

OKASOLAR F Insulating glass with fixed optically regulated sun protection for verticle façades

Outer pane

Thermally toughened glass according to static and/or construction requirements, with a minimum of mm, with heat and/or combined sun and heat protection layer.

Cavity I

Total of 16 mm with hermetic insulating glass edge seal according to German Standard DIN EN 1279. The steel louvres are parabolically roll formed and have a highly reflective, UV resistant Feran coating. They must be carried out in a width of 29 mm wide, at an angle of 27° and a distance of 24.7 mm. The coefficient of expansion of the louvre material may not exceed a maximum of $13.10^{-6}/K$, the thermal conductivity a maximum of 50 W/(mK). The insert must be free of volatile materials such as oil, grease, etc. This must be tested and verified by a Fogging Test according to German Standard DIN EN 1279-4. To achieve the three dimensional design the louvres must be executed in a span of 1 m without intermediate supporting profiles. The U profiles for the vertical mounting of the louvres as well as the supporting profiles must be carried out in black.

The louvre types U and O have different functions.

The U type is completely retro-reflective and has excellent sun protecting capacity. Direct sun irradiation on the louvre is reflected back to the outside. Multiple reflections on the louvres are unacceptable. The secondary input is reduced. The design of the louvres shows no convex surfaces on the top as these would beam undeflected light to the interior with the result that glare could occur on the highly reflective louvres.

In addition to the retro-reflective function, the O type also has a light-deflecting function to the interior. Incident light is redirected to the ceiling at a flat angle. In this way, daylight can be used effectively.

The mechanism of the shading must be mathematically and graphically verified in a solar diagram taking the local solar altitudes into account. Corresponding documentation to be presented before approval.

A uniform overall appearance must be ensured when both types are combined in one insulating glass. The varying louvre geometry between the retro-reflective louvre and the light deflecting louvre must not be discernible from either the interior or the exterior.

TENDER SPECIFICATION



Middle pane

Thermally toughened glass according to static and/or constructive requirements, with a minimum of mm.

Cavity II

8 – 12 mm with hermetic insulating glass edge seal according to German Standard DIN EN 1279 and gas filling depending on the Ug-value requirement.

Inner pane

Laminated safety glass of TVG (annealed glass). Glass thickness according to static and/or constructive requirements, with at leastmm, with heat protection layer.

Technical data as required:

The structural values are to be verified by appropriate calculations and/or measurements.

Ug-valueW/m²K

Angle-dependent g-value

Incident angle γ	-30°	0°	30°	60°
Total energy transmission g ca.				

Light and radiation transmission

Incident angle γ	-60°	-30°	-15°	0°	15°	30°	45°	60°
Light transmission ca.								
Radiation transmission. ca.								

Light and radiation transmission

Incident angle γ	-60°	-30°	-15°	0°	15°	30°	45°	60°
Typ O Light transmission ca.								
Typ O Radiation transmission. ca.								
Typ U Light transmission ca.								
Typ U Radiation transmission. ca.								

Typ O deflected proportion to outside up

(with regard to the total light transmitted)

Incident angle		0°	15°	30°	45°	60°
deflected proportion*	0%	12%	73%	78%	0%	

*deflected proportion with reference to interior top of the total light transmitted

