

OKALUX + KAPILUX

Capillary Daylighting

OKALUX

Wir denken Architekturglas weiter.

OKALUX and Sustainability:

Optimal energy efficiency with the highest possible convenience for the user with OKALUX functional glazing – our contribution for the buildings of tomorrow.

We create everything with lasting value in mind. Every step, from the idea through the processing to the finished project, is carried out with conviction and a dedication to sustainability.

Capillary Daylighting

OKALUX insulating glass with capillary slabs have many talents. They diffuse daylight into the depth of the room, while providing very good sun and glare protection. Their heat insulation properties are excellent and the transmission values of the glass can be individually adjusted to suit the requirements of your building.

—	Even Light Diffusion	04-05
—	Adjustable Light Transmission	06-07
—	Optimal Thermal Insulation	08-09
—	Variable Solar Protection	10-11
—	Vivid Visual Appearance	12-13
—	Technical Data	14-15



Wir denken Architekturglas weiter.

Capillary glass – the perfect combination of functionality and aesthetics.

Light Right to the Depths of the Room



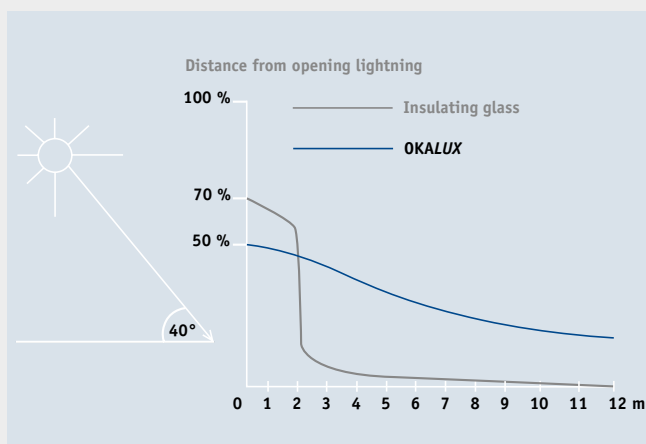
OKALUX+ Insulating
glass with capillary
slab

Cité de l'Océan et du
Surf, Biarritz | FR
Steven Holl
Architects
Solange Fabião
Rüssli Architekten

KAPILUX T



OKALUX light-diffusing insulating glass
illuminates rooms evenly without hard shadows.
Conventional insulating glass only provides
intensive illumination in the proximity of the
façade where hard shadows are cast.





Daylight determines the natural rhythm of life and creates a feeling of well-being at work and at play. With OKALUX capillary glass, you can bring a lot of natural light into museums and sports halls, as well as administration and industrial buildings. The insulating glass elements contain countless little translucent or white capillary tubes in the cavities which break up the incident daylight and diffuse it throughout the interior.

The insulating glass can be precisely adapted to the requirements of each building situation. Various glass fibre tissues influence the light diffusing effect.

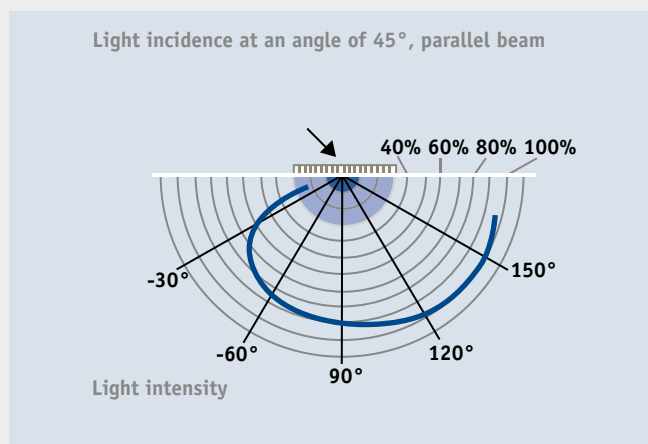
Bright Rooms without Glare

Sports halls require excellent light conditions. Not only does OKALUX capillary glass offer excellent thermal sun protection and a high degree of light transmission, it ensures evenly diffused, glare-free daylight without bright or dark zones. Thus, every part of the room is clearly visible and there is good orientation within the room – a necessity for optimal playing and training conditions.



© Nicola Rehage

Outstanding light diffusion: a light transmission of 60 % with an angle of -30 ° against the direction of incidence demonstrates the high quality of the glazing.





Hans-Joachim-
Brandenburg-Halle
Sports Hall
Herzebrock-
Clarholz | DE

werk 9 architekten

OKALUX K



Conventional insulating glass (1 and 3) in comparison with OKALUX functional glass (2 and 4): Simulations of different situations of daylight can be made in the early planning stages for comparison and evaluation.

Protection against Heat and Thermal Loss

Capillary glass is distinguished by its particularly good heat insulation properties. The small capillary tubes on the inside work like little air cushions which prevent the convection of air in the cavity. In addition to this, the capillary slabs reduce thermal radiation from the sun. Depending on requirements, thermal sun protection can be set to a total solar energy transmittance of up to 15 %.



Convention Center
Zaragoza | ES
Nieto Sobejano
Arquitectos

OKALUX

© Roland Halbe



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Save energy! Capillary glass improves the U_g -value (Btu) of the façade significantly and reduces the cooling loads.

Outstanding Protection against Sun Radiance



Biohotel im Apfelgarten,
Hohenbercha | DE
Deppisch Architects

KAPILUX W

Citroen Showroom
C42, Paris | FR
Manuelle Gautrand
Architect

KAPILUX T

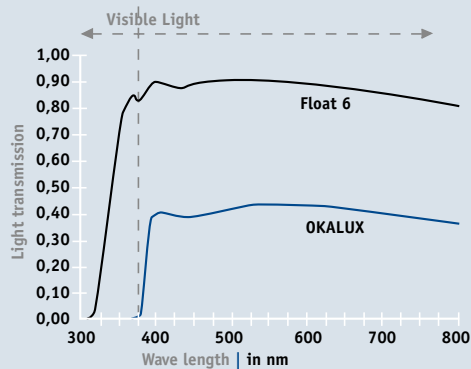
© Sebastian Schels + Deppisch Architekten

The fine surface of the capillary structure is wonderfully vivid as the material provides a perfect backdrop for the fascinating interplay of light and shade. The users in the interior profit from the screening effect offered by the insulating glass with translucent capillary inlay.





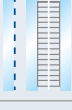
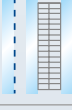



OKALUX capillary glass not only creates a private sphere but also protects valuable exhibits from fading through too much exposure to UV rays. A further quality: Colourless capillary structures transmit all wave lengths of visible light. The entire colour spectrum is reflected in its original brilliance allowing an unadulterated perception of the objects.



OKALUX capillary systems offer UV protection up to 390 nm.



Technical Data

Products	View	Structure Façade	Structure Roof	Dimensions max. [mm] [ft ²] ¹	Total thickness [mm]	Type	Krypton: Ug-value [W/(m ² K)] ² [Btu/(hr ft ² °F)]	Argon: Ug-value [W/(m ² K)] ² [Btu/(hr ft ² °F)]
OKALUX®				2000 x 4500	ab 16	45/47 38/40 25/28		
OKALUX®+				1230 x 4000	ab 26	39/34 34/22 24/16	0,9 [0.16] 0,9 [0.16] 0,9 [0.16]	1,3 [0.23] 1,3 [0.23] 1,3 [0.23]
OKALUX® K K-value (Btu) optimized				2000 x 6000	ab 30	43/37 38/23 24/18	0,8 [0.14] 0,8 [0.14] 0,8 [0.14]	1,1 [0.19] 1,1 [0.19] 1,1 [0.19]
OKALUX® EVO				2000 x 6000	ab 28	42/36 37/22 31/20	0,8 [0.14] 0,8 [0.14] 0,8 [0.14]	1,0 [0.18] 1,0 [0.18] 1,0 [0.18]
KAPILUX® T Translucent				2400 x 6000	ab 42	62/47 54/30 46/26	0,8 [0.14] 0,8 [0.14] 0,8 [0.14]	1,0 [0.18] 1,0 [0.18] 1,0 [0.18]
KAPILUX® W White				2400 x 6000	ab 42	35/29 31/19 26/17	0,8 [0.14] 0,8 [0.14] 0,8 [0.14]	1,0 [0.18] 1,0 [0.18] 1,0 [0.18]
KAPILUX® WS White / inclined				2400 x 4400	ab 42	35/29 31/19 26/17	0,8 [0.14] 0,8 [0.14] 0,8 [0.14]	1,0 [0.18] 1,0 [0.18] 1,0 [0.18]

All technical values, such as light transmission, total solar energy transmittance and Ug-values (Btu) can be varied by using other constructions and glass types.

Subject to technical changes

¹Maximally dimensioned glazing may necessitate blunt joints or joint profiles

² DIN EN 673 | ³ DIN EN 410

⁴ VDI 2078 | ⁵ GANA Manual

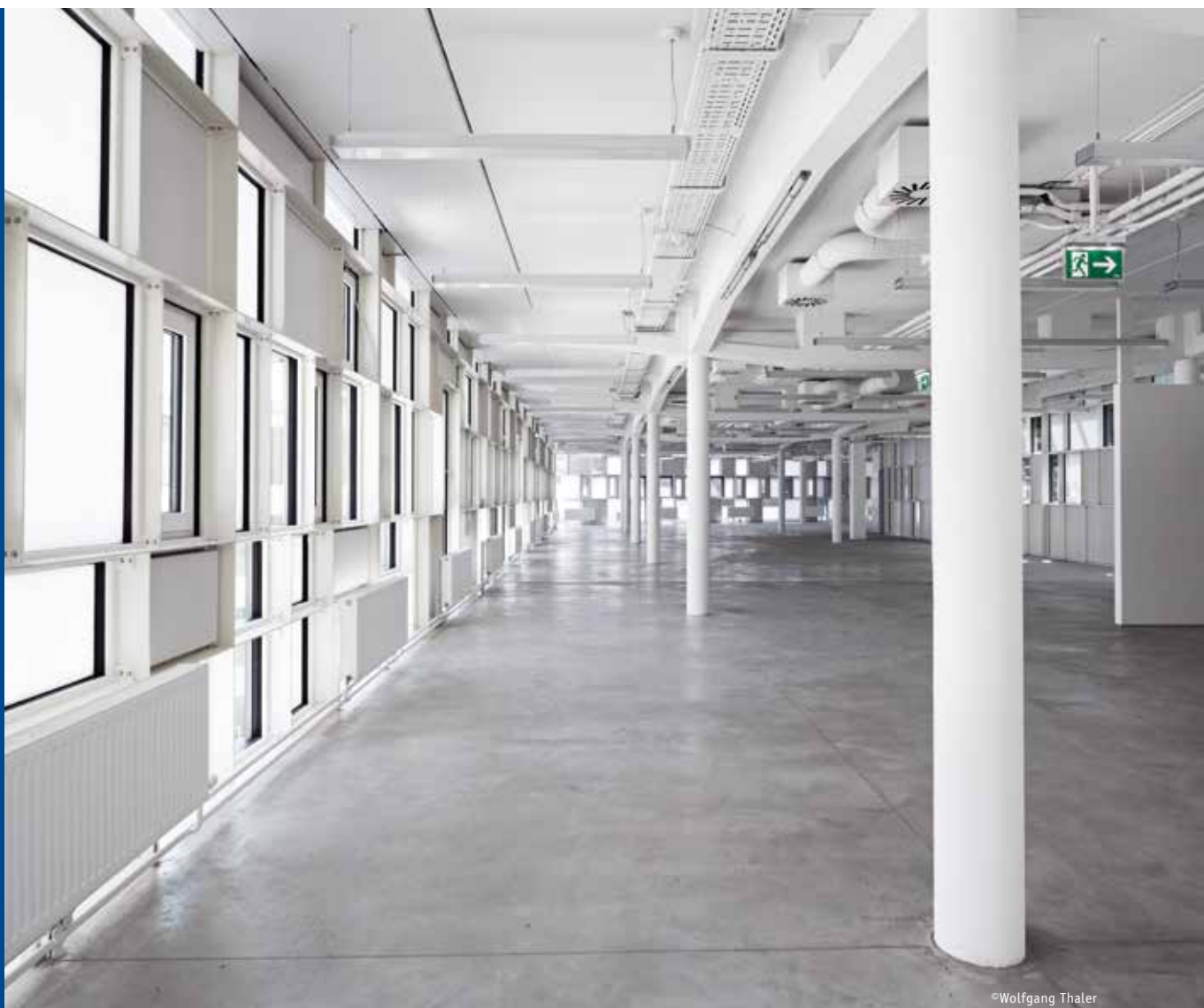
Air: U_g -value $[W/m^2K]$ ² [Btu/(hr ft ² °F)]	TSET, SHGC % direct ³	TSET, SGGC % diffused ³	TSET/(0.86)Shading coefficient SC _s	Light transmission % direct ³	Light transmission diffused ³	Preferred application
2,7 - 1,3* [0.48 - 0.23]	47 40 28	36 31 23	59 (55) 50 (46) 36 (33)	45 38 25	34 29 19	Very narrow double glazing can be used for example for restoration of listed objects
1,5 [0.26] 1,5 [0.26] 1,5 [0.26]	34 22 16	28 18 14	43 (40) 27 (25) 20 (19)	39 34 24	30 26 18	Narrow layout with optimized U_g -values (Btu) for museums and sports halls
1,4 [0.25] 1,3 [0.23] 1,3 [0.23]	37 23 18	28 18 14	46 (43) 29 (27) 22 (20)	43 38 24	32 28 17	Optimized triple glazing for industrial and administrative buildings, schools, universities
1,2 [0.21] 1,1 [0.19] 1,1 [0.19]	36 22 20	26 16 14	45 (42) 28 (26) 25 (23)	42 37 31	28 24 21	Optical depth effect through visible capillary structure for roof and façade glazing
1,2 [0.21] 1,1 [0.19] 1,2 [0.21]	47 30 26	34 21 19	59 (55) 37 (35) 33 (31)	62 54 46	41 36 31	High requirements on light transmission and sun protection with partial transparency
1,2 [0.21] 1,1 [0.19] 1,2 [0.21]	29 19 17	18 11 10	36 (34) 23 (22) 21 (19)	35 31 26	18 16 13	High demands on sun and glare control with partial throughvision (transparency)
1,2 [0.21] 1,1 [0.19] 1,2 [0.21]	29** 19** 17**	18** 11** 10**	36 (34)** 23 (22)** 21 (19)**	35** 31** 26**	18** 16** 13**	Roof glazing with high demands on sun and glare control

* Depending on OKAPANE insert 8 - 40 mm

The listed values are estimates. They were determined on the basis of measurements conducted by certified test institutes and the calculations derived from them in compliance with the relevant valid standards. Values determined on a project-specific basis may vary from the above values. The values continue to vary if other coatings are used. You will find more detailed, glass-specific information on soundproofing, fire protection, building and personal protection etc. in the internet www.okalux.com, along with specified texts which we will provide on request.

Wirtschaftspark
Breitensee
Wien | AT
HOLODECK
architects

KAPILUX W



©Wolfgang Thaler

The requirements concerning working conditions in industrial and technological buildings are especially high. A comfortable daylight atmosphere in the interior is the best prerequisite for efficient production conditions, innovative development as well as an increase in work output. OKALUX capillary glass diffuses light glarefree and deep into the rooms, allowing for optimal use of industrial buildings for work and research.

OKALUX + KAPILUX: Benefits at a Glance

High Functionality

- Optimal, even illumination of the room, without hard shadows
- Effective sun and glare protection
- High light transmission, light entry can be adjusted individually
- High colour rendering
- Good heat and sound insulation
- Protection from UV rays
- Bird-friendly solution
- Fire protection according to requirements

Sustainability

- Daylight entry reduces amount of artificial light required
- Reduction of cooling loads in summer
- Fully recyclable

Attractive Aesthetics

- Attractive appearance
- Vivid surface with depth effect
- Can be printed with colour and décor

User Comfort

- Comfortable daylight atmosphere
- Effective privacy protection
- Reduced amount of solar input



©Christian Schwab



OKALUX + KAPILUX



OKASOLAR



OKASOLAR 3D



OKALUX HPI



OKATECH



OKAWOOD



OKACOLOR



OKASTONE

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DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council

OKALUX is member of the
German Sustainable Building
Council.



We take architectural glass a step ahead.