ISO shade®

FAÇADE UNIT W/ SUNBLIND IN THE CAVITY

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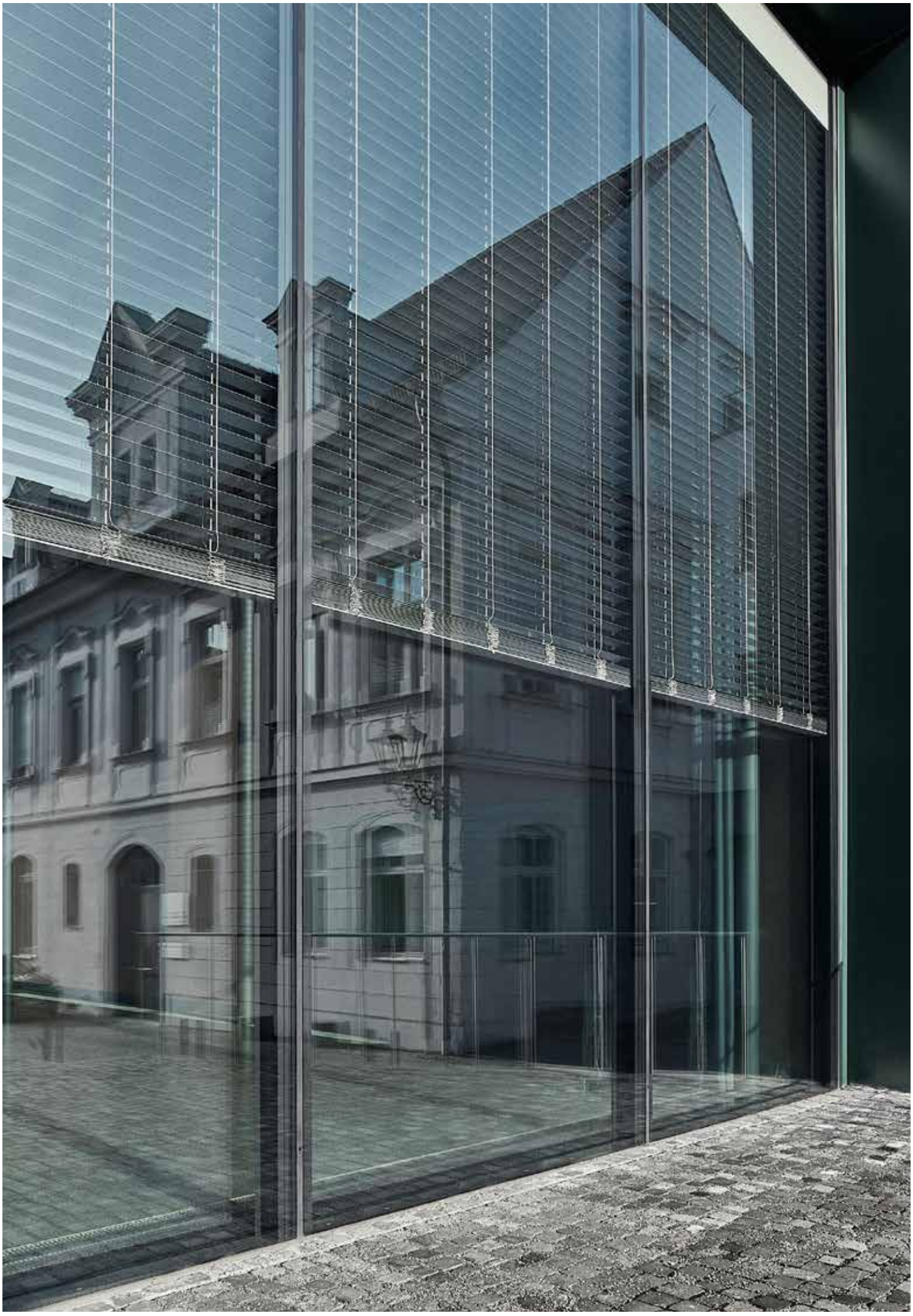


ISOshade® – façade unit with sunblind in the cavity

Keeping a natural ambience

Natural ambience and sunlight without glare are basic factors for comfort and wellbeing in buildings. When it comes to regulating the climate, nature provides an example: treetops. They screen off solar radiation like a curtain and ensure an agreeable ambient temperature. In other words, they are excellent examples of how to condition the air and redirect the light.

This pleasant form of air conditioning is copied by various building sunshading sys-tems: External blinds, curtains at the windows or coatings on the glass can control solar gains. To achieve maximum climatic comfort for a building's users, façades with built-in, variable sunshades are essential. Protected against external influences, i.e. users, wind and weather, they guarantee optimum lighting conditions, internal climate and comfort.

seele's ISOshade® provides the perfect solution for regulating the internal climate through the façade. ISOshade® reduces the complexity of double-skin configura-tions to the essentials. Conceived like insulating glass, ISOshade® fulfils all the demands for a double-skin façade with sunshading, but WITHOUT a complex construction. ISOshade® offers more effective insulation against noise, lowers heat losses and excellent protection against sunlight and glare than other façade systems.

ISOshade® can be integrated into any façade systems e.g. mullion-transom system, unitised façade or built as structural glazing. ISOshade® is therefore ideal for façades to office buildings, lobby areas, retail stores, museums and private homes.

ISOshade® is
... as simple as an insulating glass unit.
... as ingenious as a double-skin façade.
... as easy to use as a sunshade.
... as individual as a custom façade.
... as transparent as a structural glass façade.

The ISOshade® advantages

- → Protected sunshading elements
- → Prefabricated units
- → Plug & Play façade
- → Excellent sound insulation
- → Lower heating and cooling costs
- → Energy efficiency
- → Recyclable
- → Zero maintenance

A Triple glazing
B Cavity
C Sunblind
D Removable maintenance panel
E External glass pane

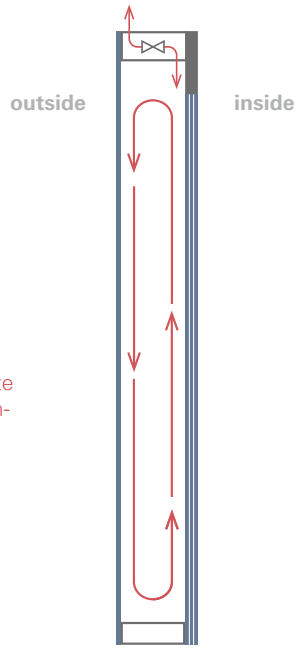
Compact façade unit for urban applications

Top performance for buildings

ISOshade® is a compact insulating glass unit that combines sunshade, thermal performance and sound insulation. The slim units (min. 180mm thick) consist of triple glazing plus a sunblind in a cavity – either venetian blind or vertical awning as required.

seele designs the ISOshade® elements – and assembles them in cleanroom conditions – to suit the prevailing conditions (climate, location) and the specification. The glass itself (heat-strengthened, toughened safety or laminated safety glass), acoustic interlayer and solar-control coatings are chosen to match the performance brief.
The integral sunshading system achieves good thermal performance and protects against glare. Designs can be varied to achieve the performance figures needed to comply with prescribed energy standards, e.g. LEED or Minergie.

Clever pressure equalisation
The heart of the ISOshade® concept is the zero-maintenance pressure equalisation. A specially developed pressure equalisation system regulates climate loads and pressure differences due to temperature fluctuations and minimises the moisture in the cavity. Desiccants fitted in the frame prevent condensation in the cavity. That means ISOshade® reduces the complexity of façades with integral sunblinds and can be planned and installed just like normal insulating glass units. Apart from the connections for the sunblind mechanism, no further pipes or cables are required.



Zero-maintenance system

ISOshade® is based on a simple principle: The pressure equalisation system regulates climate loads and desiccants in the frame prevent condensation.

The benefits of built-in sunblinds

- → Protected against the weather
- → Adjustable despite wind, weather and snow
- → No wind noise
- → No cleaning required
- → Integration in the building management system

Heat and light easily regulated

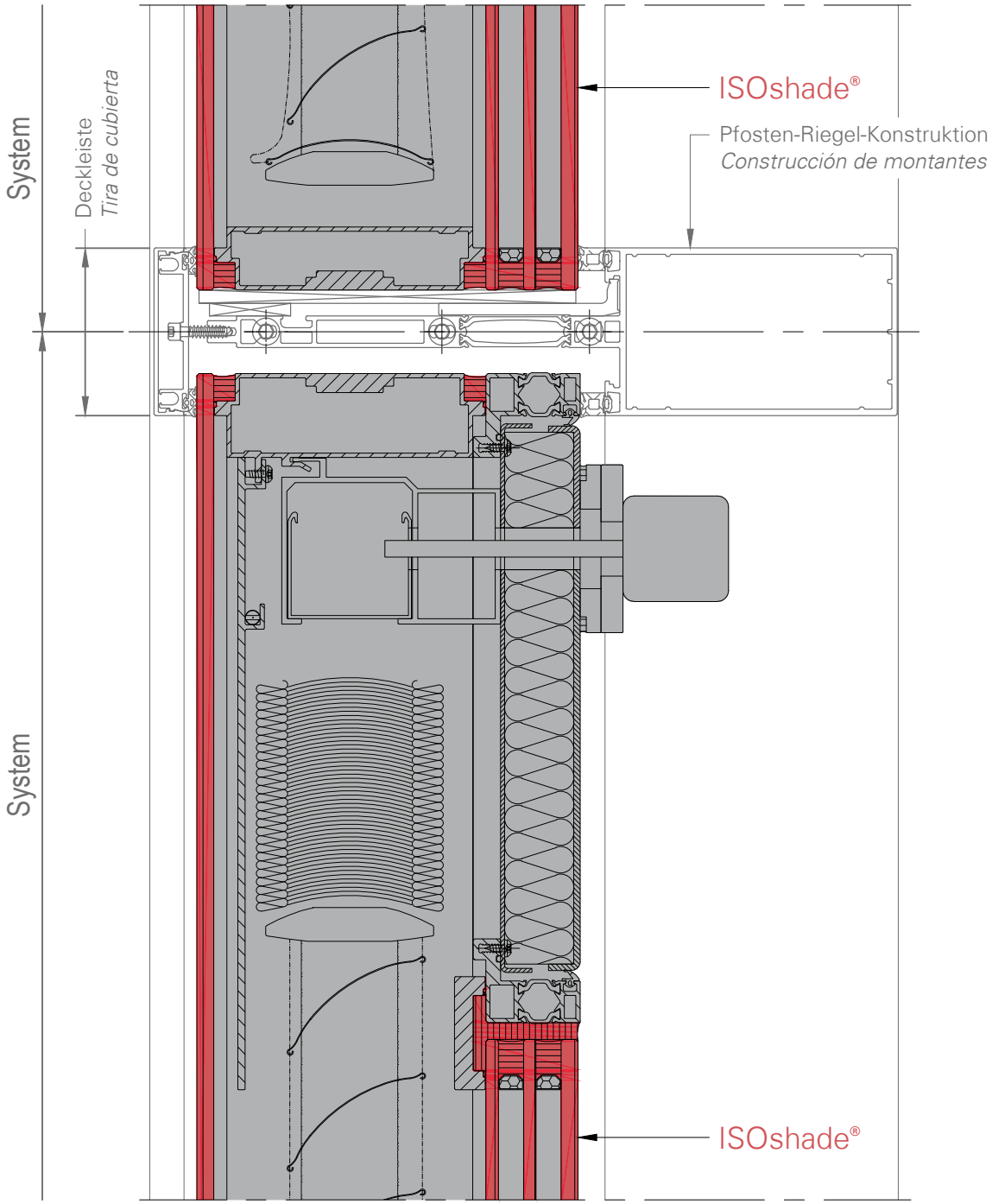
Solar energy under control

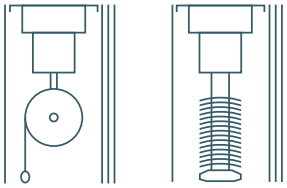
ISOshade® ensures a pleasant interior climate. The double-skin design comprising low e glass and external pane achieves U_g values as low as 0.5 W/(m²K) and outstanding sound reduction index values of 44-52 dB, which results in agreeable, quiet interiors. Additional comfort is assured by the sunblind in the cavity, which is used to regulate the incoming light and heat regardless of wind and weather.

ISOshade® units always achieve an optimum energy transmittance of 8-50 %. In summer the heat stays outside, but in winter the solar gains can be exploited. ISOshade® also reduces considerably the cost of heating and cooling building interiors. A removable panel allows access to the cavity for maintenance, which prolongs the lifetime of the ISOshade® façade.

Individual daylight control
Integral venetian blinds with adjustable slats enable the incoming light to be regulated individually to achieve good lighting conditions without glare. Special slats improve this effect by deflecting the incoming light automatically depending on the angle of incidence of the sunlight. ISOshade® therefore achieves an optimum naturally lit interior, which also cuts the cost of artificial lighting significantly.

Vertical awning offer selective sunshading and a diffuse, soft light. The UV-resistant fabric is the optimum screen for keeping the interior temperature at a pleasant level. Depending on the position of the blind, ISOshade® can provide an unobstructed view or more privacy.





Design details

Typical design details for mullion/transom façades with ISOshade®, valid for both types of sunblind.

Left: vertical section

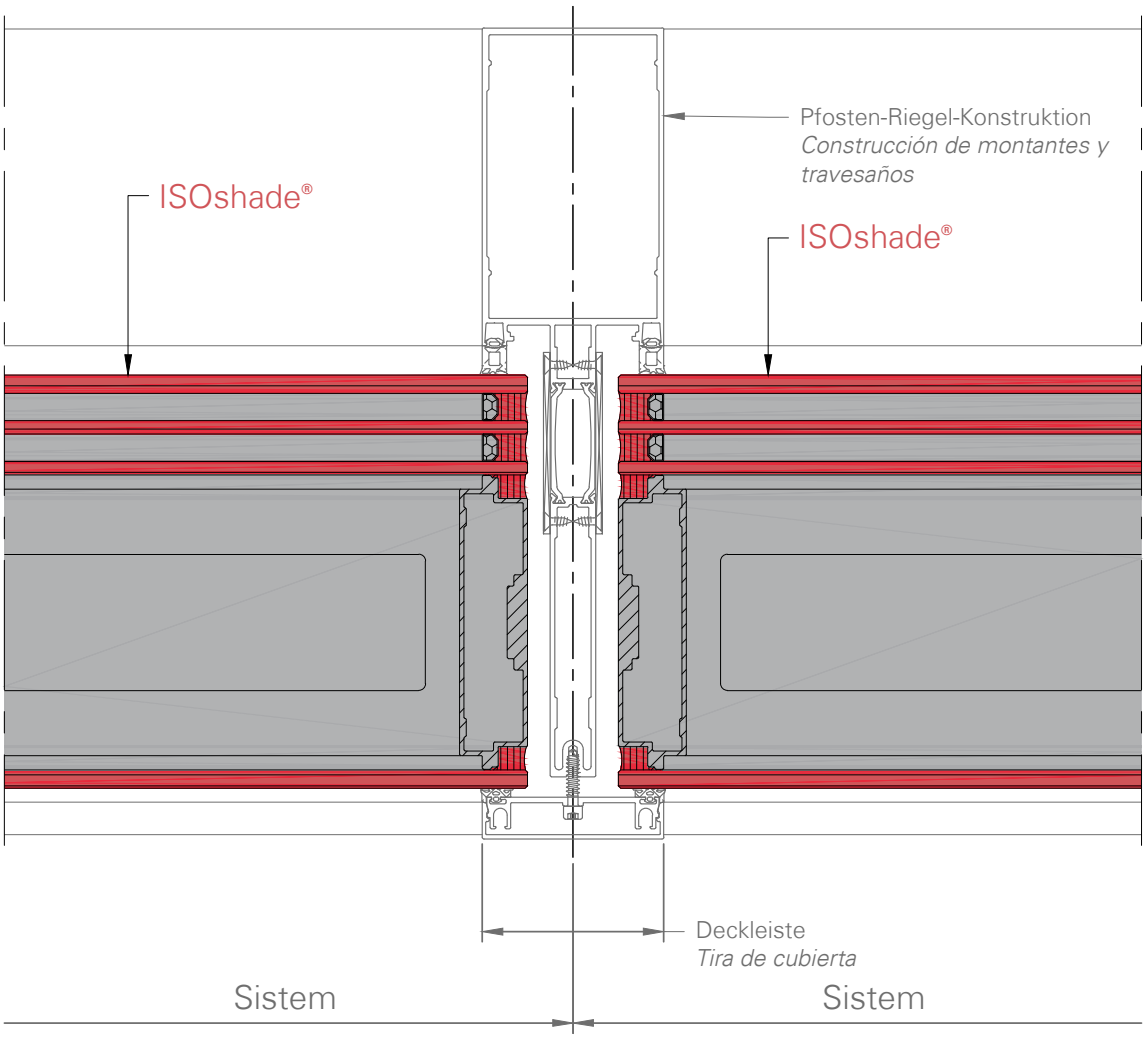
Right: horizontal section

Mullion/transom, structural glass and modular façades

Design details

seele can supply ISOshade® units for installation by others, but can also provide a full service including design, installation and maintenance. ISOshade® can be designed for many types of façade, including mullion/transom, structural glass and modular designs. That means more creative options for architects, planners and owners who want an elegant look.

Detailed information for planning purposes can be found in the catalogue, go to: www.seele.com.



Technical specification

ISOshade®

The data given below are valid for one standard element. Depending on the performance specification, the data may vary depending on construction project and requirements.

	Venetian blind	Vertical awning
Glass configuration	60 mm wide slats: • Outside: single glazing • Cavity: 130mm • Inside: triple glazing 80 mm wide slats: • Outside: single glazing • Cavity: 150 mm • Inside: triple glazing	• Outside: single glazing • Cavity: 150 mm • Inside: triple glazing
Glass options	Depending on requirements, e.g. toughened/laminated safety glass, low-iron glass, acoustic interlayer, solar-control coatings, ceramic printing	Depending on requirements, e.g. toughened/laminated safety glass, low-iron glass, acoustic interlayer, solar-control coatings, ceramic printing
Unit thickness	> 180 mm	> 200 mm
Dimensions	Width: 700 - 4,100 mm Height: 1,000 - 4,100 mm	Width: 700 mm - 3,100 mm Height: 1,600 mm - 4,100 mm
Sunshade	Flat slats, light-redirecting slats	UV-resistant fabric
Weight	> 90 kg/m²	> 90 kg/m²
Airborne sound insulation Rw	44 - 52 dB	44 - 52 dB
U_g-value	0.5 W/(m²K)	0.5 W/(m²K)
g-value	6 - 40 %	6 - 40 %
Intruder resistance	Depending on requirements, e.g. RC2*	Depending on requirements, e.g. RC2*
Tests and approvals	• Fogging, based on DIN EN 1279-6 and ift Guideline VE-07/2-4.3 • Long-term functionality (20,000 cycles) according to ift Guideline VE-07/2-6 • *Resistance to manual breakage attempts according to EN 1630:2011+A1:2015 • Airborne sound insulation according to EN ISO 10140-1, EN ISO 10140-2 and EN ISO 717-1	

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