
Series 86 Tilt/Turn Window & Swing Door Installation Guide

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|--|----|
| Introduction | 3 |
| Tools Required | 5 |
| Installation Instructions | 6 |
| Operation and Maintenance | 9 |
| Hinge Adjustments | 11 |
| Door Hinge & Locking Point Adjustments | 12 |
| Designo Hardware Sash Hinge/Unhinge | 13 |
| Glazing Details | 14 |

Tilt/Turn Window and Swing Door Installation Guide

Introduction

The PLESIO SELECT™ product line from PLESIO USA includes picture and tilt/turn windows and patio door systems: lift/slide and tilt/slide.

Please Note: When remodeling, be sure to safely remove existing framing and properly prepare the opening for installation. See www.epa.gov/lead for additional information. The proper disposal or recycling of the products being removed is the responsibility of the installer.

IMPORTANT! *Please be sure to check the accessory box and immediately notify your supplier of any missing parts!*

DISCLAIMER: EPA makes no warranties, expressed or implied, nor assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of the contents of installation instructions, or any portion thereof. Further, EPA cannot be held liable for defects or deficiencies resulting from the proper or improper application of installation instructions.

DISCLAIMER: PLESIO USA makes no warranty, expressed or implied, with respect to these instructions or any third party instructions, and PLESIO USA shall not be liable for any damage or liability that may arise in connection with the installation of this product not performed by PLESIO USA.

Tilt/Turn Window and Swing Door Installation Guide

Introduction

Installer and Builder Information

Always provide a copy of these instructions for the current or future building owner.

Warnings: Read before Installing!

If you do not have the experience necessary to accurately follow the procedures explained in this guide, contact an experienced contractor.

- Every wall assembly and installation is different. Please consult your windows supplier, contractor, architect or structural engineer prior to the product installation. PLESIO accepts no responsibility for the post-manufactured assembly and installation of PLESIO tilt/turn windows and swing doors..
- Unless specifically ordered, PLESIO windows and doors are not glazed with tempered glass and if broken, could shatter causing injury. Many laws and building codes require tempered glass in locations adjacent to or near doors. PLESIO windows and doors are available with tempered glass that may reduce the likelihood of injury when broken.
- Laminated tempered glass is not standard; it is a special-order item. Check local building codes.
- Do not apply any type of film to glass. Thermal stress conditions resulting in glass damage could occur.
- Metal fasteners and other hardware components may corrode when exposed to preservative treated lumber. Obtain and use the appropriate metal fasteners and hardware. Failure to use the appropriate materials for the installation may cause a failure resulting in injury, property or product damage.
- Follow instructions from sealant and flashing manufacturers regarding material application and compatibility with this product.
- Do not carry unit horizontally, exterior side down. Panels may swing open causing product damage and/or severe injury.
- Plan sizing of rough opening and clearance from exterior finishing systems to allow for normal materials shrinkage or shifting (e.g. wood structure with brick veneer; allow adequate clearance at sill).
- Refer to the technical installation requirements in this guide for technical specifications regarding the installation of this product. *These installation requirements as well as the details in this section must be followed to achieve the advertised design pressure (DP) rating of this product.*
- It is the responsibility of the builder, installer and subcontractors to protect the interior and exterior of windows or doors from contact with harsh chemical washes, construction material contamination and moisture. Damage to glazing, hardware, weather strip and cladding/wood can occur. Protect with painters tape and/or protective sheathing as required. Follow all guidelines regarding material use, preparation, personal safety and disposal.

Tilt/Turn Window and Swing Door Installation Guide

Tools & Materials Required

Tools & Materials Provided

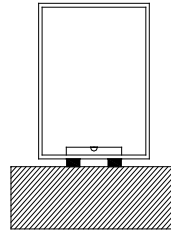
- Install straps provided (if not installing through frame).
- Glazing bridges and shims. (If glazing on site, attached glazing instructions must be followed.)
- Red construction handle with pin removal tool.
- Allen key with lock adjustment tool.
- 6 mm Allen key for adjusting door hinge.
- Accessory package with small parts as required for product purchased.

Tools & Materials Not Provided

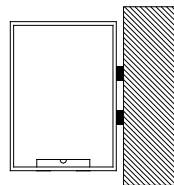
- Safety glasses
- Hearing protection
- Power drill with drill bits 1/4" and 3/8" (if installing through frame).
- Glazing shovel for jobsite glazing.
- Fasteners for wood or tapcon (for through frame installation).
- Caulking / sealant
- Low expanding foam
- Flashing material
- Weather-resistant barrier
- Level
- Soft rubber hammer
- Glass handling tool with suction cups
- Tape measure
- Pencil
- Shims/blocks
- Putty knife

1. Install Frame

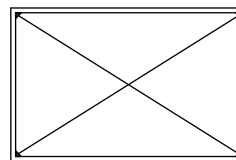
- Check opening for square and plumb. Rough opening should be approximately 1/2" larger than finished window size.
- **Caution:** Correct installation of the proper type of flashing to the opening is critical to maintaining the weather-resistant barrier. Please follow the manufacturer's recommended method for flashing installation.
- Center window in opening.
- Level sill. **(This is vital to proper functioning of the unit!)** Shim sill 4 to 6 inches from each jamb. As a rule, 1/4" max shim space is allowed around the window frame.



- Plumb jambs.



- Square frames (check diagonals) by installing shims between window jambs and rough opening. Shims should be 4 to 6 inches from head and sill, at midpoint and at lock keeper locations.



- If installing through frame, pilot drill 3/8" anchor holes through first surface of vinyl. When doing so, please keep in mind that there may be steel inside the frame and sash. Holes should be 6" in from top and bottom of inside frame corner on the jambs. Additional holes should be drilled no more than 18" apart. Anchor the units through pre-drilled holes with appropriate fasteners for rough opening conditions (4-inch minimum screws for wood, tapcon for masonry or block).
- **Verify unit is plumb and level.**

Tilt/Turn Window and Swing Door Installation Guide

Installation Instructions

Installation Methods (Series 70 drawings are shown)

Notes:

- Pre-drill 3/8" holes through the first surface of vinyl and first wall of steel, if applicable.
- Drill 1/4" hole through second wall of steel and installation surface (wall), if applicable.
- Screw in 4" minimum installation screws.
- Do not overtighten.
- Seal/cap drill holes with 3/8" plugs.

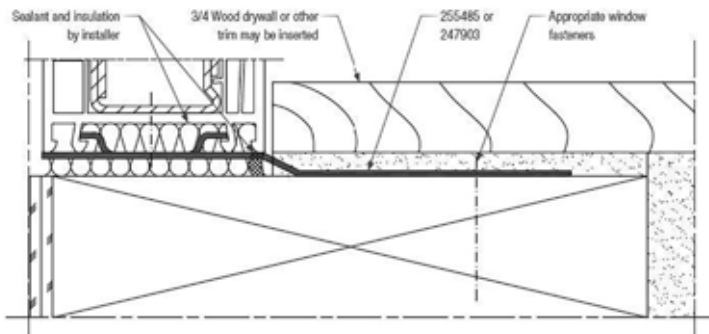
- If installing through frame, fasteners located at the bottom of the frame must be properly sealed to prevent water infiltration!
- Always use screws or a combination of screws and straps when installing swing doors!



Always check window operation after securing screws/straps.
All windows and doors come adjusted from the factory.

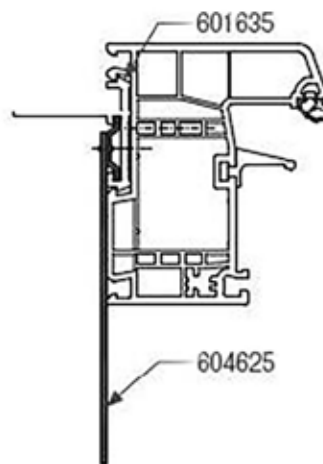
Install Strap

- Spacing of straps: 6" from weld and every 18"-20" thereafter

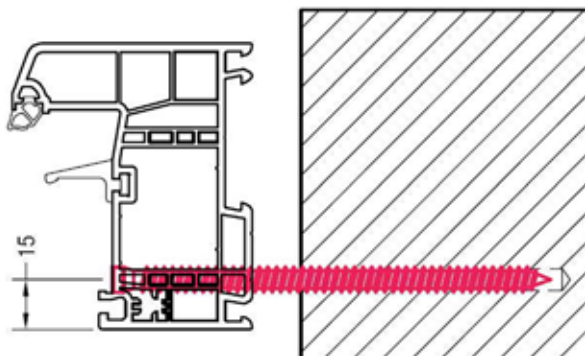


Nail Fin with Install Strap

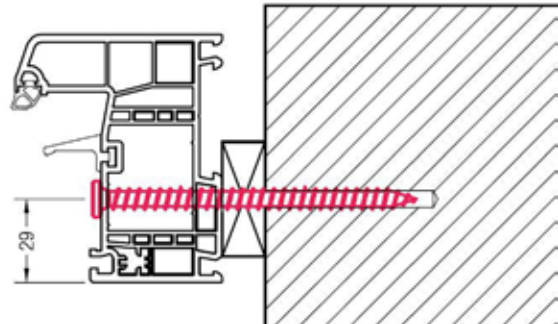
- Straps will be installed at factory



Through Frame Option 1



Through Frame Option 2



Tilt/Turn Window and Swing Door Installation Guide

Instructions

Reference ASTM E 2112-01 *Standard Practice for Installation of Exterior Windows, Doors and Skylights.*

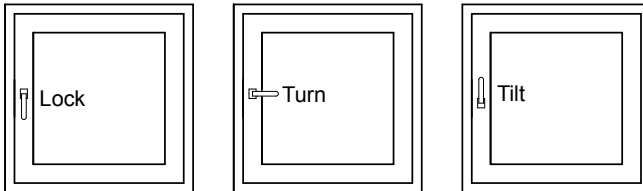
It is the responsibility of the installer and/or owner to prepare openings (barrier and flashing as required) as well as adhere to local/state/regional codes and practices.

2. Handle Installation

Instructions for Tilt/Turn and Hopper/Awning windows only. For Swing Doors, follow instructions provided with the handle set.

*Before installing handle, use red construction handle to test operation. **Never force handle! Excessive force can damage hardware.** If installation was performed correctly, the window hardware should operate smoothly.*

- Place handle in down (lock) position.
- Insert handle spindle into sash handle hole and turn handle 90° (turn position) to access screw holes. **Use caution when doing this because the sash can tilt!**
- Install screws. Be careful to not overtighten.
- Turn handle to lock position.
- Turn/Tilt functions opposite for Tilt first hardware.



3. Sash Removal (If necessary)

Instructions for Tilt/Turn external hinge system only. For concealed hinge system, see enclosed Designo hardware instructions.

- Depending upon the size of the sash, the assistance of a second installer may be required. (Please be aware that sash and frames may be steel reinforced.)
- Sash must be in closed position in order to remove the pin.
- Using a construction handle, push pin in the top hinge down. *While this is occurring, the second installer (if necessary) must be holding the sash!*



- Pull pin down until pin clicks at lowest point.
- Turn handle to “Turn” position and open sash.
- Tilt sash towards you.
- Lift sash up and off of lower pin.
- Place sash in safe place and **mark sash so it is reinstalled into the correct frame!**

Tilt/Turn Window and Swing Door Installation Guide Instructions

4. Reinstall Sash (If removed)

*Instructions for Tilt/Turn external hinge system only.
For concealed hinge system, see enclosed Designo
hardware instructions.*

- Install sash onto lower hinge pin. Ensure sash is in the "Turn" position (Fig. A).
- Set sash into the frame, connecting the hinge (Fig. B).
- Push the pin downward on top hinge (Fig. C).
- Once pin is in place, close the window and turn the handle to the "Lock" position.



Figure A



Figure B



Figure C

5. Operate Window

- Operate the sash to make sure it operates smoothly.
- If it does not operate smoothly, check unit for plumb, level and square. Make adjustments as necessary.
- To prevent the sash from rubbing against the frame, adjust cams and hinges as required per provided instructions.
- Install hinge covers (external hinge system), provided in hardware package (2 pieces top/3 pieces bottom).

6. Installation of Couplings

- See additional install guide.

7. Take note to not block weep holes during installation

- Weep caps are provided with accessories and must be installed in the field.



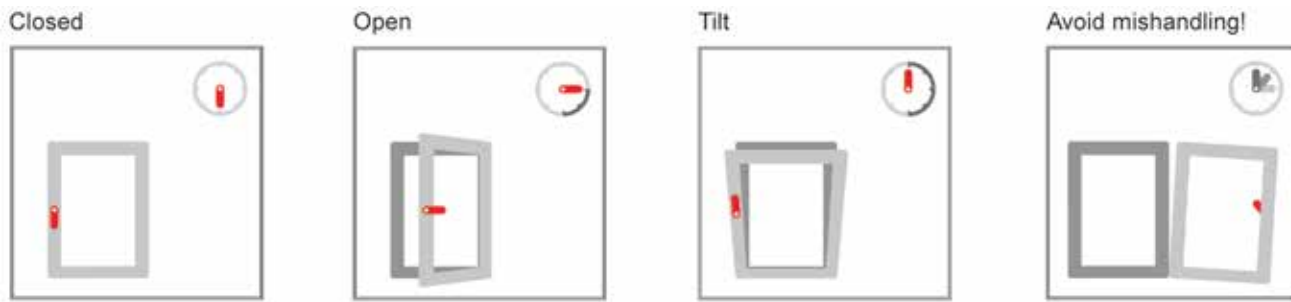
Figure D

8. Insulate and Caulk

- Insulate around perimeter of opening.
- **Caution:** Over-insulating can affect operation of the window.
- **Caution:** Under-insulating can affect thermal performance of the window.
- Caulk around exterior perimeter of window (Fig. D).
- Install weep hole covers (inswing units).
- Flash as required.

Tilt/Turn Window and Swing Door Installation Guide

Operation and Maintenance



In order to maintain the operability of your window and to ensure security, it is extremely important that these precautions be observed:



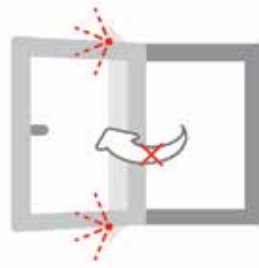
Do not subject the sash to additional loads.



Do not leave sashes open in the turn mode during strong winds.



Do not place any objects between the sash and the frame.



Do not allow the sash to hit or to press up against the window reveal.



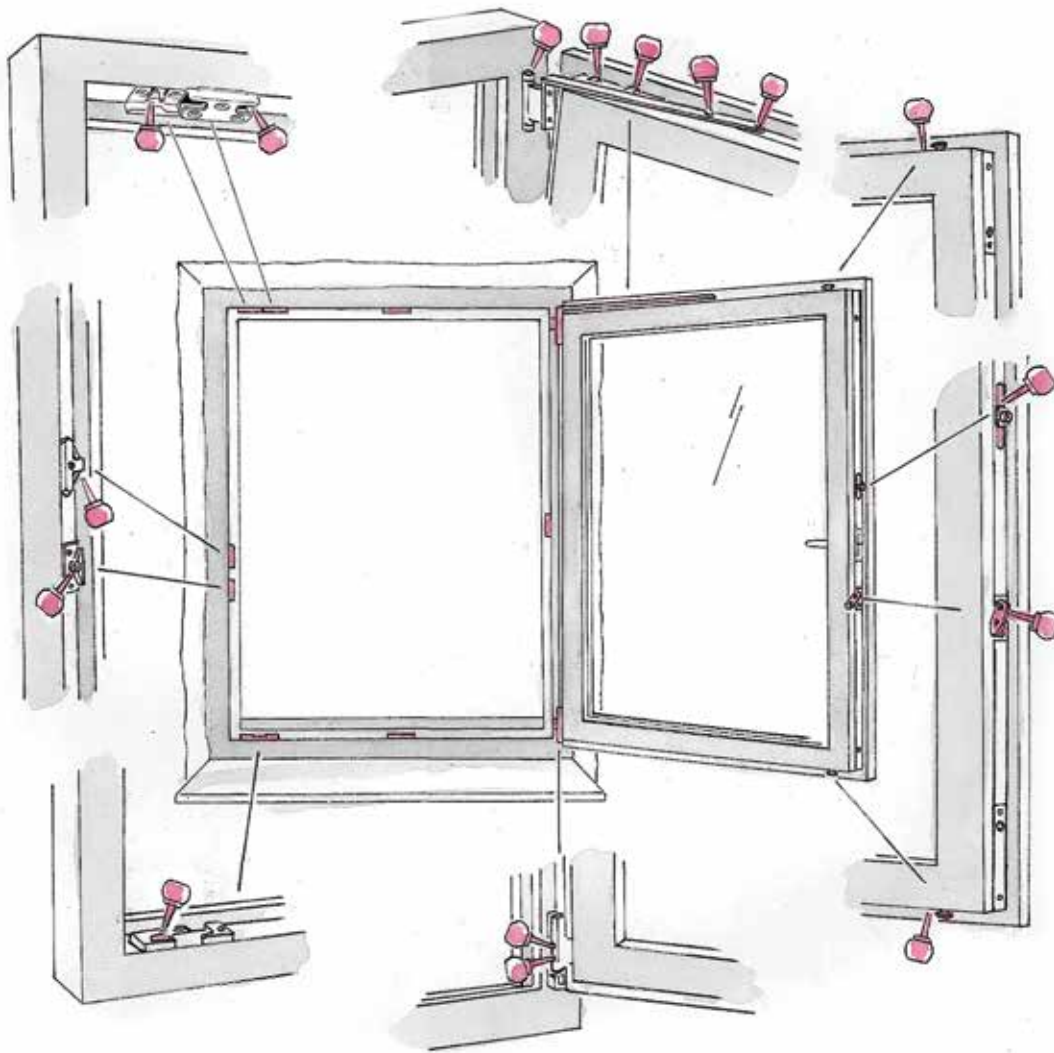
Risk of Injury!

There is a risk of injury by catching one's finger or other body parts in the opening gap. While closing, do not grab between the sash and the frame.



Risk of Injury!

Where children or other endangered persons have access to the window, the sash is to be safeguarded against turning. Install a child safety lock or a key-lockable handle.



To maintain smooth operation of the hardware and protect against premature wear and tear, greasing and oiling* of all operation-relevant components in the sash and frame **must be done at least once a year**. In addition, the individual screws must be checked.

Possible loose screws or broken off screw heads must be replaced immediately. The hardware may be cleaned only with a soft cloth and a mild pH-neutral cleaning agent in a diluted form. Never use aggressive, acid cleaning agents or abrasive cleaning agents because they can permanently damage the hardware.

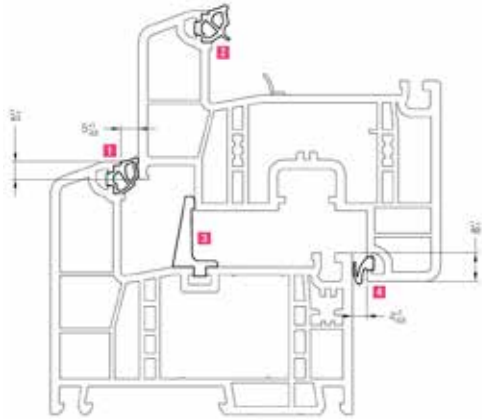
**Use only acid free and non-resinous grease and/or oil!*

Tilt/Turn Window and
Swing Door Installation Guide
Hinge Adjustments

Adjustment of Sash

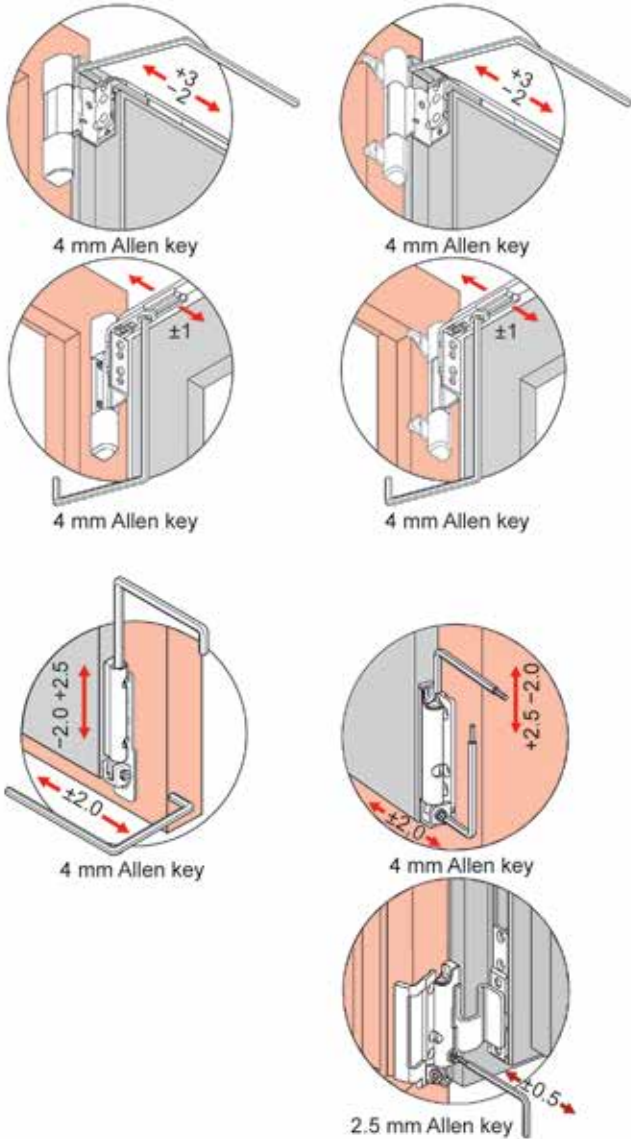
All buildings move. If movement is excessive, windows and doors may need to be adjusted to open properly.

- Sash should overlap frame by .315" (8 mm).
- To check overlap, close window and mark position of sash in all four corners.
- Open window and check for correct overlap.
- Adjust if necessary .

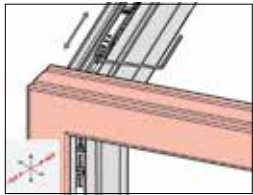


External Window Hinge Adjustment Options

Stay bearing



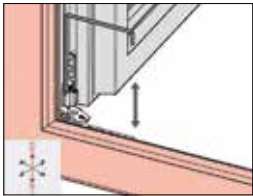
Designo Hinge Adjustment Options



Lateral Adjustment sash stay



Gasket-compression adjustment sash stay

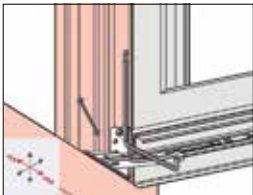


Height adjustment corner hinge

After the height adjustment, the load transfer device has to be readjusted.



Lateral adjustment corner hinge



Gasket-compression adjustment pivot rest

Tilt/Turn Window and Swing Door Installation Guide

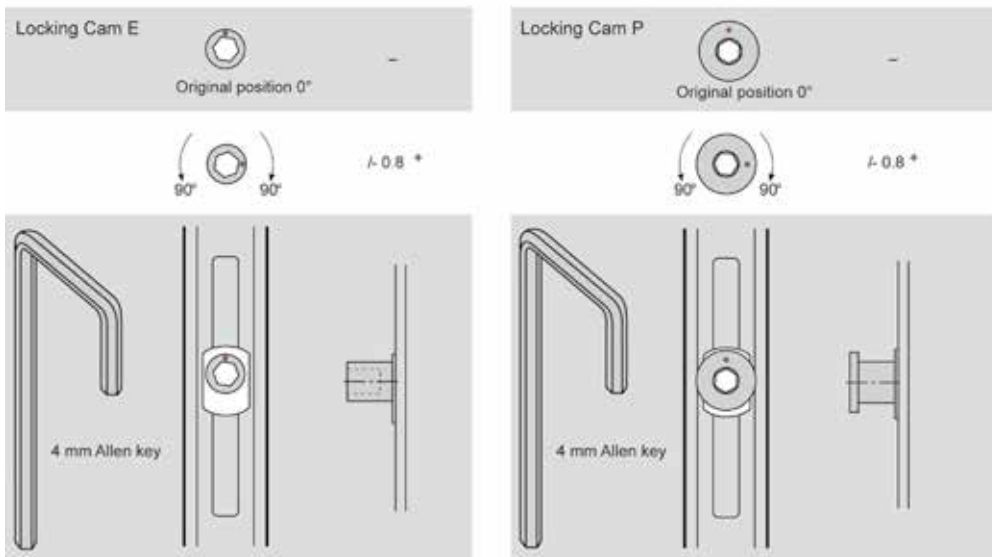
Door Hinge & Locking Point Adjustments

Door Hinge Adjustments

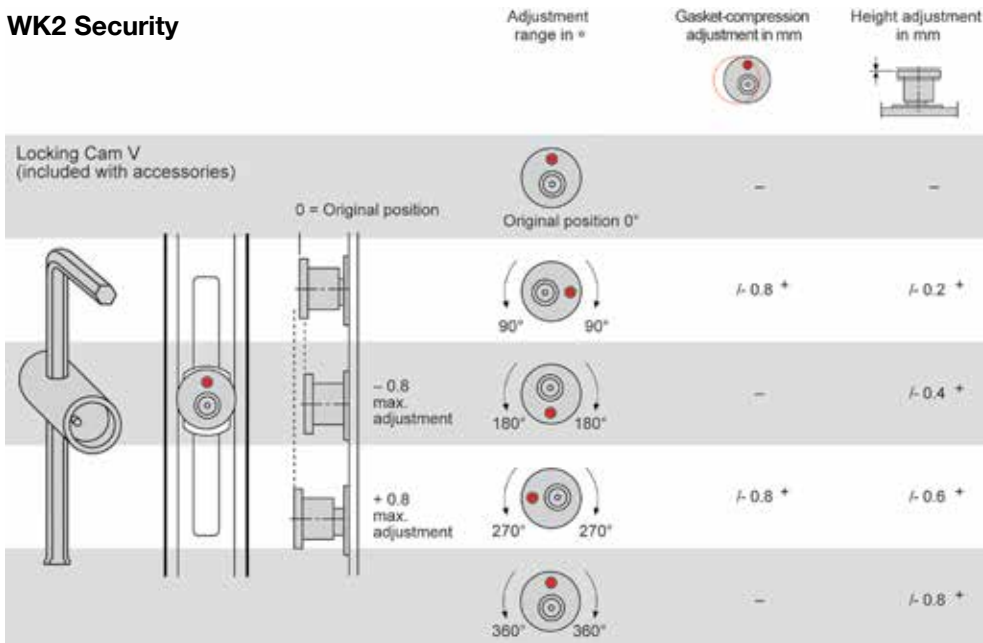


1. Gasket compression adjustment ± 1 mm and additionally $\pm .75$ mm
2. Lateral adjustment ± 5 mm
3. Height adjustment $+5/-1$ mm

Locking Point Adjustments (Standard Security & WK1)

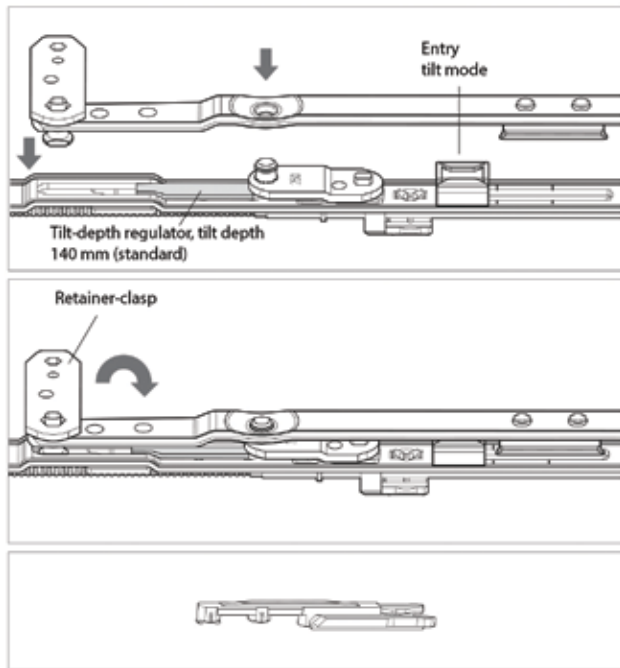


WK2 Security



Tilt/Turn Window and Swing Door Installation Guide

Designo Hardware Sash Hinge/Unhinge

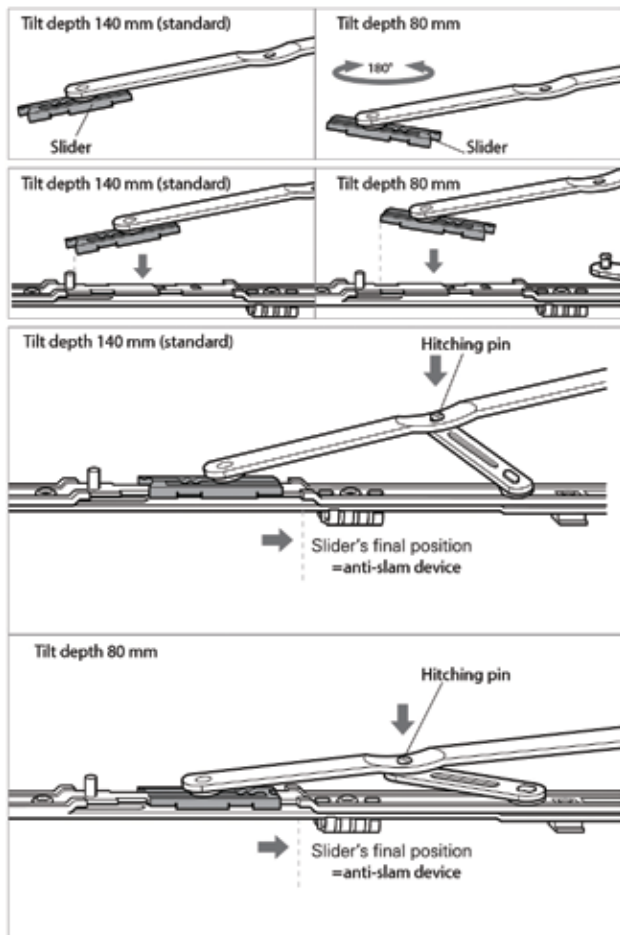


Hinging the sash with sash stay 250

1. Operate sash stay arm on stay guide.
2. Close retainer clasp.
3. Again operate the lifting mishandling device and bring the handle into the turn mode.

Note!

Use anti-slam device (487206) for tilt depth 80 mm.



Hinging the sash with sash stay 350 and 500

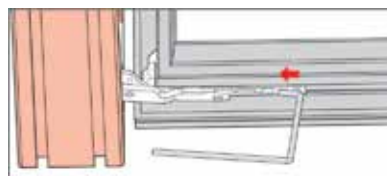
1. Adjust the desired tilt depth. (Standard tilt depth = 140 mm).
2. Connect the slider of the sash stay with the stay guide.
3. Lift the sash stay arm and let the drilling hole of the sash stay arm snap on the hitching pin of the supporting arm.
4. Again operate the lifting mishandling device and bring the handle into the turn mode.

Note!

The slider's final position (anti-slam device) is reached automatically by means of tilting the sash.

Unhinging the sash

1. Bring the sash into the turn mode (opened sash position).
2. Slide back the corner hinge's anti-jimmy device with a 4 mm Allen key.



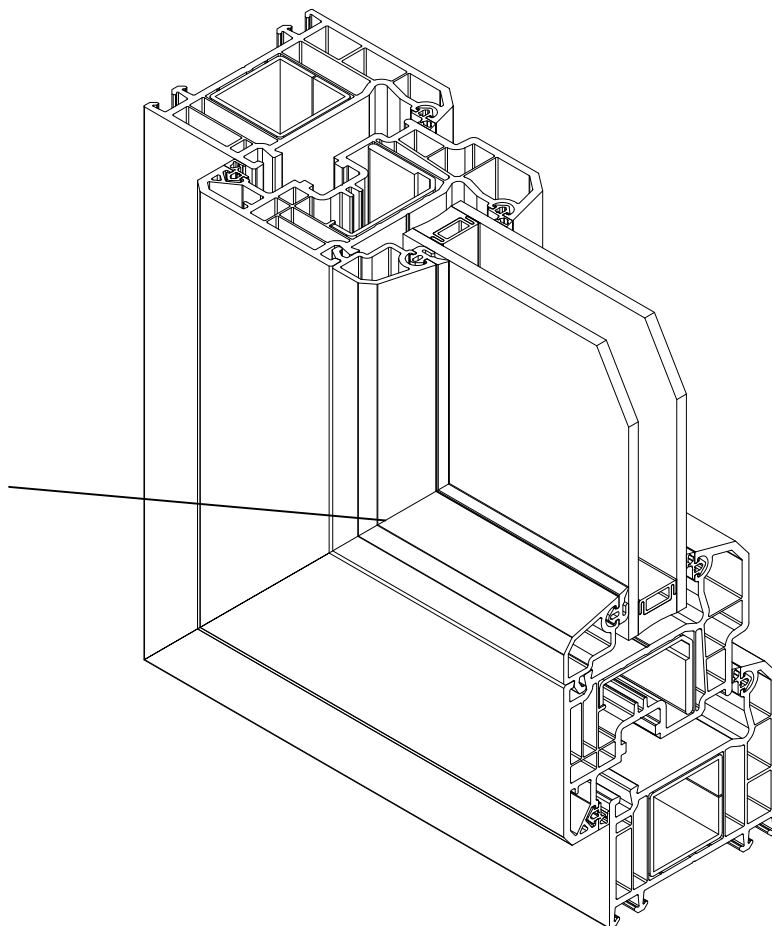
3. Press down the lifting mishandling device (if mounted) and bring the handle into the tilt mode.
4. Unhinge sash stay and secure sash from falling out. Lift the sash off the pivot rest.

Tilt/Turn Window and Swing Door Installation Guide

Glazing Details

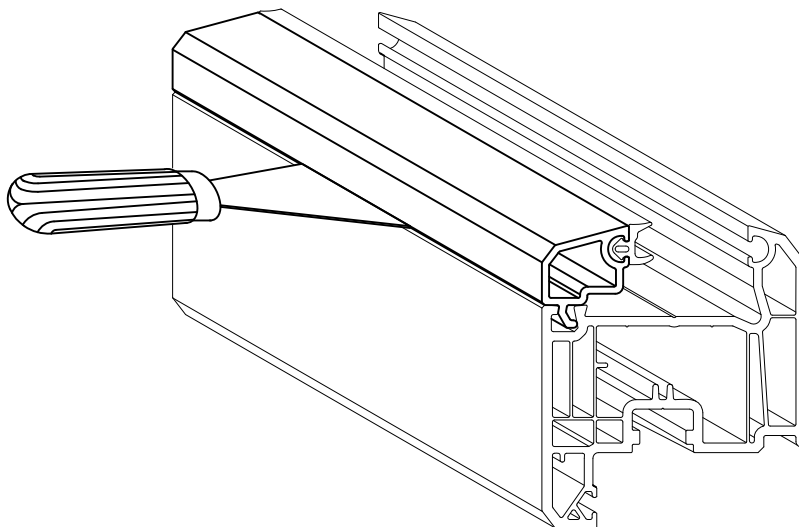
How to insert the glazing beads:

With glazing beads cut to mitre fix first the shorter and then the longer glazing beads. Use a plastic or rubber hammer. Tap lightly.



How to remove the glazing beads:

You can remove glazing beads using a sharp putty knife. Start in the center with the longer glazing beads, then proceed to the shorter ones. Place the putty knife between the glazing bead rebate bottom and the lower edge of the glazing bead and lift it. Repeat the same procedure at short intervals until you can remove it by hand.



Tilt/Turn Window and Swing Door Installation Guide

Glazing Details

Blocking guidelines

Function of the blocks:

1. Weight distribution of the glass pane to the sash-frame
2. Lasting adjustment of the sash-frame
3. Guarantees passability of the sash
4. Prevents the possibility of direct contact between the pane and the sash-frame
5. Ventilation possibility

Block Material:

Bearing blocks, spacing blocks, glazing blocks and glazing rebate inserts as well as wedges must be of such a quality that they resist rotting. Their form should not be altered by stress-load. Plastic (e.g. hard PVC) glazing blocks and wedges have proved themselves acceptable.

Fixing the glazing blocks:

The glazing rebate inserts bridge the 3 mm height difference between the base of the glazing rebate and the upper edge of the glass bead receptor. Hereby blocking allows for an optimal hold of the pane from behind. By bending up the ends of the glazing rebate inserts (2.5 mm), it prevents the slipping of the glazing blocks that lie upon it both during and after assembly.

The glazing blocks should be 100 mm long and, in general, a minimum of 2 mm wider than the glass. All glazing rebate

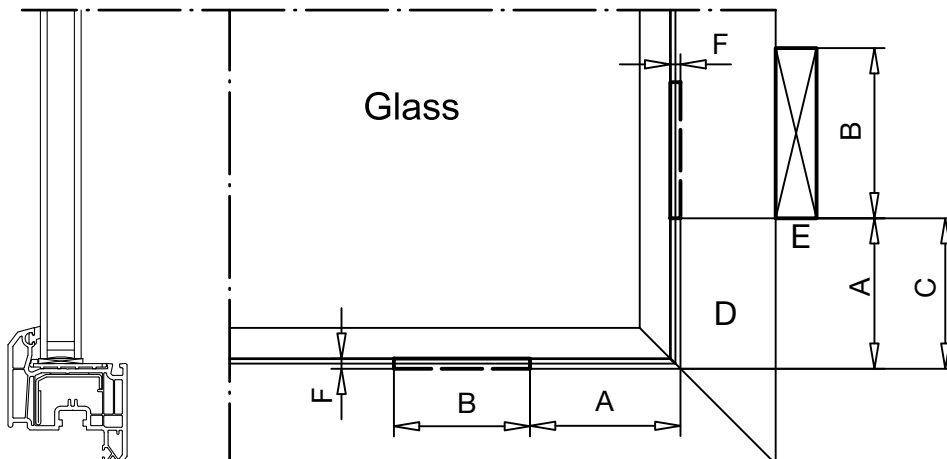
inserts as well as glazing blocks should be permanently secured against slipping; this can be achieved with silicone. Slipped blocks lose their function and hinder other functions: the sash can no longer be optimally opened or closed or the block is in front of the drainage block.

After blocking the glass pane (see blocking guidelines) the glass beads must be inserted.

Guidelines for the insertion of glazing packers

Position of the glazing packers

- A. Distance between the packers and the corner is ca. 100 mm
- B. Padding length (load bearing part) 100 mm
- C. Maximum distance between the hinge and the corner is 100 mm
- D. Sash profile
- E. Hinge
- F. Glazing rebate infill bead including glazing packers

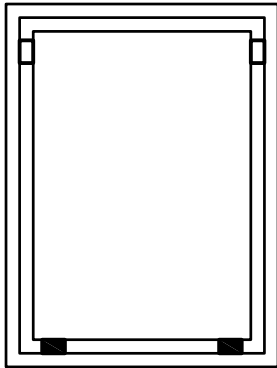


Tilt/Turn Window and Swing Door Installation Guide

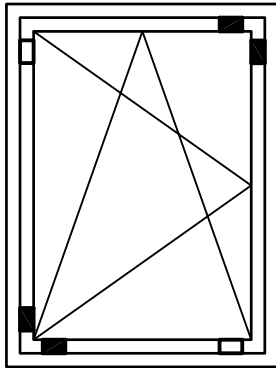
Glazing Details

Guidelines for the insertion of packers

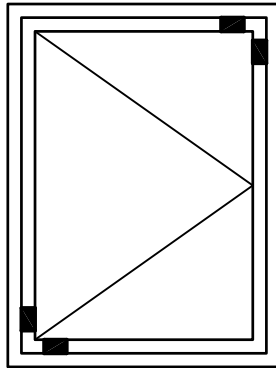
Example for smooth glass panes (in accordance with IGH Hadamar, Bulletin 3 from 10/1997)



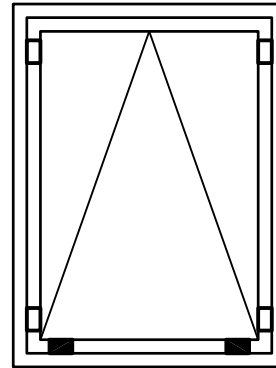
Fixed glazing



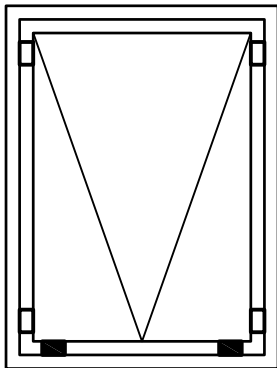
Tilt / Turn



Turn




Tilt



Top Hung

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 Support packers

 Spacing packers

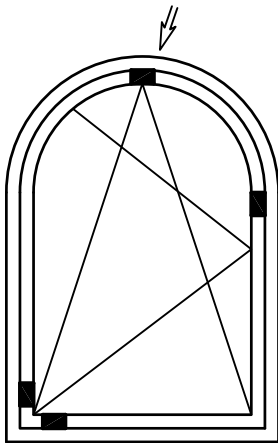
Also for use in the vertical centre area of the doors.

Tilt/Turn Window and Swing Door Installation Guide

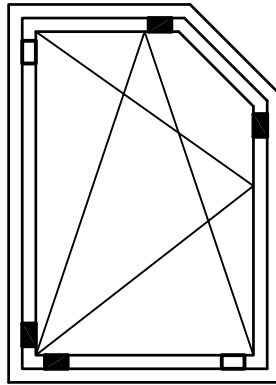
Glazing Details

Guidelines for the insertion of packers

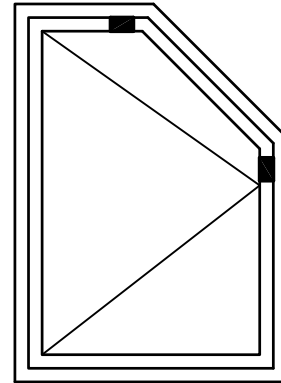
Example for special glass panes (in accordance with IGH Hadamar, Bulletin 3 from 10/1997)



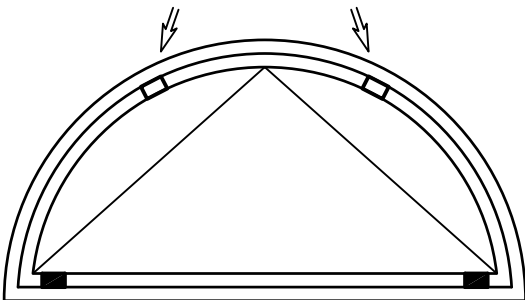
Tilt/Turn round arch



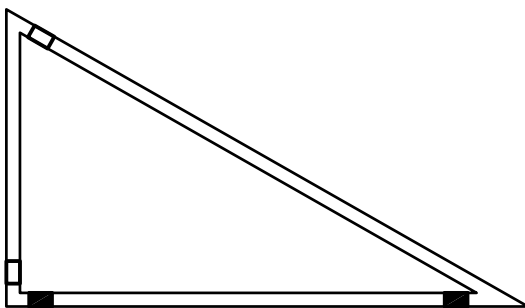
Tilt/Turn with a rake



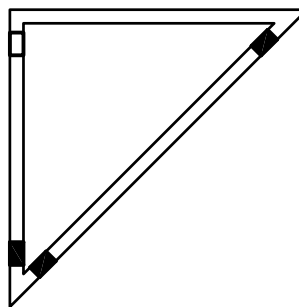
Turn with a rake



Turn round arch



Window with a rake / fixed glazing



Window with a rake / fixed glazing

Special constructions and the proposed glazing procedures shown here only represent a range of options for the window constructions. Glazing of other constructions must be carried out based on the experience of each glazer. Weight and load distribution must be considered in each particular case.

Tilt/Turn Window and Swing Door Installation Guide

Glazing Details

Blocking procedure:

- Begin blocking by laying the block down horizontally on the glazing rebate insert.
- The block thickness should total 6 mm (3 mm glazing rebate bridge + 3 mm block).
- The glass pane is set on the bottom blocks and carefully tilted into the frame.
- To avoid damaging the glass edges, special attention must be paid to the glazing rebate space around the mechanical couplers.
- The danger of glass breaking due to inward swinging of the pane is especially high when inserting couplers at the top.
- Here the use of appropriate spacing blocks is recommended. It must be carried out with special care.

