



Glazing and processing guidelines for ISOLAR SOLARLUX® variodirect

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1 Scope of application

These glazing and processing guidelines only apply to ISOLAR SOLARLUX® variodirect in insulating glass, which is used in a product-compatible manner in window, facade and partition wall systems made of proven and customary materials and profiles that correspond to the current state of the art. The compatibility with other materials must be checked.

Compliance with this guideline is mandatory for installation and glazing and is a prerequisite for the warranty.

The generally applicable guidelines for professional glazing in their current version apply, in particular:

- DIN 18 361 – Glazing work
- BF Guideline for the assessment of visual quality for systems in multi-pane insulating glass
- ISOLAR® glazing guidelines for insulating glazing
- The recognised rules of technology
- DIN 18 073 – Roller shutters, solar control and darkening systems in the construction industry

The glazing rebates are to be designed in accordance with DIN 18545 Part 1. Drainage of the rebate area of the insulating glass unit must be ensured at all times and under all circumstances.

Otherwise, the provisions of Document 3 of the Institute of Glazier Crafts for Glazing Technology and Fixed Structures in Hadamar "Blocking guidelines for flat glass panes" apply.

Only by complying with these guidelines is it possible to produce technically/structurally-physically perfect glazing with ISOLAR SOLARLUX® variodirect blinds integrated into the inter-pane



cavity. This guideline is a prerequisite for achieving and maintaining the type-appropriate functions of ISOLAR SOLARLUX® variodirect blinds in insulating glass.

This guideline only applies to rooms with normal room temperature and humidity. It does not apply to swimming pools, special damp rooms and spaces with loads and requirements that exceed the usual level, among others.

All ISOLAR SOLARLUX® variodirect units must be operated in final operation together with the motor control unit and regulated power supply units approved according to ISOLAR® glass specifications in order to achieve a proper function and system-compatible operation. No warranty can be given in case of non-compliance.

2 Storage and transport

All products from the ISOLAR SOLARLUX® variodirect range must be carefully protected and stored away from dirt, moisture and heat/direct sunlight. ISOLAR SOLARLUX® variodirect may only be transported in a vertical position. ISOLAR SOLARLUX® variodirect are delivered with the blinds raised. It must be ensured that during storage and transport the panes are never placed on the plug connection or connection contacts. ISOLAR SOLARLUX® variodirect may only be manipulated with the blind package raised and in the installation position. Damage to the cable pull system could otherwise occur.

3 Control system and power supply

ISOLAR SOLARLUX® variodirect are driven by a 24 Volt direct current electric motor. The power supply is usually provided by a power supply unit. The power supply of 230 V must be provided by the customer and the electrical connections must be made according to local requirements.

4 Insulating glass elements

ISOLAR SOLARLUX® variodirect may only be installed in vertical areas. When using turn/tilt and bottom-hung sashes, a maximum angle of inclination of 3° from vertical is permissible. The plug connection required for the power supply (connecting cable pieces) protrudes at the side by approx. 10 cm. The arrangement of this connection is top right, viewed from the outside. The serial number for identification is located, viewed from the inside, at the top right (motor side) on the underside of the head profile.

5 Window/insulating glass

When dimensioning the substructure, special attention must be paid to the deflection limitation of the insulating glass at the edges of the pane.

5.1 Glass rebate design

Current technical knowledge only allows sealing systems with a free rebate space for metal and plastic frames. The glazing rebates must always be designed in accordance with DIN 18 545 Part 1.

For ISOLAR SOLARLUX® variodirect, the following special features must be taken into account:

A sharp kink in the connection cable must be avoided, whereby it must be ensured that the clearance between the glass edge and the rebate base never falls below ≥ 7 mm for ISOLAR SOLARLUX® variodirect under any circumstances. The connecting cable and plugs must not impede the vapour pressure equalisation or the water flow in the rebate.

The glass recess must not exceed 20 mm. When planning and using special constructions (e.g. passive house windows) with larger glass recesses, the ISOLAR® partner company producing the product must be consulted prior to execution.

5.2 Window systems

ISOLAR SOLARLUX® variodirect is suitable for installation in commercially available profile systems. Due to the system there is an edge seal of approx. 14 mm, which must be covered by a profile system. The use of sealing profiles with a correspondingly large lip overlap made of EPDM is recommended.

Metal and plastic windows

Alle angewendeten Verglasungssysteme müssen zur Absicherung der Funktion eine einwandfreie Abdichtung der Glasfalze unter allen vorkommenden Bedingungen auf Dauer gewährleisten. Als Bestandteil dieser Richtlinie gelten die Tabelle „Beanspruchungsgruppen zur Verglasung von Fenstern“, sowie deren Erläuterungen durch das Institut für Fenstertechnik in Rosenheim.



Wooden windows

Glazing with a sealant-free rebate space is also specified for wooden windows. According to the current state of the art, this is possible for almost all designs. If an "opening" of the glass rebate for vapour pressure equalisation purposes is impossible, the glazing can be carried out with a filled re-bate space. However, it should be noted that even the smallest defect or leakage in the frame or glazing system can cause damage to the insulating glass in the short term because moisture that has penetrated is retained. The warranty does not apply to damage caused by this.

The glazing system must be selected so that a glazing tape is used, at least on the outside. By means of the outer glazing tape it must be ensured that the glass is not clamped in the rebate and that no local overstressing can occur in the installed state.

Composite systems

Composite designs such as wood/aluminium, plastic/aluminium, wood/plastic or similar are to be provided with openings for vapour pressure equalisation as the designs described above.

Window contacts

With turn and tilt elements, it is important to ensure that there is always a window contact in the rebate area, which interrupts the flow of current when opening. If window contacts are installed for wireless transition between the sash and frame, their installation position must be determined so that no moisture can act on the contacts. It is recommended to place the contacts in the vertical area on the hinge side. The cables must be laid in loops so that length changes can be compensated.

5.3 Cable connections

Only connection cables approved by ISOLAR® GLASS are to be used. It is not recommended to use connecting cables longer than 20 m, as voltage losses may occur. In the case of star-shaped cabling, care should be taken to use cable lengths that are as equal as possible. All cables must not be subjected to any tensile stress.

Contact with standing water must be avoided, cable connections in the rebate area must therefore always be placed in the rebate along vertical glass edges. Connecting strands must not impede the vapour pressure equalisation and the water flow in the rebate.

No fluctuations may be transmitted to the connecting strands of the panes when installed. Cable connections must be properly insulated. Only acid-free solder must be used for soldered connections.

All drilled holes, recesses, edges, corners etc. through or over which cables are laid must be deburred in order to prevent damage to the cable.

5.4 Power supply

If pressure contacts are used between movable and immovable frame parts for wireless transfer, they must be mounted exclusively in the dry area of the frames. It is necessary to coordinate the pressure contacts with the control system. ISOLAR SOLARLUX® variodirect can be designed with pressure contacts, whereby the power supply is interrupted when the windows are opened.

5.5 Structural dimensioning

The structural proof of the insulating glass must be carried out by the client by means of authorised test engineers. Local wind and climatic loads as well as increased pane temperatures must be taken into account.

The deformation due to wind pressure or suction, based on the centre of the pane, may be max. 15 mm. The deformation in the case of climatic loads per individual pane, based on the centre of the pane, may be max -5.0 mm for SZR 32 mm. The glazing and processing guidelines for ISOLAR SOLARLUX® variodirect must be strictly observed.

6 Installation instructions

6.1 Blocking

The glazing units must be installed and blocked professionally, whereby the general guidelines for blocking insulating glass elements must be applied. The window elements must be constructed in such a way that the insulating glass units do not assume any load-bearing functions and that no mechanical stresses arise in the glass. The block material used must be compatible with the edge seal of the insulating glass, and, if laminated safety glass is used, also with the PVB film laminate.

Blocking must not close the openings for vapour pressure equalisation. The entire thickness of the insulating glass units must rest on the blocks and the block width must correspond to the overall thickness of the element. Electrical cables must not be clamped or damaged by the blocking.



The weight of the pane must be perfectly transferred to the frame construction.

ISOLAR SOLARLUX® variodirect must be installed horizontally and vertically in the frame. When installing on site in sashes or fixed glazing, after adjusting and aligning the insulating glass unit, the lamella curtain must be lowered for the liftable and lowerable blind types and then the block must be made so that the hanging and end rod hang freely and symmetrically between the spacers. There must be no contact between the end rod and lateral, vertical spacers in the insulating glass. During commissioning, it must be checked when moving up and down and it must be ensured that the distance between the end rod and the spacer is evenly distributed to the left and right. Touching the glass during operation can lead to functional restrictions and damage.

6.2 Connection

The connectors must be cleaned before plugging in. The processor must pull the connecting cables into the construction or into the empty conduits to be provided by the customer.

Before installing the ISOLAR SOLARLUX® variodirect units, the cables must be checked for damage or short circuits. It must be ensured that the connector plug on the motor-driven blind types is firmly connected to the contacts on the board.

6.3 Function check

The inspection of the blinds must be carried out independently of the mains supply. The blinds must neither be connected ready for operation to controls nor to the network via a transformer. The inspection must be carried out with an independent power supply unit before and after glazing.

The function check may only be carried out at temperatures of > 10 degrees Celsius. When testing and commissioning the blinds at low outside temperatures (<10 °C), the inter-pane cavity must be checked before the blinds are moved or approval must be obtained from the ISOLAR® partner company doing the work. A minimum of 23 mm cavity must exist for drive operation with the systems 29 and 32 mm and symmetrical glass construction.

Function check is understood to mean the time at which the ISOLAR SOLARLUX® variodirect unit is first electrically connected after delivery and the blind is moved up or down. The function check must be carried out a max. of

14 days after delivery with a blind test device (independent, as described above) and must be carried out at the 1st delivery point, in any case before installing the panes. A warranty claim regarding the function of the blind is only valid if in the course of the test the "Final inspection" form is completely filled out and sent to the ISOLAR® partner within 14 days of delivery.

This accompanying document serves as a basis in case of a complaint, if the ISOLAR® partner does not return the goods within the specified period, the guarantee or liability expires.

After successful inspection of the blind in the finished facade or the installed window at the installation site, the blind is to be left in the lowered state and the lamellas are to be set to transparency if necessary. In order to avoid the risk of seasonally dependent and undesired adhesion of the lamellas to each other in insulating glass in new condition, the hanging should not be left permanently (> 7 days) in the gathered state.

6.4 Commissioning in unheated buildings

Commissioning at low ambient temperatures i.e. below 10 degrees Celsius, is not permitted. This must be observed especially during the construction phase and in unheated buildings.