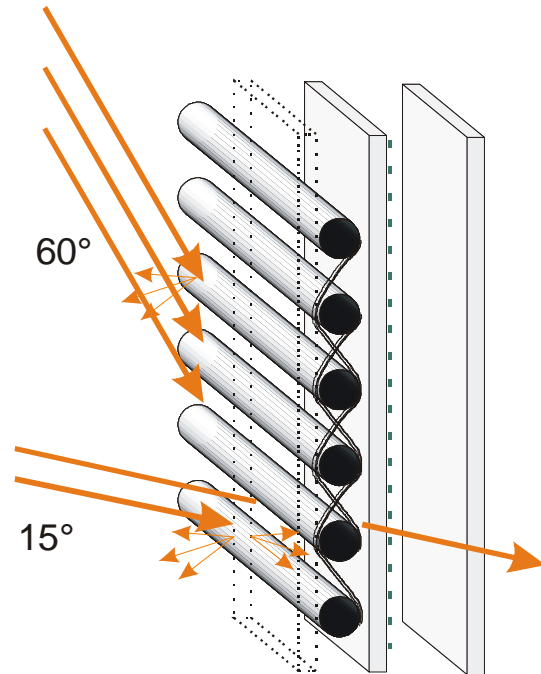


OKATECH – Insulating Glass with Metal Interlayer

Selective solar protection with OKATECH

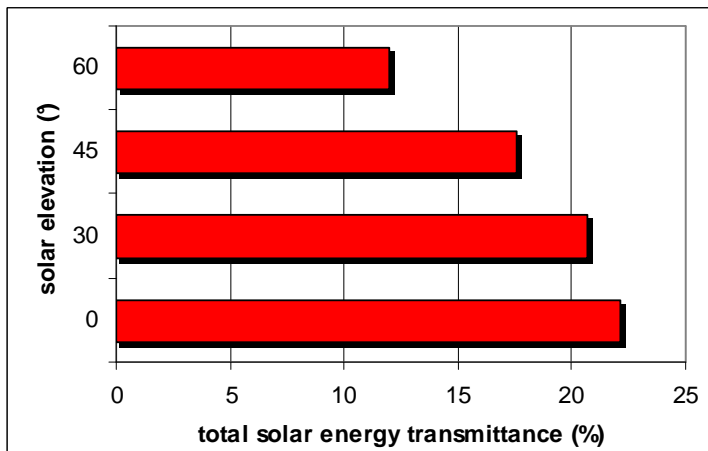
OKATECH – the OKATECH Insulating Glass with Metal Interlayer, can integrate many different designs of wire mesh, expanded metal or perforated metal sheet as a design element with variable functions. The material and the manufacturing process determine not only the aesthetics but also the function:

- efficient sun protection that can also be directionally selective, depending on the type of inlay used
- partial through-vision
- very good heat insulation
- lends the glass façade visual structure, colour and textured shine



OKATECH Type "Louvre"

What effect does the "Louvre" design (GKD) have in a vertical façade? When the sun is high, the mesh screens the sun completely. Total solar energy transmittance is very low, with values of around 7-15%. At lower elevation angles, total solar energy transmittance increases. At right angles to the glass (corresponding to an angle of elevation of 0°) OKATECH achieves the highest transmission, which is also ideal for transparency. This means seasonal solar protection for places with widely varying angles of incidence: solar heating contributions in the winter and thermal protection in the summer.



Total solar energy transmittances for OKATECH Type "Louvre" with neutral solar control coating

Technical Data

In the standard build-up, the U-value can be between 1.0-1.2-1.5 W/(m²K) (0.18-0.21-0.27 Btu/hr/ft²/°F) depending on filler gas and coating; the wire mesh improves the U-value only slightly.

The following table shows light transmission and total solar energy transmittance values for 3-pane build-ups, with a coating on surface 4. The values in bold type are measured values, all others are calculated. Light transmission and total solar energy transmittance depend on the angle of incidence.

Min : 60° angle of incidence;

Max : vertical incidence

		Thermal control coating			Solar control coating		
Type		T _v	TSET	SC	T _v	TSET	SC
Louvre	Min	9	15	17	6	11	13
	Max	36	30	35	28	20	23
Sambesi	Min	8	14	16	6	12	14
	Max	33	28	31	26	19	22
Omega	Min	21	20	23	17	15	17
	Max	39	32	36	31	21	24
Kiwi, Mandarin	Min	22	22	26	17	14	16
	Max	31	27	33	24	17	20
Expanded Metal	Min	3	9	10	2	8	9
	Max	33	23	27	26	18	21

U-values refer to European Standard EN 673. Please contact our sales department for values according to ASHRAE conditions.

TSET (total solar energy transmittance or solar heat gain coefficient) and transmission values refer to European Standard EN 410. Values according to ISO 9050 may differ by 1-2%.

Data for other metal interlayers on request.

In uncoated 2-pane build-ups, the OKATECH U-value increases to approx. 4.6 W/(m²K). Solar heat gain coefficient and light transmission values are also significantly higher.

Legend and related values:

	unit	standard	technical term
U	W/(m ² K)	DIN EN 673 DIN EN 674	Thermal transmittance, $U_g = U$
TSET	%	DIN EN 410	Total solar energy transmittance or solar heat gain coefficient
T_v	%	DIN EN 410	Light transmission (direct/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 recognized test institutes and calculations derived from these measurements.

At the moment, not all suppliers have adapted their key data to the currently applicable regulations. When making comparisons, please pay attention to the relevant manufacturer's notes. On the basis of the old standards, total solar energy transmittances as well as shading coefficient values are each 1-3% lower, the former U-value according to DIBt/DIN is 0.1 W/(m²K) lower.

Structure

Outer pane, toughened glass
 cavity 2-8 mm with metal interlayer, air filling
 Intermediate pane, toughened glass, coated on #4
 cavity: up to 12 mm without interlayer
 Inner pane

Dimensions and installation

OKATECH Insulating Glass is installed like normal insulating glass. The glass bite must be 15-20 mm, depending on the type. If the height and width of the pane exceed 2 m, the minimum coverage must be at least 20 mm.

Dimensions are limited to a maximum pane surface of 7 m². Please contact us in case of need to discuss differing dimensions and/or build-ups.