

Instructions on the delivery and installation of OKALUX glass products

The following recommendations for glazing do not represent a complete set of rules. They are intended to highlight certain details which are frequently overlooked. Since such recommendations cannot do justice to every single case, they do not claim to be complete. All applicable laws, regulations, standards and recognized rules of engineering must be followed. With overhead glazing, the current rules for the use of continuously supported glazing especially must be followed.

It is advisable to consult us if there are any doubts.

1) Incoming goods Delivery by carrier

If it has been found when the goods are received that they have been inappropriately stored or handled (e.g. crates lying on their side or damaged packaging) which suggests that the contents are damaged, **any damage must be determined immediately**. Any facts which are relevant to the damage must be noted down on the copy of the delivery note left with the recipient **before the receipt of the delivery is acknowledged**. Not following this instruction will result in the insurance cover possibly being invalidated. If necessary, consult our despatch department.

2) Unloading

If the goods are not unloaded by the company-owned vehicle, the recipient is solely responsible for unloading them where there is no other agreement for the individual case concerned. The goods must be unloaded on a suitable surface using suitable lifting equipment. Crates must be suspended in a slip **individually** or unloaded using a stacker where this is appropriate. Side pressure must be avoided. Thus, a forklift truck without crane girders is not suitable for unloading.

3) Storage

Glass crates must be transported upright and stored so that they are secured against falling over. Because of the risk of glass fracture in the glass stack due to the accumulation of heat, with crates and especially with open rack packing, it is essential to make sure that the glass is not exposed to the sun without protection and is protected from other sources of heat such as fire places, air heaters and bitumen kettles etc.

If there is a risk of frost, insulating glass which is stored in a stack, whether packed in crates or on racks, must be sufficiently protected from direct exposure to frost, otherwise the shock cooling effect on the edges of the glass may lead to thermal fractures in the glass. **Because of the low temperature resistance of wired and wired mirror glass**, it is particularly important to take this into consideration with such combinations of insulating glass. Repacking with film or corrugated paper is available subject to charge.

GENERAL CUSTOMER NOTES



We take architectural glass a step ahead.

4) Installation

To prevent the build-up of heat, open the crates on the side away from the sun where possible (North in the northern hemisphere). Otherwise, protect panes in open crates, on the rack or stored in the open from direct sunlight.

5) Edge joint

So as not to damage the edge joint, the insulating glass must only be put down on a suitable support. **Take particular care when tilting over the corner.**

6) Ventilation

If ventilation on the construction site is planned for pressure equalisation for the OKATHERM insulating glass, the units must not be installed until we have carried out the pressure equalisation measures.

If pressure-equalisation holes are appropriate for OKALUX insulating glass, these must be positioned on the eaves side where possible (bottom).

7) Broken panes

Glass which is broken during transport or glass with other visible damage must not be installed without our agreement.

Since our lorries do not have side boards, broken panes cannot be taken back.

8) Labels

Labels and adhesive tapes applied for transport safety must be removed as quickly as possible after installation otherwise, if left, they will be difficult to remove and may leave adhesive residues. With panes which are coated on Position 1, it is even more important to remove the tape since the adhesive can attack the coating. In spite of removing the tape immediately, the position of the tape may still be visible later due to differences in wetting behaviour.

9) Glass rack

Glass racks are the property of Okalux. They are an important production aid and are taken back after they have been emptied. They must be cleared of packaging material or remaining panes, broken or otherwise. They must be made ready for collection at a collection point which is safe and accessible for lorries.

After they have been made ready, we ask that you notify us immediately from where the racks must be collected. The racks can be used for 45 days rent-free. After the rent-free period, € 2.50 will be charged for each rack per day. Damaged racks and racks which have not come back to us within one year of delivery will be charged at the price of the original cost of acquisition.

10) Instructions to construction supervisors or owners

After glazing, **damage can occur from:**

Working with **hot asphalt** and **hot bitumen** inside or on the roof

Blackout and **screening systems** which have not been agreed

Partially or totally **covering** or bonding glass surfaces

Heaters near the frame

Hot-air outlets near the glass

and other **sources which heat the glass surfaces unevenly**

Welding and flexing work

Aggressive **cleaning agents**

Mortar and **silicon residues**

It is advisable to consult us if there are any doubts.

11) Design

The design must be in accordance with the current version of the "Technical Rules for the Use of Continuous Glazing" of the German Institute for Building Technology (DIBt) or other relevant standards and in accordance with the state of the art.

12) Glass penetration

To prevent glass edges being subjected to excessive thermal stress, the glass penetration on the inside glass pane must not exceed the depth of the edge joint or a maximum of 15 mm, measured from the edge of the glass.

The glazing support must be screened by the outer window glazing bar or outer sealing band to prevent heat from accumulating in the area of the support, even when exposed to oblique insolation. The width of the outer screen, measured from the edge of the glass, must be at least 15 mm.

13) Product-specific instructions for OKASOLAR insulating glass

OKASOLAR insulating glass is installed like standard insulating glass. In order to absorb the movements of the OKASOLAR louver inlets caused by temperature changes, a small clearance must be maintained between the inlet and the spacers. So that these do not become visible as a viewing slot after installation, the outer screen should overlap the edge of the glass via the sealing system by at least 15 mm. The edge zone can alternatively be screened by a screen print.

14) Sealing tapes

For the glass support, we recommend using sealing-lip tapes made of APTK, EPDM or silicone of approx. 60° Shore hardness. Foam tapes are not suitable. With glass support tapes higher than 6 mm, there is a risk of deformation caused by pressure from the screws which hold down the cover strip and, therefore, the risk of fracturing the glass pane.

For the outer seal, with designs which are slightly inclined or difficult to seal for other reasons, it is advisable to use silicone sealing-lip tapes since these are the only tapes which can re-seal.

According to the system manufacturer's instructions, the pressure exerted by the cover strips must be enough for the covering elements to exert a uniform pressure via the edge of the glass without bending it. The hollow sections of the sealing lip tapes must not be crushed until lips they cease to be effective.

15) Padding

The materials which are used for padding must be rot-proof and free of plasticiser. With stepped insulating glass, for a maximum roof slope of 45°, it may be sufficient to secure the outer pane by offsetting the covering element. The real padding is applied to the inner pane.

16) Vapour pressure equalisation holes

The glazing rebate must be fully and permanently operational, dried and ventilated. Particularly with sloping roof glazing, the condensate or ingressed water must be able to drain at the ends of the glazing bars on the side of the eaves.

17) Glass butt joints

To make sure that the water can drain freely at the glass butt joints, with roof glazing, we recommend a blunt glass butt joint with sheet metal bonded on top at the factory. Details need to be agreed with us.

18) Point-supported and structural glazing

For point-supported glazing, please ask for our separate information sheet.

Details on flush-mounted glazing (structural glazing) will need to be agreed with us where applicable.

19) Dangers of glass damage

Where we are unaware of the circumstance under which our insulating glass is being used, we assume that it is being used under normal conditions. Normal conditions are defined as humidity and air temperature conditions which generally prevail in areas used by people.

Both the inner pane and the outer pane must be ventilated over their entire surface. Care must therefore be taken with frame designs, dummy glazing bars, wall connections, blackout systems inside and screening systems outside.

After glazing, damage can occur particularly from:

Blackout and screening systems which have not been agreed

Partial or complete screening of glass surfaces inside or outside

Heating pipes near the frame, hot-air outlets near the glass

Reflector lamps, baker's ovens and foundries

Working with hot asphalt and hot bitumen inside or outside

Welding and flexing work

Lime, cement and silicon residues

Glass adhesive residues which have not been removed

Cleaning which has not been carried out properly

20) Cleaning instructions for OKALUX insulating glass products

Ask where applicable.

21) Preservation of capital

In order to maintain the guarantee and extend the life of the insulating glass, it is essential to carry out functional tests at regular intervals. All necessary maintenance work, such as checking the drainage and pressure-equalisation holes, must be carried out regularly and in time.

22) Glazing details

On request, we are prepared to check the glazing details using structural plans which clearly show the details which are crucial for the safety of the insulating glass. The documents must be available in time to make any changes to the design which may be necessary.

23) Glass structural analysis and glass stress analysis calculations

Please feel free to consult us if you need calculations for glass applications or information.

24) Light calculations

On request, we will carry out daylight calculations as part of our free consultation service.

Please note that these calculations and simulations cannot be used as a substitute for planning and assessment by a consultant engineers office. They are used rather to make it easier to assess the effect of our glazing systems on the room climate and room lighting and compare it with that of standard situations.

25) Other printed matter

If you do not already have the following documents, they are available on request:

a) General instructions as well as advice on quotations and technical advice on OKALUX insulating glass products

b) Product information texts on

OKALUX Light Diffusing Insulating glass

OKATHERM Double Glazing Units

GENERAL CUSTOMER NOTES



We take architectural glass a step ahead.

OKAPANE Light-Diffusing Insulating Panels for U-profile Glass
KAPIPANE PMMA Transparent Insulation
KAPIPANE PC Transparent Insulation
KAPILUX T/ W Capillary System
KAPILUX WS Capillary System
KAPIPANE TWD Transparent Insulation
OKASOLAR W Glazing with Integral Sun Control Louvres
OKASOLAR Retro O, U Glazing with Integral Sun Control Louvres
OKASOLAR S Glazing with Integral Sun Control Louvres
OKASOLAR Retroflex Glazing with Integral Sun Control Louvres
OKAFLEX Flexible Light Control
OKAPOINT Point-supported Insulating Glass
OKAFROST Insulating Glass with Original Fälländer Glass Etching
OKATECH Insulating Glass with Metal Insert
OKACELL Mono Photovoltaic Cold Facade
OKACELL Iso Photovoltaic Insulating Glass
OKAWOOD Insulating Glass with Wooden Insert
OKALUX Panel for Insulating Glass products from OKALUX

c.) Customer instructions on:

Heat Soak Test
Alarm glass
Screen print
Quotations
Delivery and installation
Cleaning instructions for OKALUX insulating glass products
Guidelines for assessing the visual quality of insulating glass

d.) General Terms and Conditions of Business