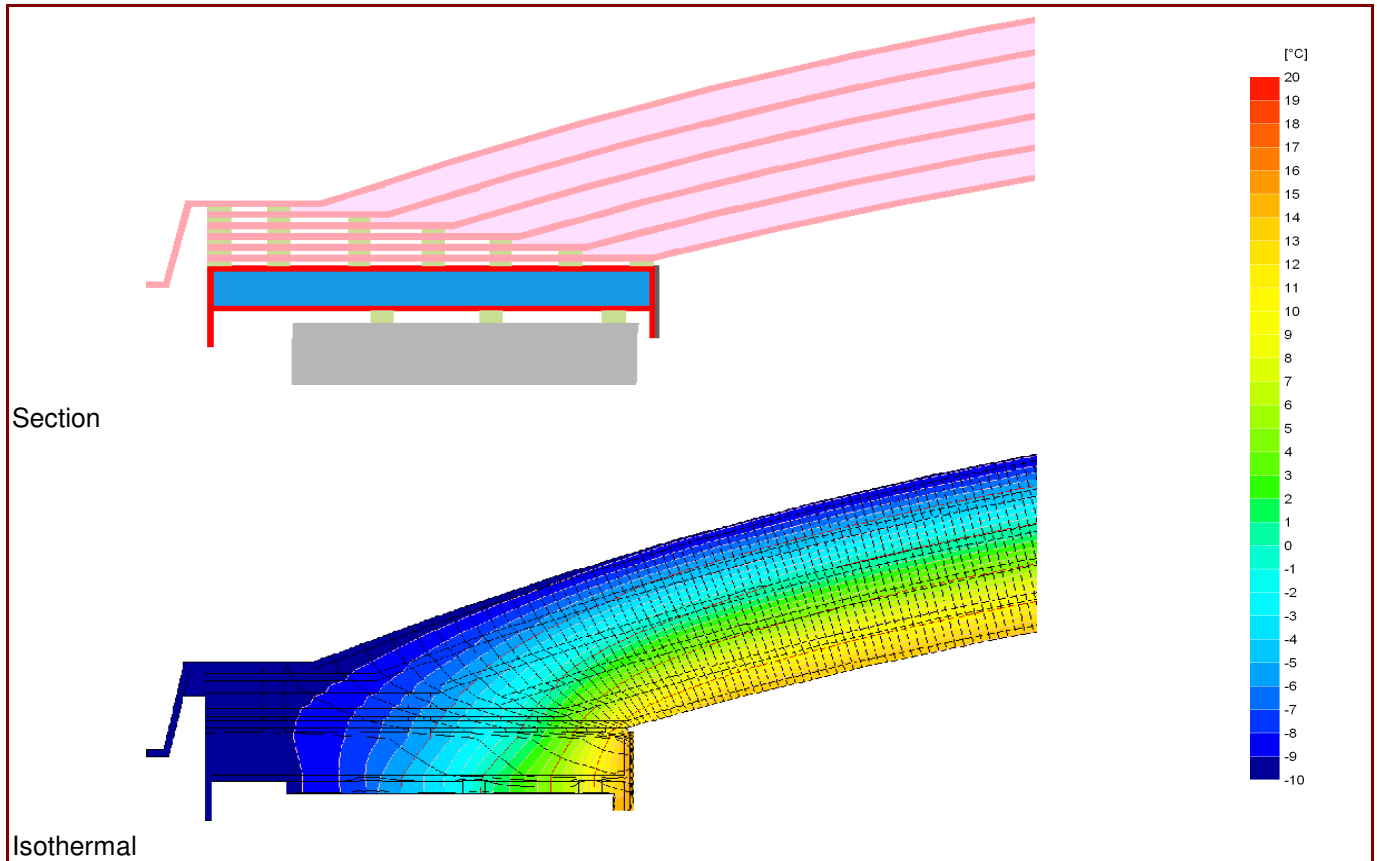


**CERTIFIED COMPONENT**

Passive House Institute

# Data Sheet Hans Börner GmbH & Co. KG, Nauheimer Lichtkuppel

**Manufacturer** Hans Börner GmbH & Co. KG  
 Rudolf -Diesel Strasse 8, 64569 Nauheim, GERMANY  
 Tel.: 06152 / 9764 - 0  
 Email: info@acryl.de, www.acryl.de



## Description

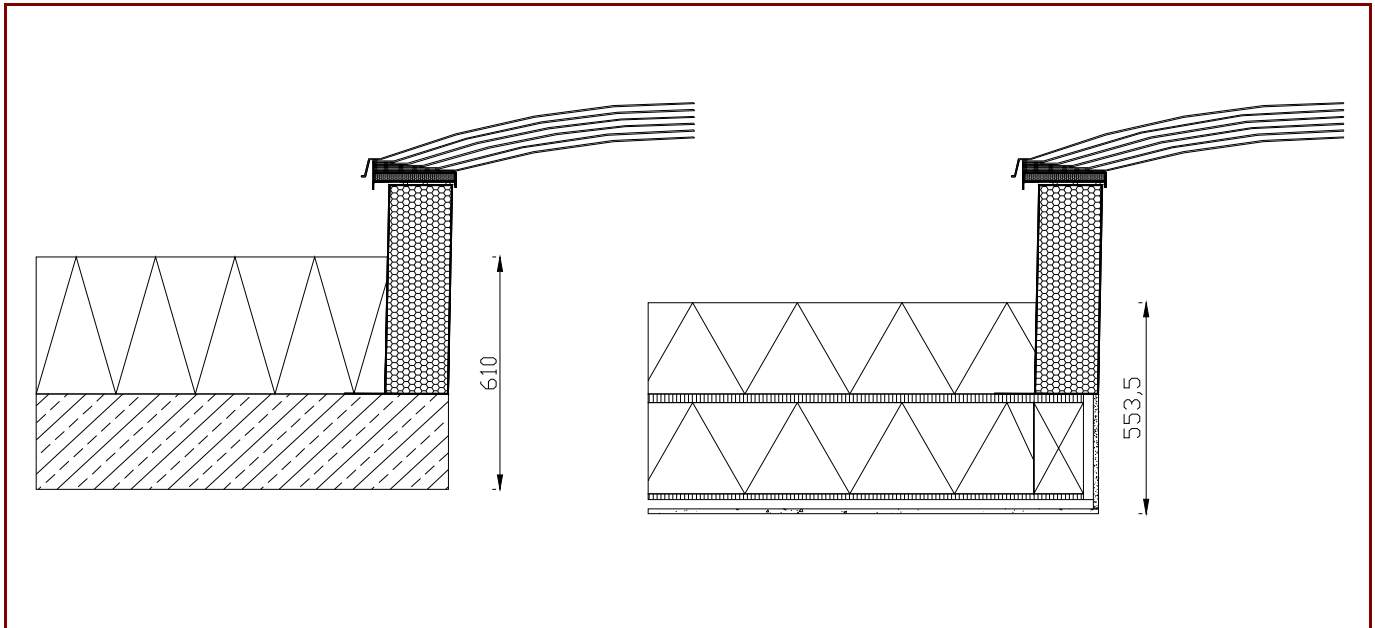
Openalbel PU-foam insulated sash with 6-shell acryldome, hight 87,2 mm. Sthe gaps of the shell are filled with air. The shells are uncoated. Pane thickness: 93 mm (3/15/3/15/3).

## Thermal data for the window frame

	<b>U<sub>f</sub>-value</b> [W/(m²K)]	<b>Width</b> [mm]	<b>Ψ<sub>g</sub></b> [W/(mK)]	<b>f<sub>Rsi=0.25</sub></b> [-]
Spacer	non-existent			0.71
Bottom	0.29	201	0.034	
Side/Top	0.29	201	0.034	

# Data Sheet Hans Börner GmbH & Co. KG, Nauheimer Lichtkuppel

## Installation



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

		Massive roof	Timber construction roof
<b>Position</b>			
<b>Bottom</b>	[W/(mK)]	0.034	0.064
<b>Side/Top</b>	[W/(mK)]	0.034	0.064
<b><math>U_{SL,instal.}</math></b>	[W/(m <sup>2</sup> K)]	0.76	0.87

#### PHPP Input:

Please put the thermal data like the specifications of facade-windows in the window-sheet. The areas of glazing and frame are valid for the horizontal layer. They will be subtracted automatically from the chosen area.

### Explanatory notes

The Sky-Light- U-values were calculated based on a 1.50 m by 1.50 m element with an  $U_g = 0.89$  W/(m<sup>2</sup>K), calculated by PHI with an average inclination of 10,7°, the geometry was provided by the manufacturer. If other glazing is used, the window U-values changes as follows:

<b>U Glazing</b>	<b><math>U_g</math> [W/(m<sup>2</sup>K)]</b>	0.92	1.00	1.10
<b>U Window</b>	<b><math>U_w</math> [W/(m<sup>2</sup>K)]</b>	0.69	0.74	0.79

Depending on the thermal losses through opaque elements, transparent components are categorised by PHI 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.

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).