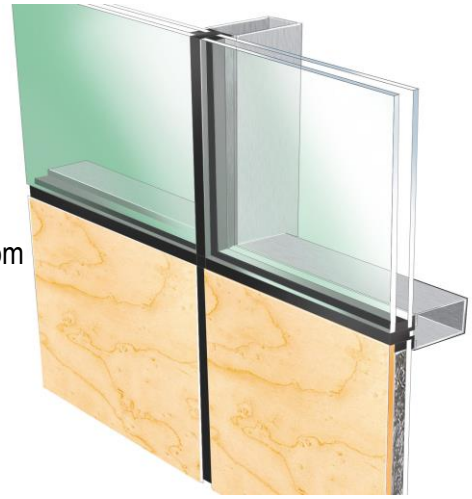
INFOTEXT

OKALUX HPI High Performance Insulation Glazing

OKALUX HPI - the innovative high performance insulating glass module consists of a vacuum insulation panel (VIP) specially developed by Dow Corning which is installed in the cavity between the panes of an insulating glass unit. OKALUX HPI thus permits very slender make-ups with outstanding thermal insulation. The insulating glass module can be used in façade areas where no fall of light is required (e.g. spandrel area), without the need to interrupt the façade system for this purpose. OKALUX HPI is available in numerous design variants and can be combined with most of the OKALUX product families in order to permit a uniform appearance in the façade. OKALUX HPI offers:

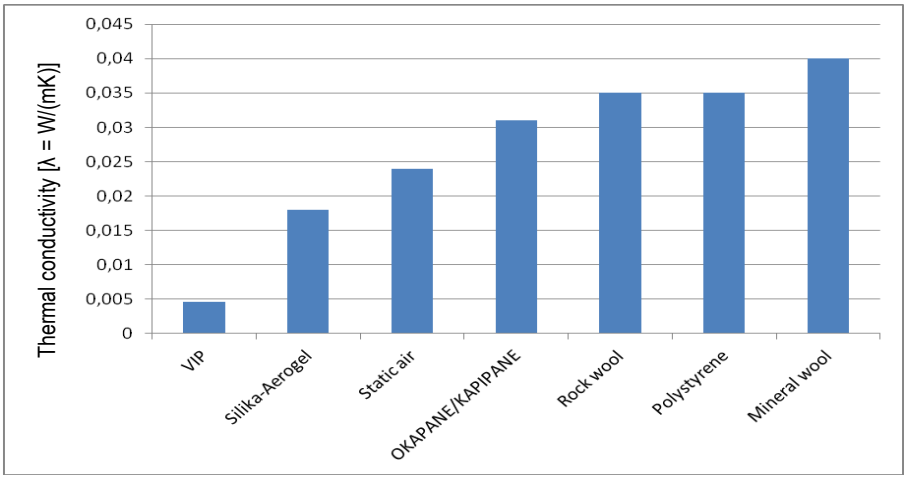
- Outstanding thermal insulation (thermal conductivity λ = 0.0046 W/(mK))
- Low insulation thicknesses, slender structures
- Improved energy efficiency in the building envelope
- Individual design options by combining or integrating different materials, types of glazing and technologies:
  - digital printing, screen printing, glass etching
  - metallic fabrics, expanded metal
  - glass fibre tissues
  - project-specific solutions
- Free design possibilities, even towards the inside of the room
- More usable interior space
- Simple cleaning
- Can be easily recycled
- Visibility for birds



Physical properties

Thermal insulation

As the thickness of the vacuum insulation panel increases, the U_g value improves. OKALUX HPI insulating glass unit is available with insulation thicknesses from 20 mm to 40 mm. This means a U_g value of 0.11 W/(m²K) can be achieved with a thickness of 40 mm.
The integrated insulation panels are based on vacuum insulation technology with a core made from fumed silica.



Sound insulation

The integrated vacuum insulation panels have no significant effect on the sound insulation. The achievable values depend on the glass assembly.

Spectral properties

A large number of functional and aesthetically appealing OKALUX inlays can be combined with the vacuum insulation panel. The reflection differs according to the surface. OKALUX HPI is always opaque (Tv = 0%) and has a very low g-value.

Technical values of standard types

The following information applies to the insulating glass unit:

Type	Initial **U_g value [W/(m²K)]** U_g [Btu/(hr ft² °F)]	**U_g value [W/(m²K)]** U_g [Btu/(hr ft² °F)] **after ageing** **(corresponds to 25 years)**
OKALUX HPI 20 mm	**0.23** (0.04)	**0.35** (0.06)
OKALUX HPI 30 mm	**0.15** (0.03)	**0.23** (0.04)
OKALUX HPI 40 mm	**0.11** (0.02)	**0.18** (0.03)

Legend and related values:

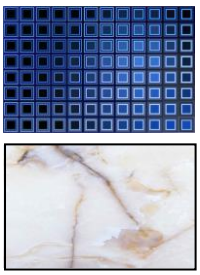
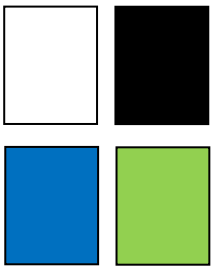
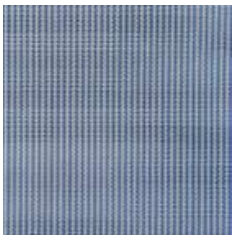
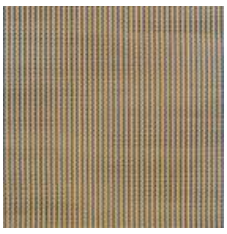
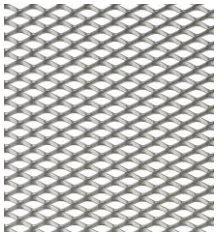
	unit	standard	technical term
U_g	W/(m²K)	DIN EN 673 DIN EN 674	Thermal transmittance
TSET	%	DIN EN 410	Total solar energy transmittance or solar heat gain coefficient
T_v	%	DIN EN 410	Light transmission (direct/hemispheric resp. diffuse/hemispheric)
R_w	dB	DIN EN 20140	Sound reduction coefficient
F_C	%	DIN 4108	Reduction factor of a solar control system, F_C=TSET/$TSET_{reference}$
SC	%	GANA Manual	Shading coefficient, SC=TSET/0.86

The above data are approximate data. They are based on measurements of approved test institutes and calculations derived from these measurements. Values determined on a project-specific basis may

vary from the above values. The values continue to vary if other coatings are used. Lower g values can be achieved by combining selective solar protection coatings.
The specified values may change as a result of technical developments. No guarantee is therefore given for their correctness.

Make-up

The special factor about OKALUX HPI is that the vacuum insulation unit is integrated into the insulating glazing, thus forming a compact and robust structural element. As a result, OKALUX HPI does not impose any special requirements in terms of installation, maintenance and cleaning. The OKALUX HPI element is to be handled like normal insulating glazing. The glass thickness and glass type depend on the needs of statics and on design requirements. A large number of functional and aesthetically appealing OKALUX inlays can be combined with the vacuum insulation panel. The thickness of the entire structure depends on the thickness of the inlay selected, the thickness of the vacuum insulation panel and the glass thickness.

OKA*LUX* HPI glass fibre tissue white	**OKA*LUX* HPI glass fibre tissue black**	**OKA*COLOR* HPI Digitalprint**	**OKA*COLOR* HPI RAL Color**
			
2 mm	2 mm	2 mm	2 mm
OKA*TECH* HPI Kiwi	**OKA*TECH* HPI Mandarin**	**OKA*TECH* HPI Expanded Metal**	**OKA *X* HPI Project-specific solution**
			
4 mm	4 mm	5 mm	

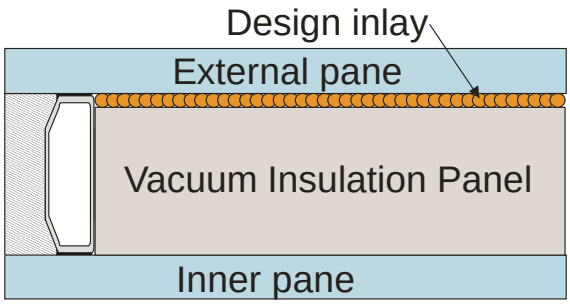
Standard make-up:

Glass-glass make-up:

External pane made of thermally treated glass
(The glass type and thickness vary according to static requirements.)

SZR: 20 mm till 40 mm for Vacuum Insulation Panel + x mm for design inlay

Inner pane made of float glass or thermally treated glass
(The glass type and thickness vary according to static requirements.)

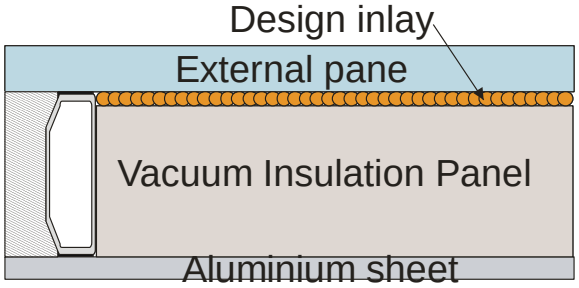


Glass-aluminium make-up:

External pane made of thermally treated glass
(The glass type and thickness vary according to static requirements.)

SZR: 20 mm till 40 mm for Vacuum Insulation Panel + x mm for design inlay

3 mm aluminium anodized or powder-coated
(Standard: EV1 (C-0) natural)



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Dimensions

We can produce OKALUX HPI in dimensions up to 4 m x 2 m and with a weight up to 1000 kg per unit. Please note the dimensions in the relevant information text with regard to assembly with one of our basic products.

Special shapes are possible. The feasibility and divisions must be discussed with OKALUX beforehand.

Installation instructions

OKALUX HPI is glazed as per normal insulating glass. We must be notified in writing beforehand of any special loads which may occur during transportation (vibrations/shaking).
For instructions and recommendations for the installation of our insulating glazing, please refer to our information and instructions for customers contained in "Delivery of OKALUX Glass Products" and "General Information on Glazing".

Other printed matter

If you do not have the following printer matter, please request it directly from OKALUX or download it from the Internet at www.okalux.com:

General terms and conditions of business
Product-specific information texts

As well as these, there are the following customer notes:

Customer notes on offers
Customer notes on delivery
Customer notes alarm glass
Customer notes screen printing
Customer notes Structural Glazing / Edge deletion
Customer notes on heat-soak test
Customer notes on glazing
Customer notes SIGNAPUR®
Customer notes OKA*WOOD* tolerances
Cleaning instructions for OKA*LUX* gen.
Cleaning instructions OKA*COLOR*
Guideline for visual quality