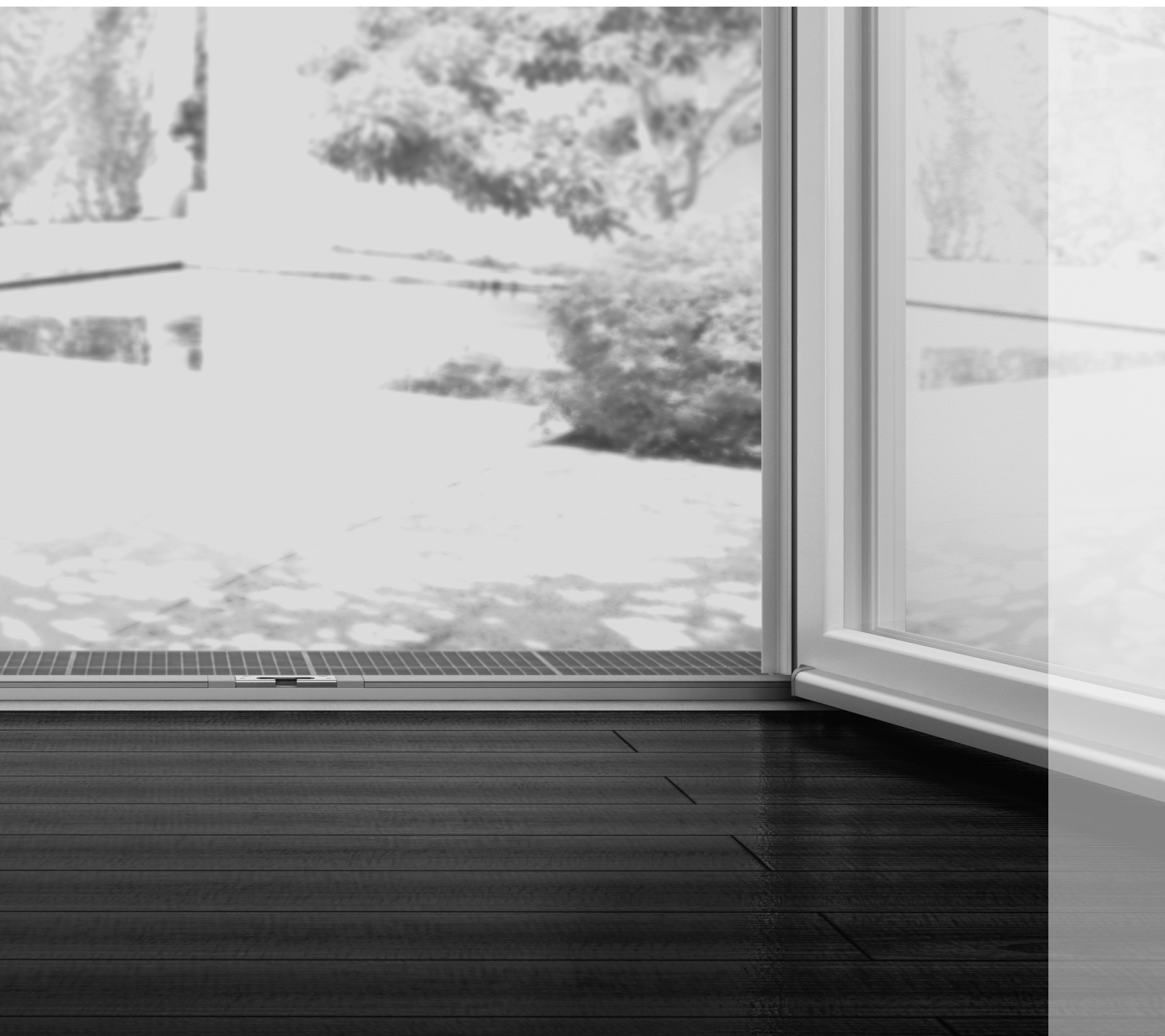


Roto Eifel





Tailor-made range of thresholds
for tightly sealed accessible doors and balcony doors

Installation, maintenance and operation instructions
for timber and PVC profiles








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1 General information

1.1 Version history

Version	Date	Changes
v0	02/05/2019	
v1	20/06/2023	<p>Eifel T deleted.</p> <p>Application of sealing compound on compensation profile deleted.</p> <p>Instructions for transporting and storing components added.</p> <p>Timber: details of frame rebate clearance changed → <i>from page 18</i>.</p> <p>Drilling and routing dimensions completely changed → <i>from page 24</i>.</p> <p>Installation of outward additional profile (identical to hardware mounting profile) added and cropping dimensions changed → <i>from page 19</i>.</p> <p>Routing pattern for Eifel TB RS added → <i>from page 35</i>.</p> <p>Installation of cover closure added → <i>from page 35</i>.</p> <p>Use of special screw in conjunction with NX hinge side Designo added → <i>from page 42</i>.</p> <p>Images showing installation of the cover added.</p> <p>Images showing Eifel TB tilt striker changed → <i>from page 99</i>.</p> <p>Installation of "double-leafed door with floating-mullion gasket" deleted.</p> <p>Installation of drip seal (identical to brush gasket) added → <i>from page 19</i>.</p> <p>Names of accessories adapted in line with the Roto Eifel catalogue → <i>from page 104</i>.</p>

1.2 Additional information to be noted

For other mandatory components (locking side, hinge side, etc.) and information (security, maintenance, transport, disposal), see the other applicable document.



INFO

These instructions are incomplete.

The other applicable document accompanying these instructions depends on the product brand used (e.g. Roto NX, Roto Safe, etc.).

Failure to observe this documentation discharges the hardware manufacturer from their liability.

1.3 Instructions

This manual contains important information, instructions and assembly guidelines for the installation, maintenance and operation of hardware.

The information and instructions contained in this document refer to products belonging to the Roto hardware system named on the front page.

All steps must be completed in sequence.

The following documents apply in addition to these instructions:

Catalogues

- Roto Eifel catalogue: CTL_87
- Roto handles catalogue: CTL_1
- Roto Glas-Tec catalogue: CTL_15

Installation instructions

- Roto NT – PVC instructions: IMO_63
- Roto NT – timber instructions: IMO_64
- Roto NT PowerHinge – timber instructions: IMO_68
- Roto NX – PVC instructions: IMO_455
- Roto NX – timber instructions: IMO_456
- Roto NX Designo – PVC instructions: IMO_517
- Roto NX Designo – timber instructions: IMO_542
- Roto Safe E – Eneo C / CC / CF instructions: IMO_438
- Roto Safe E – E700 instructions: IMO_506
- Roto Safe C instructions: IMO_503
- Roto Safe H – Fasteo instructions: IMO_405
- Roto Safe H – H650 instructions: IMO_504
- Roto Safe A – A700 instructions: IMO_505

The following guidelines also apply:

Gütegemeinschaft Schlösser und Beschläge e.V.

- Directive TBDK: Attachment of supporting fitting components for turn-only and tilt&turn fittings
- Directive VHBE: Hardware for windows and balcony doors – Guidelines/ advice for end-users
- Directive VHBH: Hardware for windows and balcony doors – Guidelines/ advice on the product and on liability

VFF (German Window and Facade Association)

- TLE.01: Correct handling of ready-to-install windows and external doors during transport, storage and installation
- WP.01: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Information for sales
- WP.02: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Measures and documents
- WP.03: Maintenance of windows, facades and external doors – Maintenance, care and inspection – Maintenance agreement

Additional guidelines

- Instructions and information issued by profile manufacturers, e.g. manufacturers of windows and balcony doors
- Instructions and information issued by screw manufacturers
- The applicable regulations, directives and national laws




Storing the instructions

These instructions are an important part of the product. The instructions must be stored so that they are always to hand.

Explanation of the markings

The manual uses the following markings for emphasis (e.g. in figures or instructions):

Marking	Meaning
	Sash
	Frame
	Drill holes, routing or screw positions

Marking	Meaning
	Unaffected components / indirectly affected components
	Components, arrows or movements that have just been described
	Item number
[1]	Legend
[A]	Steps



INFO







Any dimensions without a unit in the instructions are given in millimetres (mm). Other units of measurement are clearly indicated by the presence of the differing unit.



INFO


Figures are provided in the left-hand version (DIN 107). The process for the right-hand version is mirror-inverted.

1.4 Symbols

Symbol	Meaning
	First-level list
	Second-level list
	(Cross-)reference
	Result
	Unnumbered step
1.	Numbered step
a.	Numbered second-level step
	Requirement

1.5 Pictographs

General

Symbol	Meaning
	Timber / PVC

1.6 Abbreviations

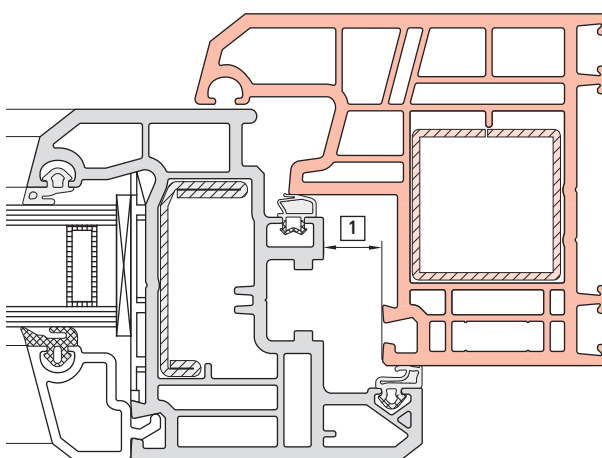
Abbreviation	Meaning
SG	Stop gasket
approx.	approximately
CTL	Catalogue
DIN L / R	DIN left / right
d _k	Screw head diameter
T&T	Tilt&Turn
SRW	Sash rebate width
SRH	Sash rebate height
S.kg	Sash weight
IMO	Installation instructions
kg	Kilograms
KS	PVC
Max.	Maximum

Abbreviation	Meaning
m ²	Square metres
mm	Millimetres
CG	Central gasket
CL	Centre lock
Nm	Torque in newton metres
Not sh.	Not shown
RC	Resistance class
e.g.	For example

1.7 Explanation of terms

Rebate clearance

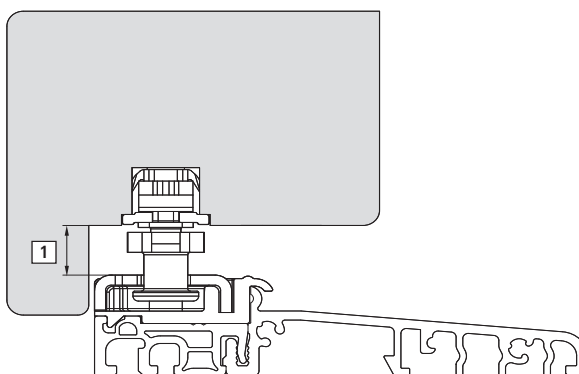
Distance between leaf and frame when closed.



[1] = rebate clearance

Functional clearance

Distance between threshold cover and leaf rebate.



[1] = functional clearance

1.8 Target groups

The information in this document is directed at the following target groups:

Hardware dealers

The "hardware dealers" target group includes all companies and individuals that purchase hardware from hardware manufacturers for resale, without modifying or further processing the hardware.

Door and balcony door manufacturers

The "door and balcony door manufacturers" target group includes all companies and individuals that purchase hardware from hardware manufacturers or hardware dealers and further process the hardware by integrating it in doors and balcony doors.

Building element dealers or installation companies

The "building element dealers or installation companies" target group includes all companies and individuals that purchase doors and balcony doors from door and balcony door manufacturers for resale and for installation in construction projects, without modifying the doors or balcony doors.

Builders

The "builders" target group includes all companies and individuals who place orders for the manufacture of doors and balcony doors for installation in their construction projects.

End users

The "end users" target group includes all individuals who use the installed doors and balcony doors.

1.9 Target groups' obligation to give instructions

**INFO**

Each target group must fulfil their obligation to give instructions in full.

Unless specified otherwise in the text below, documents and information can be passed on as a printed document, on a data storage device or via the Internet.

Responsibility of hardware dealers

Hardware dealers must pass the following documents on to the (balcony) door manufacturer:

- Catalogue
- Installation, maintenance and operation instructions
- Directive on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines/advice on the product and on liability (VHBH)
- Guidelines/advice for end-users (VHBE)

Responsibility of the (balcony) door manufacturer

The (balcony) door manufacturer must pass the following documents on to building element dealers or the builder, even if a subcontractor (installation company) is involved:

- Installation, maintenance and operation instructions
- Directive on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines/advice on the product and on liability (VHBH)

- Guidelines/advice for end-users (VHBE)

Manufacturers must ensure that the end users are provided with the documents and information intended for them in printed format.

Responsibility of building element dealers and the installation company

Building element dealers must pass the following documents on to the builder, even if a subcontractor (installation company) is involved:

- Installation, maintenance and operation instructions (with a focus on hardware)
- Guidelines/advice on the product and on liability (VHBH)
- Guidelines/advice for end-users (VHBE)

Responsibility of the builder

The builder must pass the following documents on to the end user:

- Installation, maintenance and operation instructions (with a focus on hardware)
- Guidelines/advice for end-users (VHBE)

1.10 Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

1.11 Limitation of liability

All information and instructions contained in this document have been compiled in consideration of the applicable standards and regulations, the latest developments in technology and many years of knowledge and experience.

The hardware manufacturer assumes no liability for damage caused by:

- Failure to comply with this document and all product-specific documents and other applicable directives (see the chapters entitled "Security" and "Stipulated use").
- Improper use / misuse (see the chapters entitled "Security" and "Stipulated use").
- Insufficient invitation to tender, non-compliance with installation specifications and non-compliance with the application diagrams (where available).
- Increased contamination.

Claims made by third parties against the hardware manufacturer on account of damage resulting from misuse or failure to comply with the obligation to give instructions on the part of hardware dealers, window, door and balcony door manufacturers and building element dealers or the builder are passed on accordingly.

The obligations agreed in the delivery contract, the general terms and conditions, the hardware manufacturer's terms and conditions of delivery and the legal provisions applicable when the contract was concluded shall apply.

The warranty only covers original Roto components.

We reserve the right to make technical changes as part of improvement to performance characteristics and further development.

1.12 Preserving the surface finish



ATTENTION

Surface treatments may cause property damage.

Surface treatments (e.g. painting and varnishing) on elements can damage components or prevent them from working properly.

- ▶ For masking, only use adhesive tape that does not damage the paint coats. Consult the manufacturer if in doubt.
- ▶ Protect components against direct contact with the surface treatment.
- ▶ Protect components against contamination.



ATTENTION

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.

- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carboic acid, chlorine, tannic acid) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.



ATTENTION

Contamination may cause property damage.

Contamination prevents components working properly.

- ▶ Remove deposits and contamination caused by construction materials (e.g. plaster, gypsum).
- ▶ Keep components free of deposits and contaminants.



ATTENTION

(Permanently) damp room air may cause property damage.

Damp room air can lead to mould growth and corrosion caused by condensation.

- ▶ Provide adequate ventilation for components, particularly during the construction phase.
- ▶ Intensively air out the room several times per day by opening all elements for approximately 15 minutes. If intensive airing is not an option, place the elements in the tilt position and provide airtight masking inside the room, e.g. if there is fresh screed that cannot be walked on or must not be exposed to draughts. Discharge any humidity present in the room air to the outside using condensation dryers.
- ▶ Establish a ventilation plan for more complex construction projects if necessary.
- ▶ Provide adequate ventilation during holiday periods as well.



2 Security

This manual contains instructions relating to safety. The principal safety information in this chapter includes information and instructions relevant to the safe use or maintaining the safe condition of the product. Warning instructions that relate to handling warn of residual risks and are located before steps that are relevant to safety.

- Follow all of the instructions in order to prevent personal injury and property and environmental damage.

2.1 Presentation and structure of warning instructions

The warning instructions relate to individual actions and are structured as follows with a warning symbol:



DANGER

Nature and source of the danger.

Explanation and description of the danger and the implications.

- Measures to take to avert the danger.

2.2 Security levels of warning instructions

The warning instructions that relate to handling are identified differently according to the severity of the associated danger. The signal words and the associated warning symbols used are clarified below.



DANGER

Immediate risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



WARNING

Potential risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



CAUTION

Risk of injuries

- Observe these warning instructions to avoid personal injuries.



ATTENTION

Reference to property or environmental damage.

- Observe these warning instructions to avoid property or environmental damage.

2.3 Stipulated use

Thresholds are designed for installation in doors and balcony doors. They are used as transitions in the door and balcony door area.

Retainers are used to install thresholds on the door frame and balcony door frame.

Floor door gaskets and weather profile strips seal the bottom of a door or balcony door when closed and help ensure that cold, heat, dirt and moisture cannot enter the home.

Stipulated use also includes compliance with all safety information and specifications contained in these instructions, the other applicable documents and the applicable regulations, directives and national laws.

2.3.1 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.



WARNING

Misuse may pose a risk of death!

Misuse and incorrect installation of hardware can lead to serious injuries.

- ▶ Only use hardware combinations that have been approved by the hardware manufacturer.
 - ▶ Only use original accessories or those that have been approved by the hardware manufacturer.
 - ▶ Note the product-related documentation → *from page 6*.
-

2.3.2 Usage restriction

Open and unlocked doors and balcony doors do not meet the requirements for:

- Joint sealing
- Driving rain impermeability
- Sound insulation
- Thermal insulation
- Burglary inhibition



3 Information on the product

3.1 General material characteristics

PVC in the construction industry

When installing PVC components, note the following points: PVC components should not be scratched or subjected to any impact as this could damage the surface or the component itself. When installing PVC components, note the tightening torque of the screw. An excessive tightening torque destroys the screw mounts and renders the components unusable. PC / ASA components must not come into contact with cutting oil.

Aluminium in construction

When installing aluminium components, note the following points: metals such as lead, copper or copper-based alloys (e.g. brass) must not be installed together with aluminium. Galvanised steel components or components made of stainless steel or zinc can be used together with aluminium without any problems. Aluminium components should not be scratched or subjected to any impact. A film is attached at the factory to protect the anodised or coated surface. This protective film is used to protect the surface from dirt that is produced during masonry and plastering work.



INFO

- The film should not be removed until construction work is complete.
- The expansion characteristics of aluminium must be taken into consideration when installing thresholds as otherwise the connecting elements may be destroyed in the event of temperature fluctuations.
- The change in length is approx. 1.22 mm/m with a 50 °C temperature difference. A butt joint should be installed from a length of 3000 mm and above.

Driving rain impermeability

The Roto Eifel threshold can only be assessed in conjunction with the structure as a whole. The classification also depends on the installation height and location of the building. Specifications relating to this must be proved by separate tests.

Escape doors and emergency exit doors

For escape doors and emergency exit doors, consult the relevant authority to establish whether the use of a threshold is permitted.

3.2 General hardware characteristics

3.2.1 Eifel TB threshold

Application ranges

- For PVC and timber balcony doors and main entrance doors
- For inward opening doors
- For new builds and renovation purposes

Product characteristics

- Accessible in accordance with DIN 18040
- Threshold height 20 mm
- Tested driving rain impermeability: DIN EN 1027; DIN EN 12208
- Isothermal efficiency, in line with DIN 4108-4
- Concealed screw fixing in the substructure / subfloor
- Depths of 40 mm – 140 mm
- Cover with grooved design

- Use of UV-resistant, high-impact resistant PVC
- Strikers and accessories can be used without the need to work on the threshold profile
- Certified in accordance with QM 340

3.2.2 Eifel TB threshold or outward opening doors

Application ranges

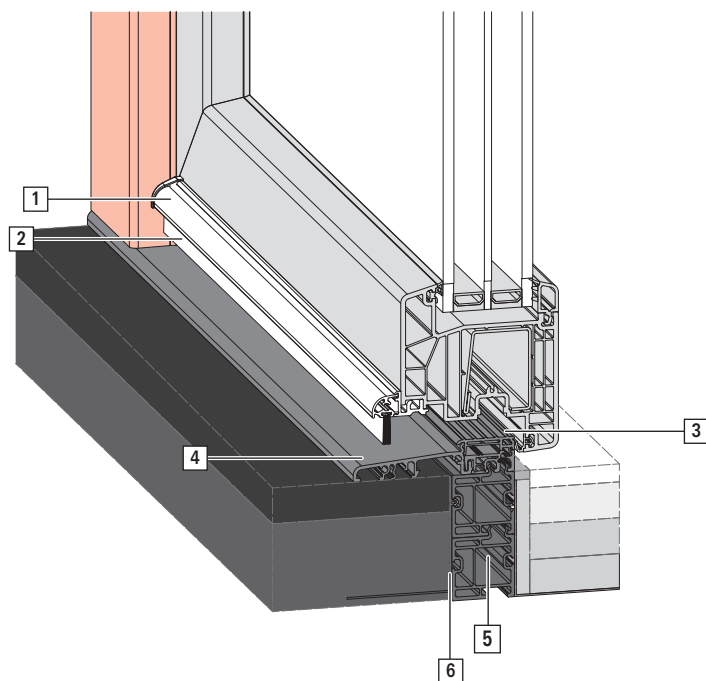
- For PVC and timber balcony doors and main entrance doors
- For outward opening doors

Product characteristics

- Accessible in accordance with DIN 18040
- Threshold height 20 mm
- Concealed screw fixing in the substructure / subfloor
- Three depths (70 / 80 / 90 mm)
- Cover with grooved design
- Use of UV-resistant, high-impact-resistant PVC
- Strikers and accessories can be used without the need to work on the threshold profile
- Certified in accordance with QM 340

3.3 Profile sections








3.3.1 General structure of the substructure and thresholds



Roto products

- [1] Weather profile strip
- [2] Drip seal
- [3] Cover
- [4] Threshold
- [5] Base profile
- [6] Anti-moisture foil

Substructure

-  Finished floor
-  Floor insulation
-  Screed
-  Concrete
-  Insulation
-  Ground
-  Floor



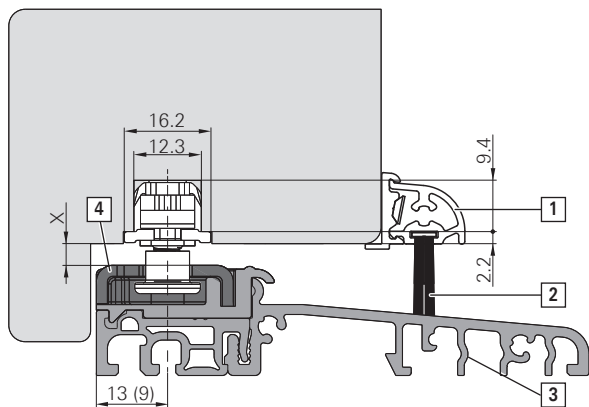
INFO

Based on RAL installation guidelines.

The substructure shown is an example only. The substructure always has to be assessed and approved by a specialist company.

3.3.2 Timber

3.3.2.1 Threshold rebate clearance



e.g.:

[X] Rebate clearance between the threshold cover and leaf groove (Euro-rebate system)

[1] Weather profile strip



INFO

The comfort weather profile strip must be routed with a rebate clearance of 4 mm.

[2] Brush gasket

[3] Threshold, inward opening

[4] Tilt striker

The following combinations of components must be used due to the differing rebate clearance between the threshold cover and leaf groove:

Threshold rebate clearance	Frame rebate clearance	Cam variant	Packer for Designo pivot rest
4	12	V cam	–
7	12	V cam, extended, 7 mm	–
10	12	V cam, extended	Packer NT Designo (HA 13) L / R
12	12	V cam, extended, 12 mm	–



INFO

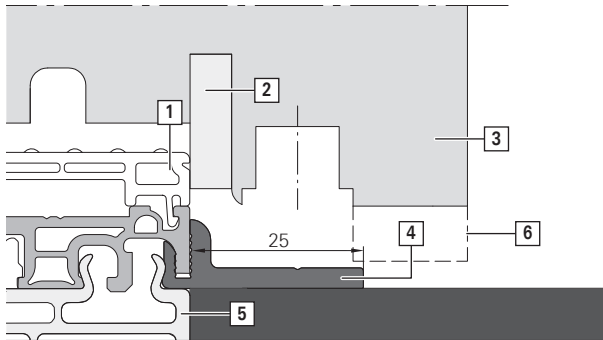
Roto can assist with the generally recommended profile assessments if you contact the Roto sales representative in charge of this.

3.3.2.2 Hardware mounting profile

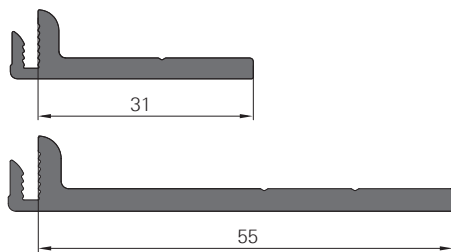


INFO

For use with timber profiles with a central gasket.

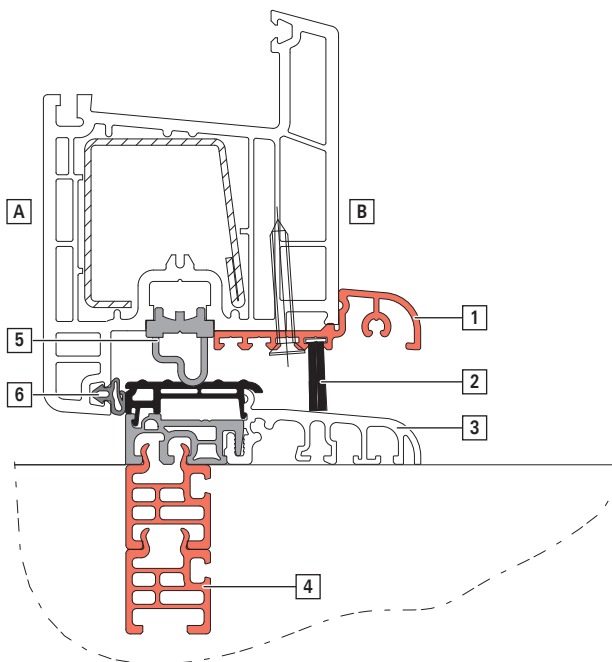


- [1] Thermal separation
- [2] Central gasket
- [3] Sash
- [4] Hardware mounting profile
- [5] Base profile
- [6] Crop the leaf in this area.



3.3.3 PVC

3.3.3.1 Inward opening

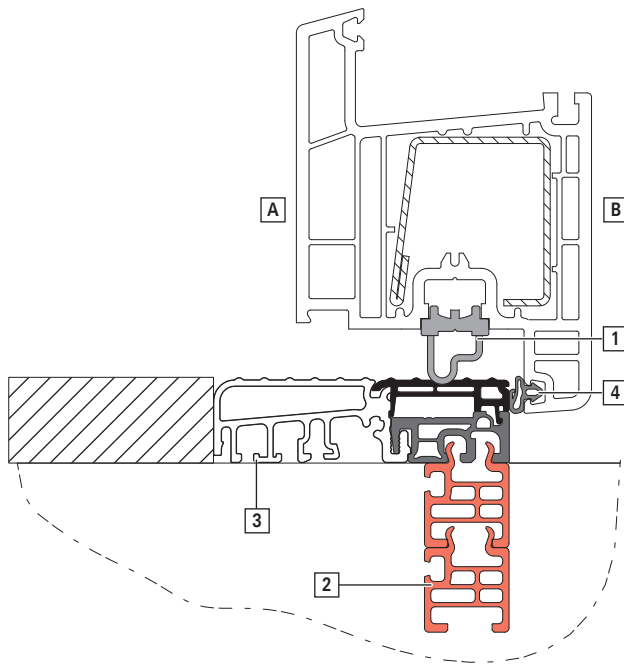


e.g.:

- [A] Inside
- [B] Outside

- [1] Weather profile strip
- [2] Brush gasket
- [3] Threshold
- [4] Base profile
- [5] Sliding threshold seal
- [6] Stop gasket (SG)

3.3.3.2 Outward opening



e.g.:

[A] Inside

[B] Outside

[1] Sliding threshold seal

[2] Base profile

[3] Threshold

[4] Stop gasket (AD)



4 Brief instructions

4.1 Roto Eifel

Summary of IMO 423 – installation of Eifel

	Installation sequence	Note	Page reference	Timber	PVC
Leaf	Prepare the leaf with hardware components from the Roto NX / Roto NT / Roto Safe product range	See IMO 455 / 63 456 / 64 / 68 / 517 / 542 / 438 / 506 / 503 / 405 / 504 / 505		■	■
	Install the floor door gasket	Automatic gasket	→ from page 63	■	■
		Sliding threshold seal	→ from page 68	■	■
	Install the weather profile strip	Standard	→ from page 70	■	■
		Comfort	→ from page 75	■	■
		Design	→ from page 87	■	■
	Install the aero stop	Optional	→ from page 98	■	■
Threshold and frame	Crop the threshold		→ from page 39	■	■
	Install the tilt striker with packer	After installing the balcony door, remove the screws again and fasten the tilt striker to the substructure with longer screws.	→ from page 99	■	■
	Install the NT Designo packer	For NT Designo only	→ from page 101	■	■
	Crop the reinforcement in the frame		→ from page 42	–	■
	Install the filler piece		→ from page 42	–	■
	Install the adapter profile	For all threshold retainers developed for Eifel T and for universal threshold retainers in conjunction with Eifel TB.	→ from page 42	–	■
	Install the frame	Without retainer	→ from page 35	■	■
		With retainer	→ from page 42	–	■
	Install the hardware mount		→ from page 19	■	–
Subfloor	Install the wind stop	Optional	→ from page 61	■	■
	Install the anti-moisture foil			■	■
Cover	Install the base profile		→ from page 17	■	■
	Crop the cover	Cutting depending on the components used	→ from page 42	■	■
	Install the cover			■	■

5 Installation

5.1 Processing instructions

Maximum sash sizes and weights

The specifications, application diagrams and component assignments which can be found in the hardware manufacturer's product-specific documents provide information on the maximum permitted sash sizes and weights. The component with the lowest permitted load bearing capacity determines the maximum permitted sash weight.

- Before using electronic data records and implementing them in window fabrication programs in particular, check that they match the specifications, application diagrams and component assignments.
- Never exceed the maximum permitted sash sizes and weights. If any points are unclear, contact the hardware manufacturer.

Specifications from profile manufacturers

The element manufacturer must comply with all specified system dimensions (e.g. gasket gap dimensions or locking distances).

They must continue to ensure and check this on a regular basis, especially when new hardware components are used for the first time, during production and on a continuous basis, up to and including element installation.



INFO

The hardware components are always designed in such a way that any system dimensions affected by the hardware can be adjusted. The hardware manufacturer shall not be liable for any additional expenses incurred if a deviation from these dimensions is not discovered until after the element has been installed.

Combining hardware

Burglar inhibiting elements need hardware which meets special requirements.

Elements for wet rooms and those for use in environments with aggressive, corrosive constituents in the air require hardware that meets special requirements.

The resistance of elements to wind loads when they are closed and locked depends on the individual design of the element. The hardware system is capable of handling wind loads specified by legislation and standards (for example in accordance with EN 12210 – especially test pressure P3).

Coordinate suitable hardware combinations and installation procedures in elements with the hardware manufacturer and profile manufacturer for the areas listed above, and conclude a separate agreement for them.



INFO

The hardware manufacturer's specifications on the combination of hardware (e.g. the use of additional scissor stays, the design of hardware for burglar-inhibiting elements, etc.) are binding.

In general, the hardware defined in this document is capable of meeting statutory and normative requirements for accessible dwellings.

Specifications relating to installation and care



ATTENTION

Sealing compounds that contain silicone may cause property damage.

Sealing compounds that contain silicone may considerably reduce the sealing effect near the threshold after three to five years.

- ▶ Only use silicone-free sealing compounds to seal the threshold.



Remove excess sealing compound after installation.



ATTENTION

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.

- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carbolic acid, chlorine, tannic acid) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.

All PVC components must be installed at room temperature (>15 °C).

Remove the protective film immediately after installation.

The number of screws for installation may vary.

5.2 Screw connections



DANGER

Incorrectly installed or screwed-in hardware components present a risk of death.

Incorrectly installed and screwed-in hardware components may lead to hazardous situations and cause serious or fatal accidents.

- ▶ During installation and screwdriving work, observe the specifications provided by the profile manufacturer; contact the profile manufacturer if necessary.
- ▶ Use the recommended screws.
- ▶ Select the length of the screws according to the profiles used.
- ▶ Ensure that the hardware components are adequately secured; contact the screw manufacturer if necessary.



ATTENTION

Using incorrect screw material may cause property damage.

Using the wrong screws may damage the components.

- ▶ Only use galvanised zinc-plated and passivated steel screws.
- ▶ Use screws with additional sealing in more challenging climatic conditions.
- ▶ Use stainless-steel screws on stainless-steel components only.
- ▶ For aluminium components, use screws made of steel (coated with zinc-nickel or zinc flakes) or stainless steel.



ATTENTION

Improper screw fixings may cause property damage.

Improper screw fixings may damage the components and the element as a whole, and stop them from working properly.

- ▶ Unless stated otherwise, turn screws in straight.
- ▶ Tighten screw heads until they are flush with the surface.
- ▶ Do not over-tighten screws. Note the torque. Choose a torque that will not deform the hardware and profile. Define profile-specific torques on the basis of the demo assembly.
- ▶ Use the recommended screws.
- ▶ Select the length of the screws according to the profiles used.

5.2.1 Screw connections for PVC / timber profiles



WARNING

Incorrect screw connections may pose a risk of death!

Short screws will not reach the steel reinforcement and will therefore not hold.

Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.

- Select the length of the screws so that they will hold in the steel reinforcement.



INFO

Screws are not included in the scope of delivery.

Exception

- Comfort weather profile strip (screws for the weather profile strip included with the end caps)
- Comfort floating-mullion gasket

The following specifications apply to screw connections:

Components	Quantity	Size	d _k	Diameter to be drilled	Drive
Threshold retainer rebate	2 – 4	3.5 x ...	7	–	Not specified
Threshold retainer pile, screw fixing at the side	2 – 3	4.0 x ...	8	–	Not specified
Threshold retainer link, screw fixing at the side	2 – 3	4.0 x ...	8	–	Not specified
Universal threshold retainer, screw fixing at the side	2 – 3	4.0 x ...	8	–	Not specified
Automatic gasket	...	Use special screws if necessary. Other information is available upon request.			



INFO

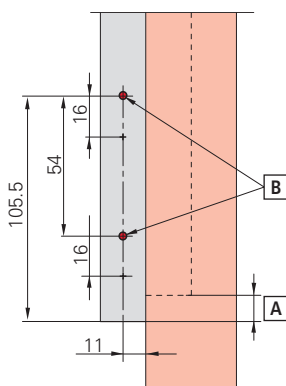
Use self-drilling screws for screw connections in the area of the reinforcement in the profile and pre-drill if necessary.

5.3 Drilling and routing dimensions

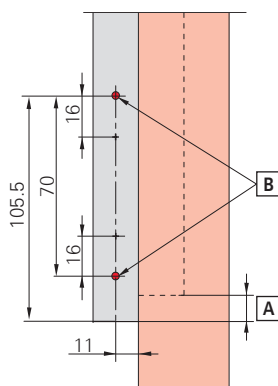
5.3.1 Roto NX | Hinge side P

5.3.1.1 Corner hinge

P 6/150



Height adjustable




Height and gasket-compression adjustable

Assignment	Meaning
[A]	Overlap width



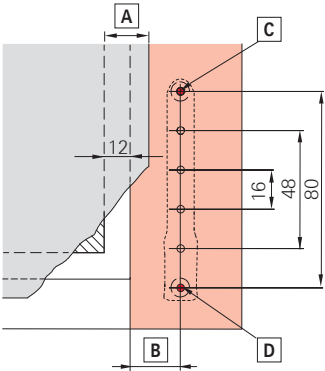
Assignment	Meaning
[B]	P 6/150 corner hinge, drill hole Ø 6 mm, 23 mm deep

Threshold drilling jigs (offset by 9 mm)

		Nº
	Height adjustable	230730
	Height and gasket-compression adjustable	449305

5.3.1.2 Pivot rest

P 6/130 | P6/150

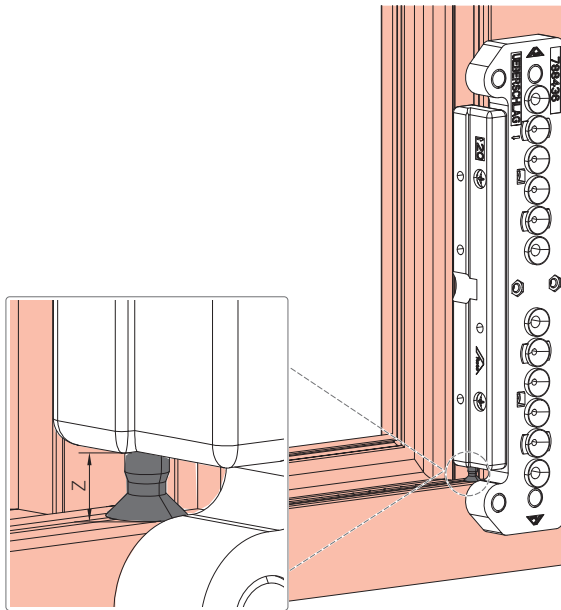


Assignment	Meaning	System
[A]	Overlap width	-
[B]	16.5 mm	12/18-9, 12/18-13
	18.5 mm	12/20-9, 12/20-13
	19.5 mm	12/21-13
	20.5 mm	12/22-13
[C]	Pivot rest P 6/130, drill hole Ø 6 mm, 3 mm deep	-
	Pivot rest P 6/150, top drill hole Ø 6 mm, 3 mm deep	
[D]	Pivot rest P 6/130, drill hole Ø 6 mm, 9 mm deep	-
	Pivot rest P 6/150, drill hole Ø 6 mm, 19 mm deep	

Drilling jig for threshold

		Nº
	Stay bearing, standard, and pivot rest	788436

Spacers



Extend the drilling jig stop for the pivot rest by dimension Z, for example using an adjusting screw.

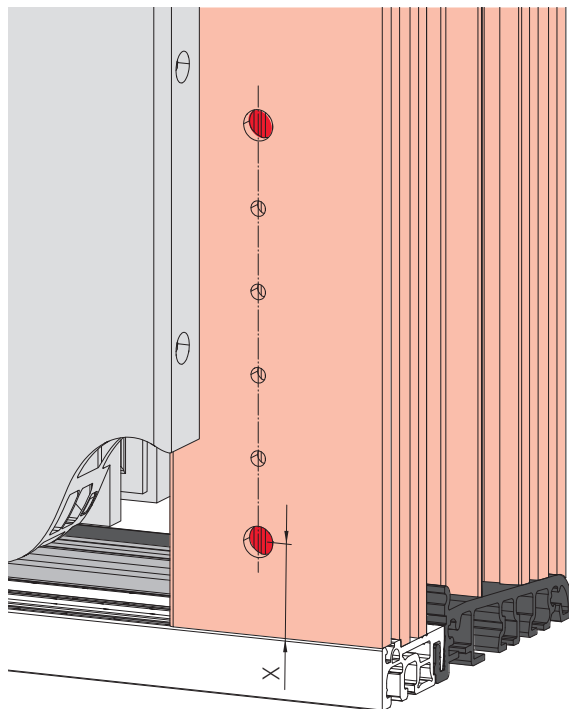
Functional clearance	[Z]
4 – 5	9
7 – 8	12
10 – 11	15

Place the drilling jig in the threshold rebate base.



5.3.1.3 Dimensions

Position of pivot rest, system 12/20-13



Functional clearance	[X]	
	Threshold height 20 mm	Accessible
4 – 5	5	–
7 – 8	8	–
10 – 11	11	31

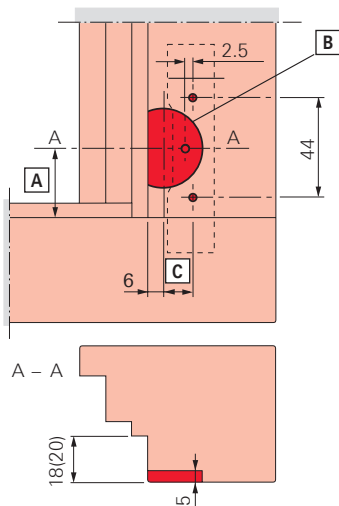
Corner hinge drilling jig

		Nº
Corner hinge K3	Height adjustable	230728

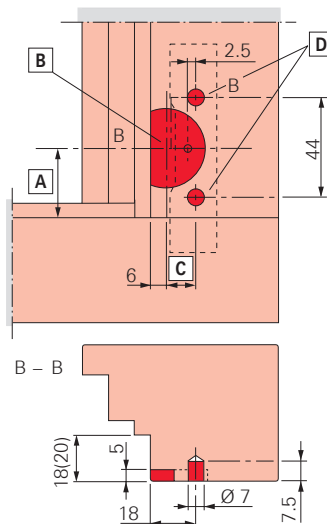
5.3.2 Roto NX | Hinge side T

5.3.2.1 Pivot rest

Without supporting pin



With supporting pin

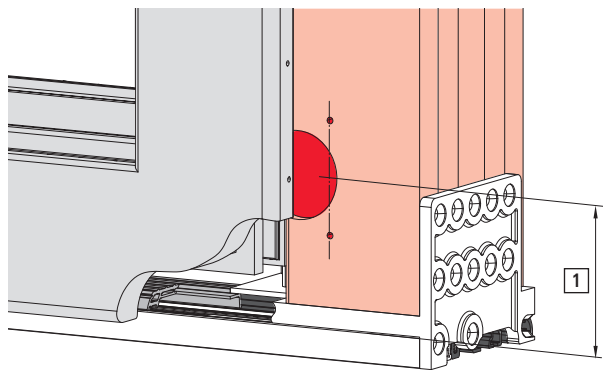


Assignment	Functional clearance	Rebate corner hinge for threshold (39.0) Pivot rest	Rebate corner hinge for threshold (51.5) Pivot rest	Meaning	System
[A]	4 – 5	31	43.5		
	7 – 8	34	46.5		
	10 – 11	37	49.5		
[B]		Drill hole Ø 34 mm, 5 mm deep		Drill hole Ø 34 mm, 5 mm deep	
[C]				12.0 mm	12/18-9, 12/18-13
				14.0 mm	12/20-9, 12/20-13
[D]				Drill hole Ø 7 mm, 5 mm deep	



5.3.2.2 Dimensions

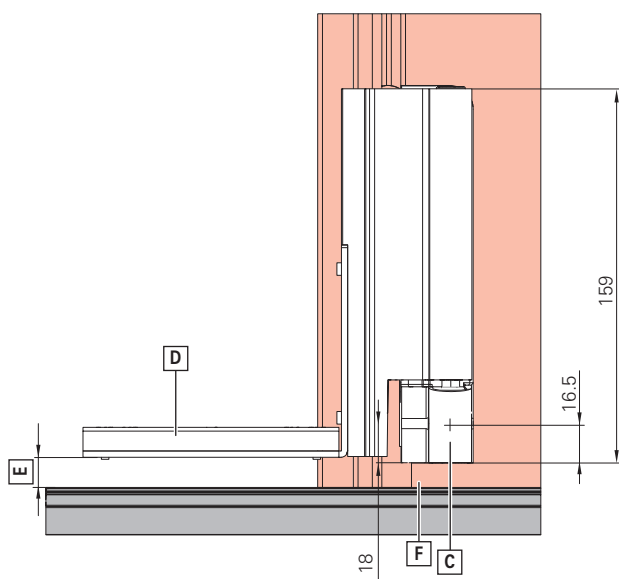
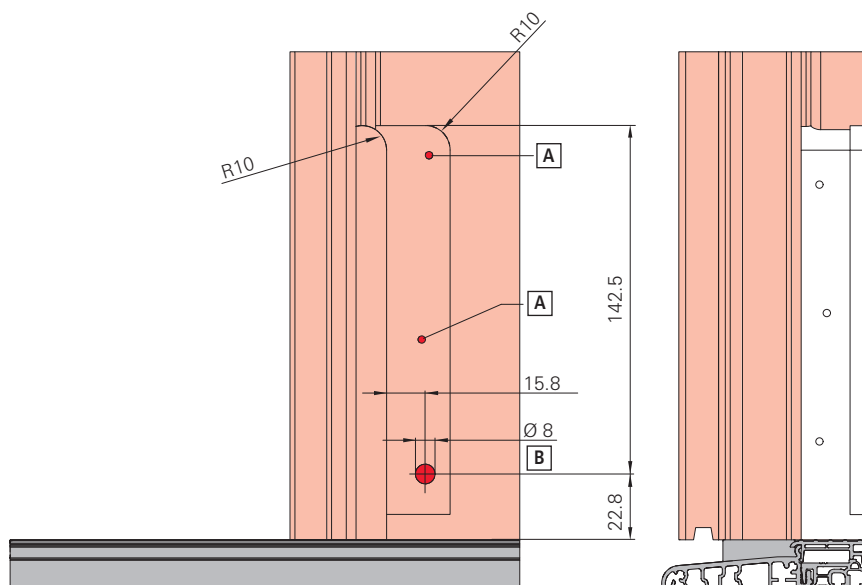
Position of pivot rest



Assignment	Functional clearance	Rebate corner hinge for threshold (39.0)	Rebate corner hinge for threshold (51.5)
		Pivot rest	Pivot rest
[1]	4 – 5	31	43.5
	7 – 8	34	46.5
	10 – 11	37	49.5

5.3.3 Roto NX | Hinge side Power Hinge

5.3.3.1 Pivot rest

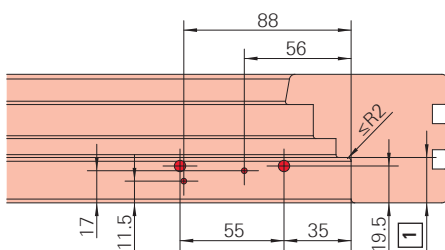
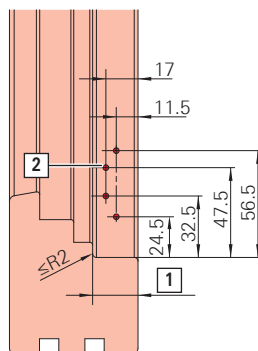
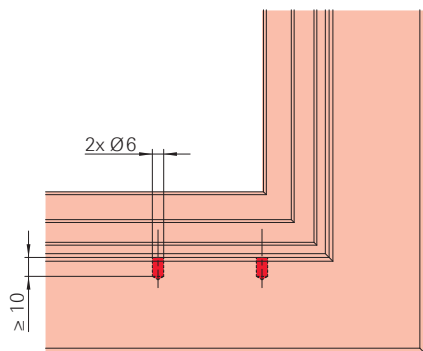


Assignment	Meaning	Value
[A]	–	8 mm deep
[B]	–	29 mm deep
[C]	Threshold pivot rest	–
[D]	Standard rebate corner hinge	–
[E]	Functional clearance	–
[F]	Use a pressure-proof packer	–

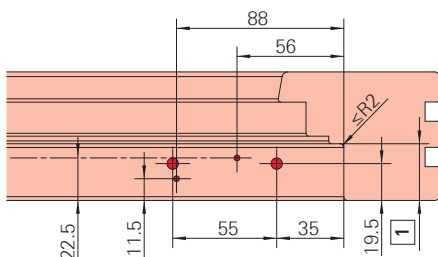
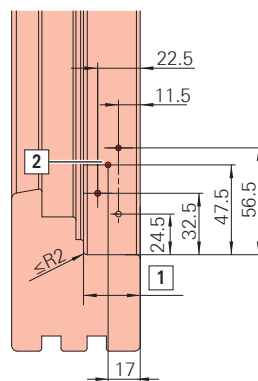


Assignment	Functional clearance	Standard rebate corner hinge	Rebate corner hinge for threshold
		Threshold pivot rest	Threshold pivot rest
[E]	4 – 5	16.5 mm	34.5 mm
	7 – 8	19.5 mm	37.5 mm
	10 – 11	22.5 mm	40.5 mm

Rebate depth 24



- [1] Rebate depth
[2] Only for $S_{kg} \geq 80$ kg with load transfer

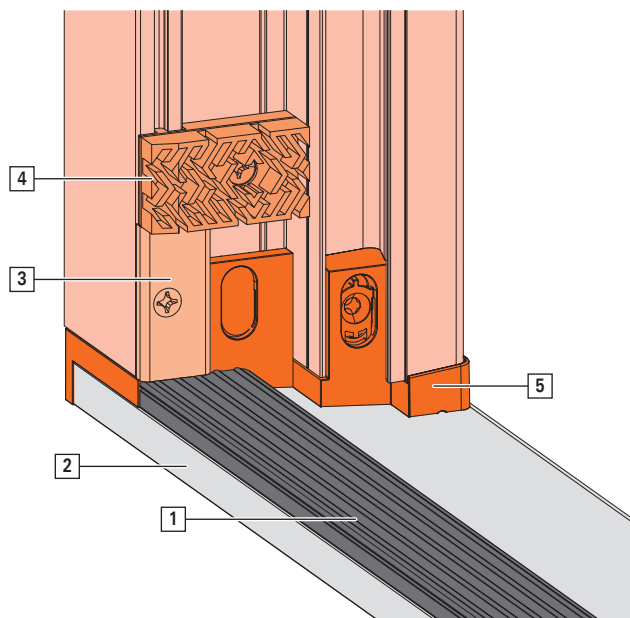


- [1] Rebate depth
[2] Only for $S_{kg} \geq 80$ kg with load transfer



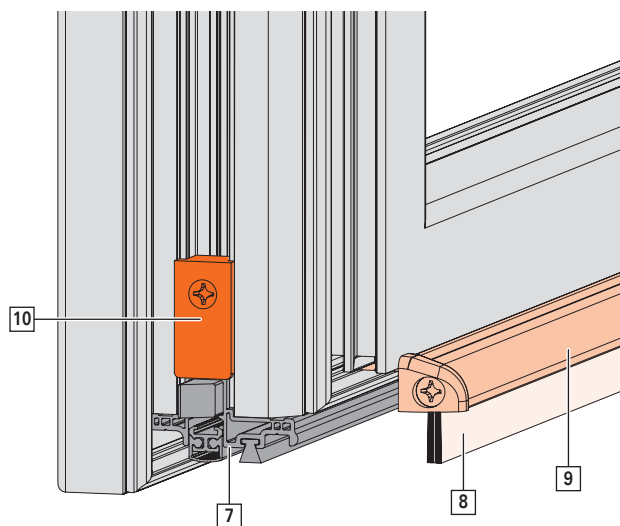
5.4 Example: assembly of individual components

Frame



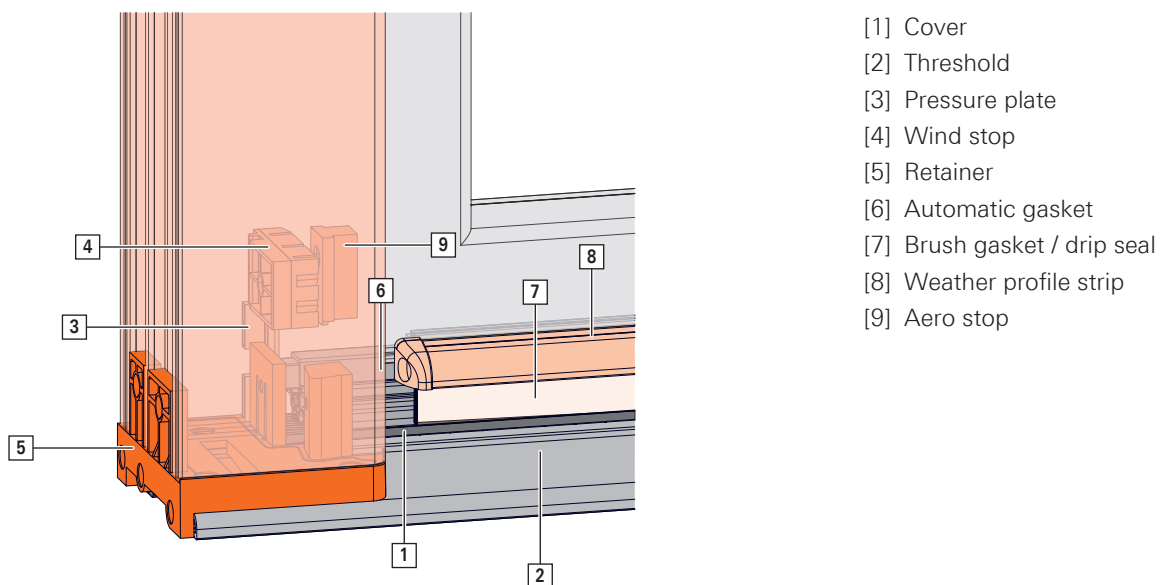
- [1] Cover
- [2] Threshold
- [3] Pressure plate
- [4] Wind stop
- [5] Retainer

Sash



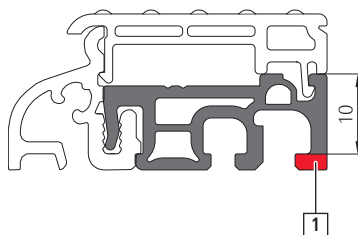
- [7] Automatic gasket
- [8] Brush gasket / drip seal
- [9] Weather profile strip
- [10] Aero stop

Installation situation

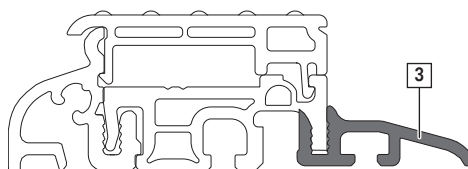
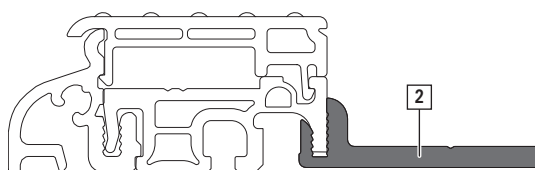


5.5 Hardware mounting profile / outward additional profile

1. Cut the thermal separation [1] of the threshold to size.



2. Install the hardware mounting profile [2] / outward additional profile [3] with thermal separation so that it is level.





5.6 Without retainer

5.6.1 Eifel TB – inward opening



INFO

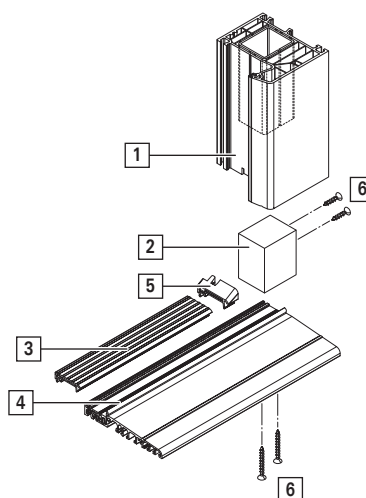
The figures show installation for a PVC profile.



INFO

Note the protection for the end-grain timber on timber profiles.

- [1] Frame contour-milled
- [2] Filler piece
- [3] Cover
- [4] Threshold
- [5] Cover closure
- [6] Screws



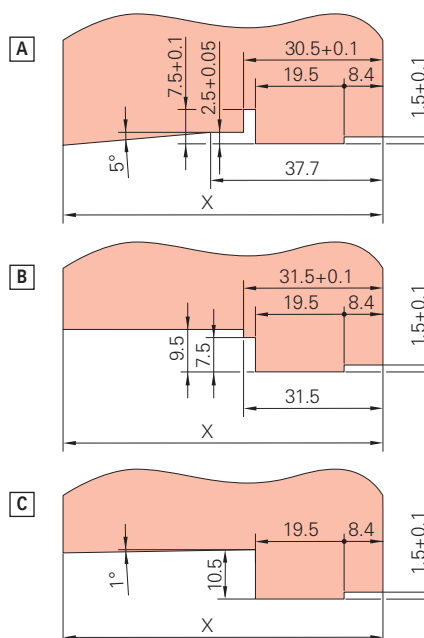
Routing pattern (timber)

- [A] Eifel TB – inward opening
- [B] Eifel TB – outward opening
- [C] Eifel RS TB – inward opening
- [X] Width of threshold retainer



INFO

For the order template for the end-milling machine, see FLY_135.



Preparing the frame

1. Contour-mill the frame.

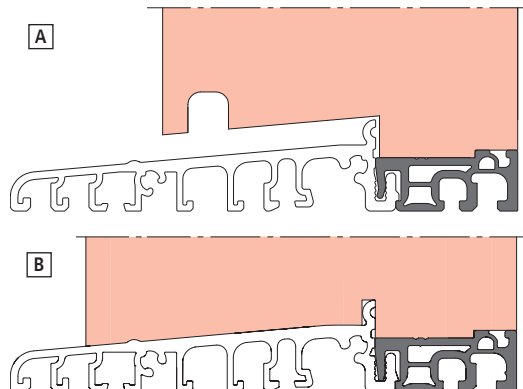
[A] Timber: with clearance from the threshold



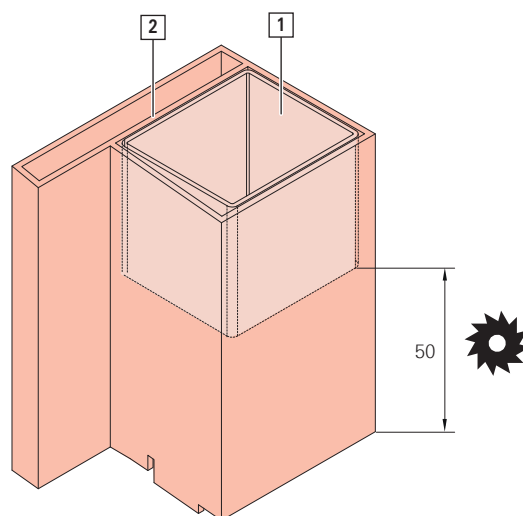
INFO

Note the protection for the end-grain timber on timber profiles.

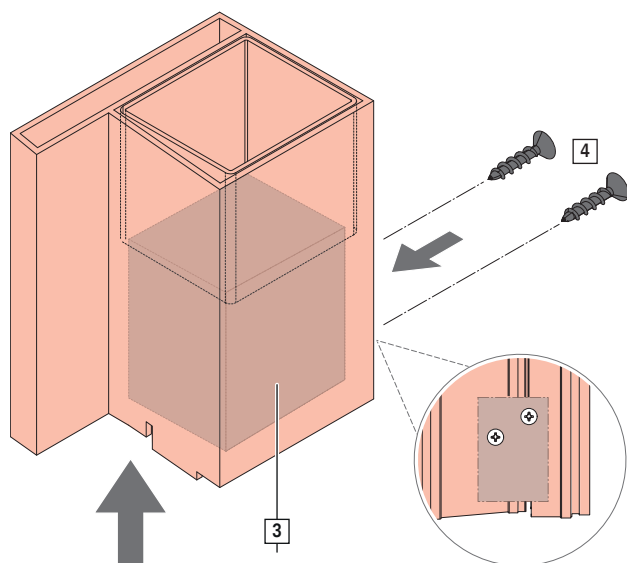
[B] PVC / aluminium: without clearance from the threshold



2. Crop the reinforcement [1] in the frame [2] by approx. 50 mm.



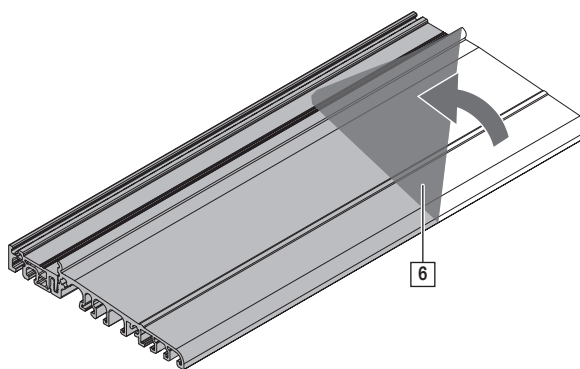
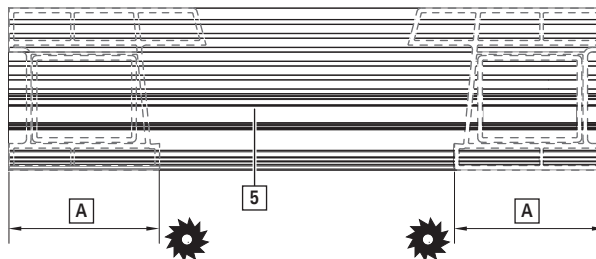
3. Push the filler piece [3] into the frame and fasten with screws [4].



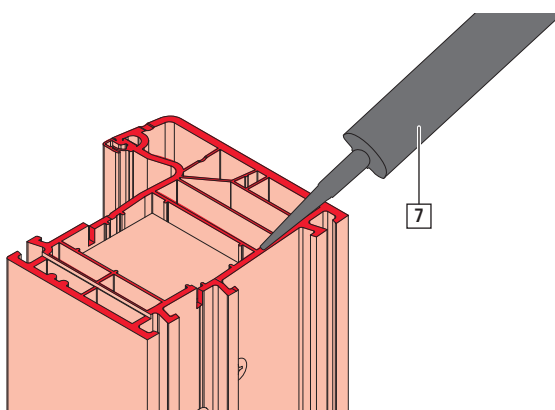


Installing the threshold and cover

1. Cut the threshold [5] to the frame width.
Cut the cover to size:
 - Without cover closure: frame width - 2 x frame profile width [A]
 - With cover closure: frame width - 2 x frame profile width [A] - 10
2. Predrill the threshold in the area of the panel in the frame / centre post (with drilling jig if present).
 - Frame: 2 – 3 x Ø 4.1 mm.
 - Centre post: 4 x Ø 4.1 mm.
3. Remove the protective film [6] in the profile area.



4. Clean the threshold in the installation area using suitable cleaning agents.
5. Seal the frame profile all the way round [7].

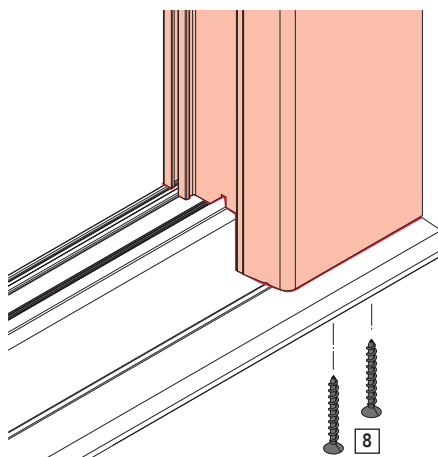


6. Join the threshold and frame and fasten them with screws [8].

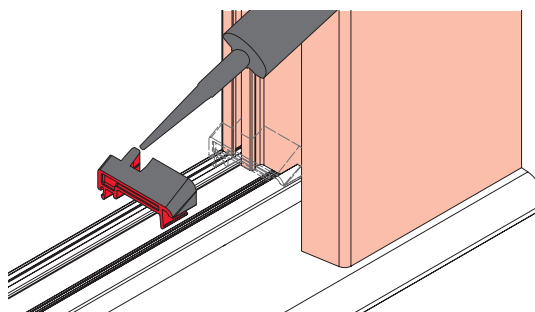


INFO

Install the wind stop if necessary →
from page 61.



7. Optional: seal the cover closure with sealing compound on all supporting surfaces.
Clip onto the threshold on both sides and place it on the frame to create a form-fitting connection.

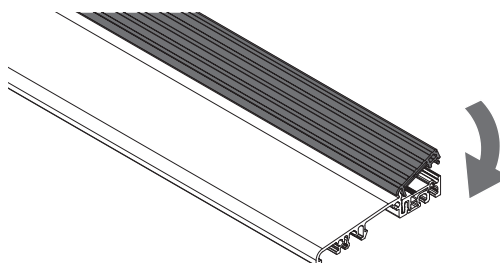


8. Remove excess sealing compound.
9. Clip on the cover and seal it outwards.



INFO

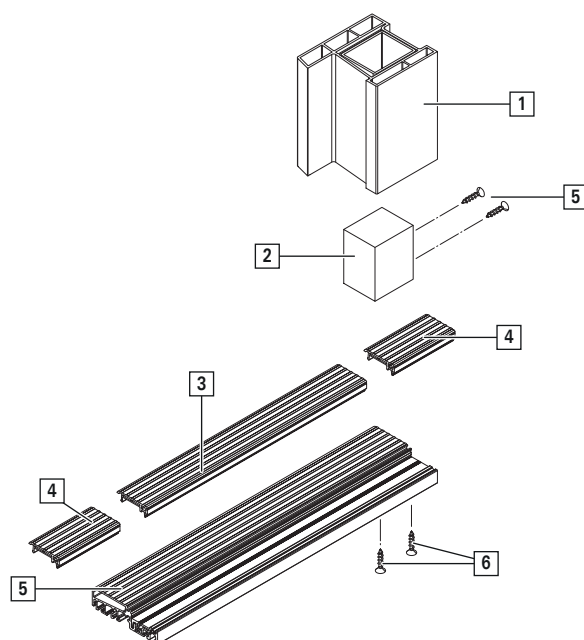
Use a rubber mallet.



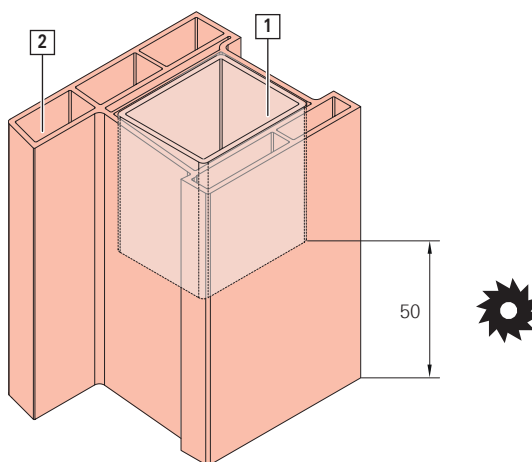


5.6.2 Eifel TB – outward opening

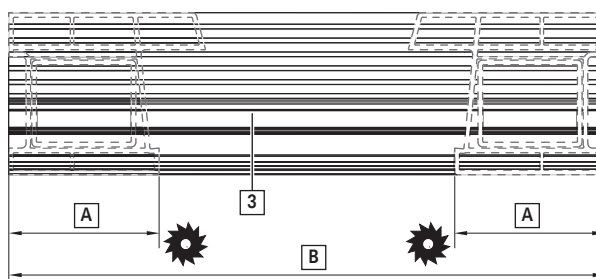
- [1] Frame
- [2] Filler piece
- [3] Cover
- [4] Cover cutting
- [5] Threshold
- [6] Screws



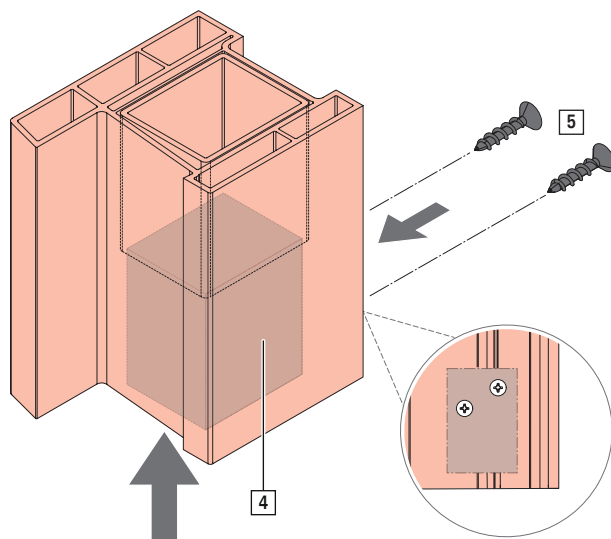
1. Requirement: reinforcement [1] in the frame [2] cropped by approx. 50 mm.



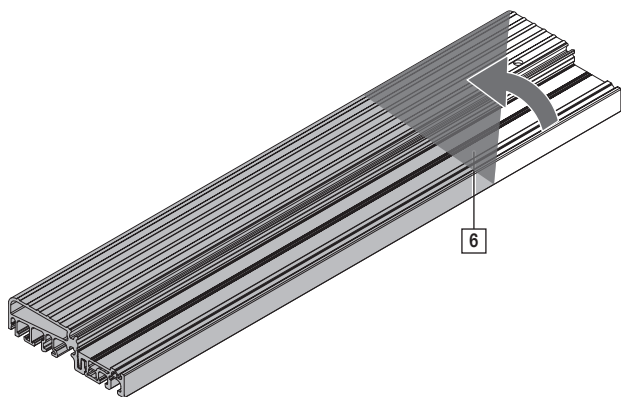
2. Cut the threshold [3] to the frame width.
 Cut the cover to size:
 2 cover cuttings: length = frame profile width [A]
 1 cover: length = frame width [B] - (2 x frame profile width [A])



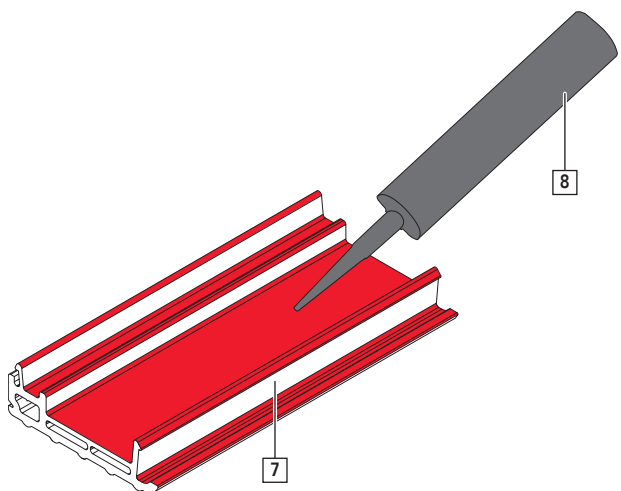
3. Push the filler piece [4] into the frame and fasten with screws [5].



4. Predrill the threshold.
5. Remove the protective film [6] in the profile area.

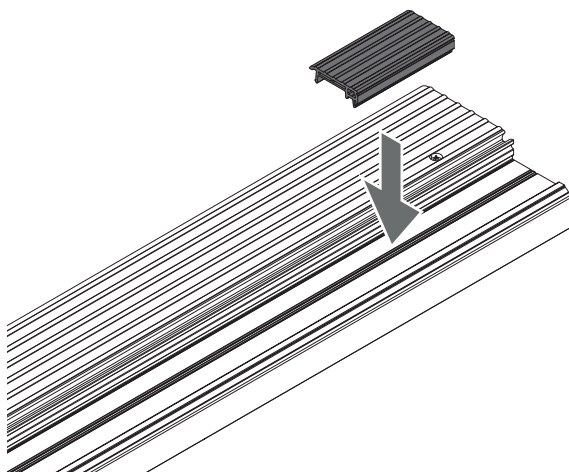


6. Clean the threshold in the installation area using suitable cleaning agents.
7. Seal the cover cutting [7] all the way round [8].

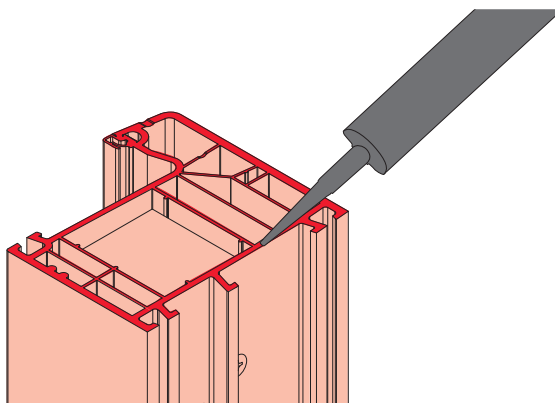




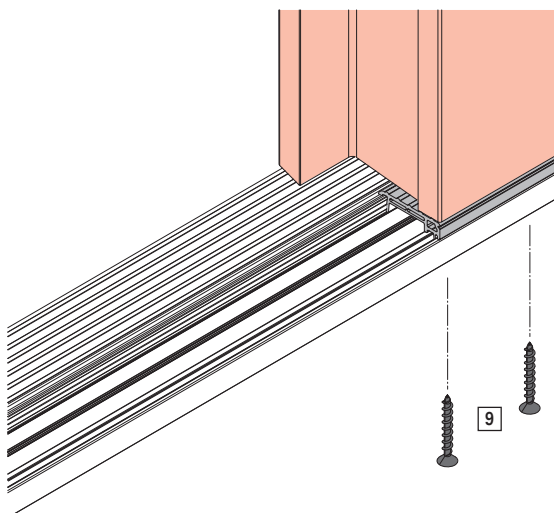
8. Insert the cover cutting so that it is flush with the outer edge.



9. Seal the frame profile all the way round.



10. Position the frame so that it is flush and fasten with screws [9].



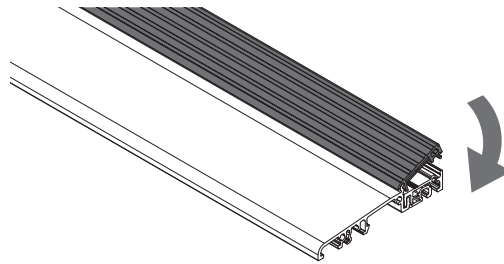
11. Remove excess sealing compound.

12. Clip on the cover and seal it outwards.



INFO

Use a rubber mallet.



5.7 With retainer – inward opening

Material	Design		Rebate	Pile	Link	Outline	Universal	Compensation profile	Centre post bracket
Timber	Balcony door	Single-leafed	–	–	–	■	■	■	–
		Double-leafed	–	–	–	■	■	■	–
	Door	Single-leafed	–	–	–	■	■	■	–
		Double-leafed	–	–	–	■	■	■	–
PVC	Balcony door	Single-leafed	■	■	■	■	■	■	■
		Double-leafed	■	■	■	■	■	■	■
	Door	Single-leafed	■	■	■	■	■	■	■
		Double-leafed	■	■	■	■	■	■	■

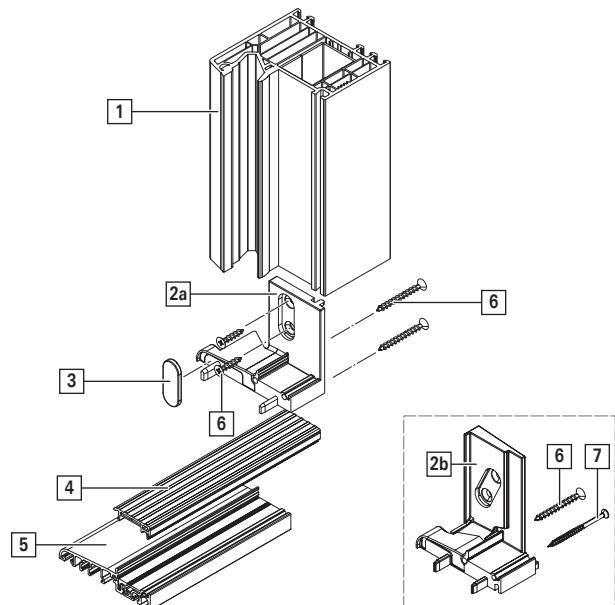
5.7.1 Threshold retainer rebate

- [1] Frame
- [2a] Threshold retainer
- [2b] Threshold retainer can be combined with Roto NX| hinge side Designo
- [3] Cover cap
- [4] Cover
- [5] Threshold
- [6] Screws
- [7] Special screw



INFO

For lateral mounting of threshold retainer and threshold, use a special screw with cross-head 3.5 x 50 mm (Ø 6 mm screw head). Using this special screw with a small head diameter makes it possible to combine the threshold retainers with Roto NX | hinge side Designo without additional work.





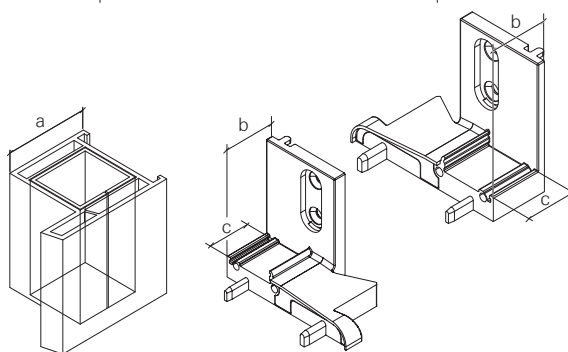
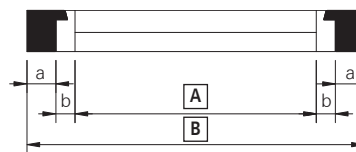
1. Cut the threshold to size [A].
Cut the cover to size: length = [A] + (2 x c)
[A] Threshold cutting: length = B - [(2 x a) + (2 x b)]
[B] Frame external width
[A] Visible width of frame (without overlap)
[B] Width of threshold retainer
[C] Width of cover mount in threshold retainer



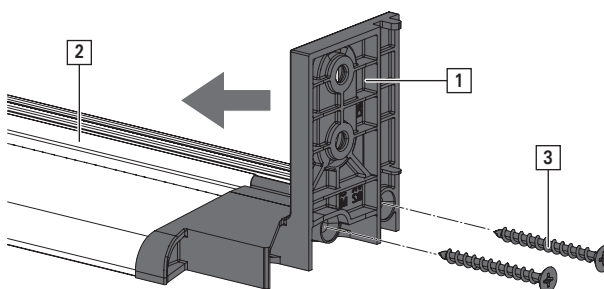
INFO

Cut the frame such that it is obtuse.

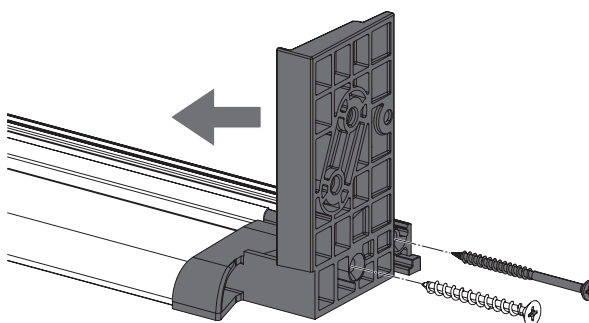
Saw down the threshold and cover in separate sawing steps.



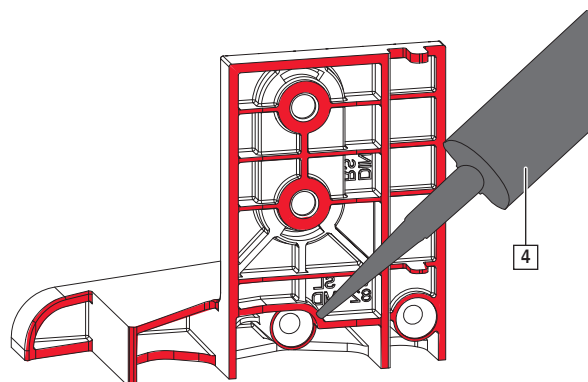
2. Position the threshold retainer [1] on the threshold [2] so that it is flush and fasten with two screws [3].



3. Alternatively: fasten a suitable threshold retainer with two screws in conjunction with Roto NX | hinge side Designo. At least one of these screws must be a special screw with a Ø 6 mm screw head.



4. Seal the threshold retainer on the frame side [4].



Installation

With retainer – inward opening

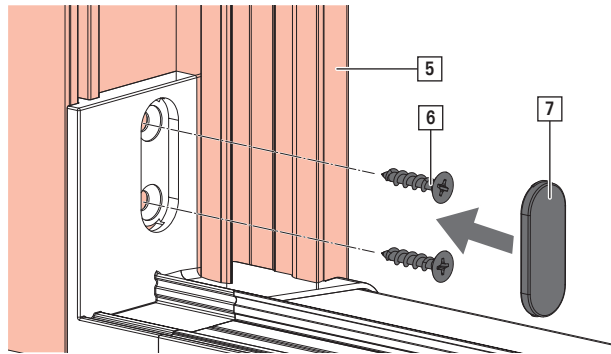
Threshold retainer pile

5. Place the threshold retainer on the frame [5] and fasten with screws [6].
Fit the cover cap [7].



INFO

Install the wind stop if necessary. →
*5.10.3 "Wind stop and aero stop" from
page 98*

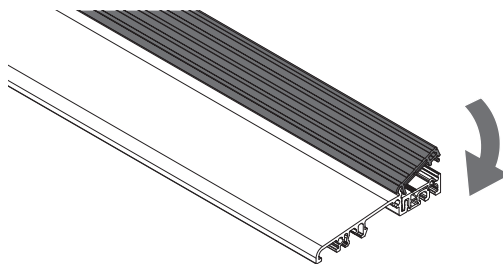


6. Remove excess sealing compound.
7. Clip on the cover and seal it outwards.



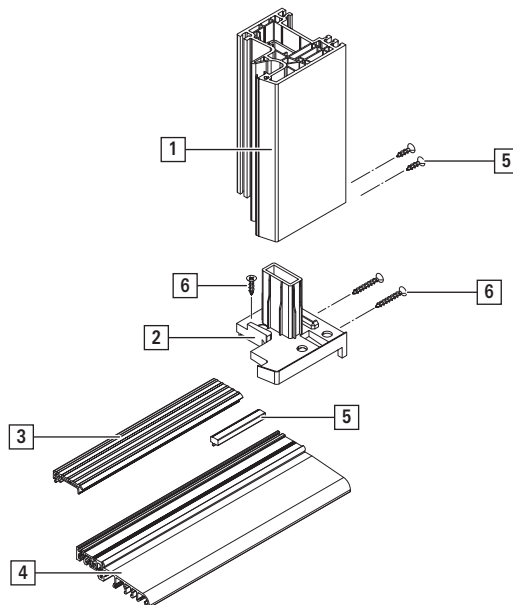
INFO

Use a rubber mallet.



5.7.2 Threshold retainer pile

- [1] Frame
- [2] Threshold retainer
- [3] Cover
- [4] Threshold
- [5] Adapter profile
- [6] Screws



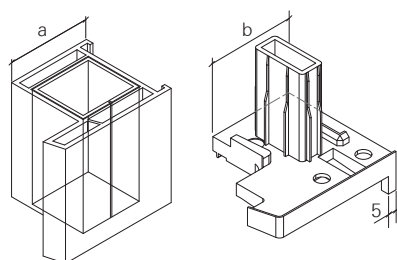
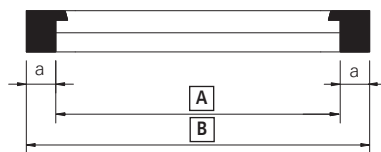


1. Cut the threshold to size: $[B] - 2 \times 5$
Cut the cover to size: $[A] = [B] - 2 \times a$

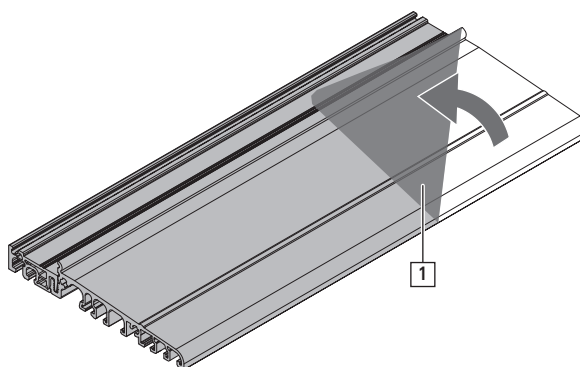
[A] Cover cutting

[B] Frame external width

[A] Visible width of frame (without overlap): $b = a$

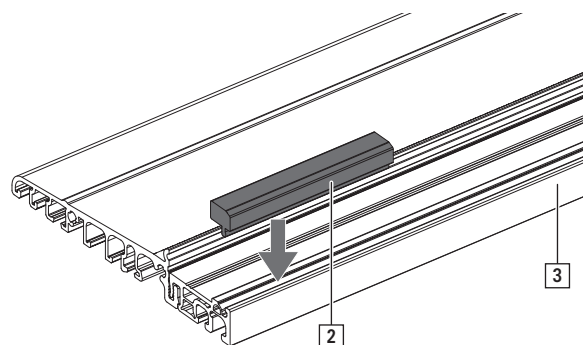


2. Remove the protective film [1] in the installation area.



3. Clean the threshold in the installation area using suitable cleaning agents.

4. For Eifel TB (in case of a gap between the threshold and threshold retainer):
Cut the adapter profile [2] to size according to the threshold retainer width.
Seal the adapter profile all the way round [3] and place it in the threshold [4].

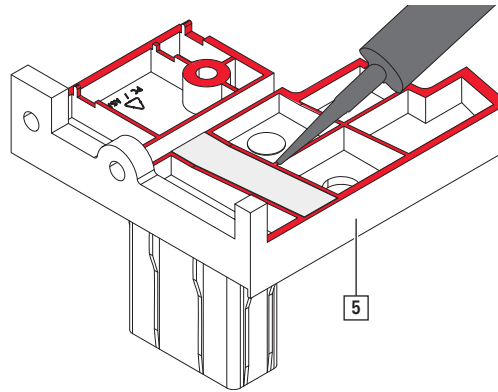


Installation

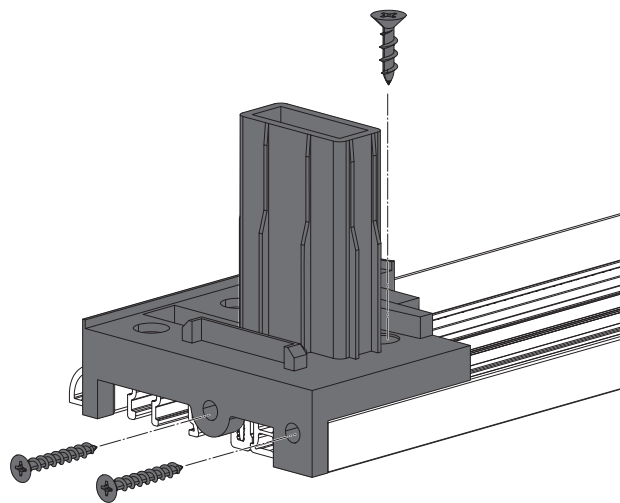
With retainer – inward opening

Threshold retainer pile

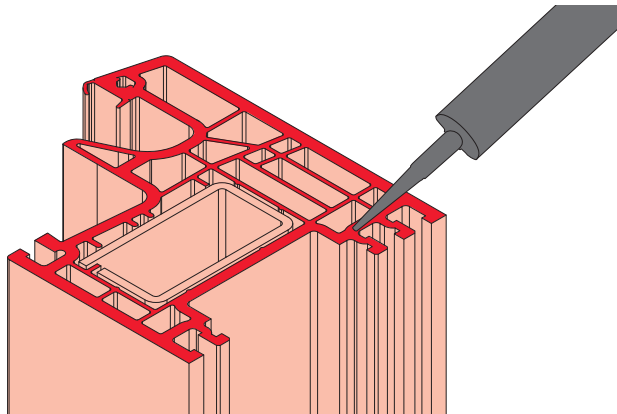
5. Seal the threshold retainer [5] all the way round.



6. Position the threshold retainer on the threshold so that it is flush and fasten with screws.



7. Seal the frame profile all the way round.



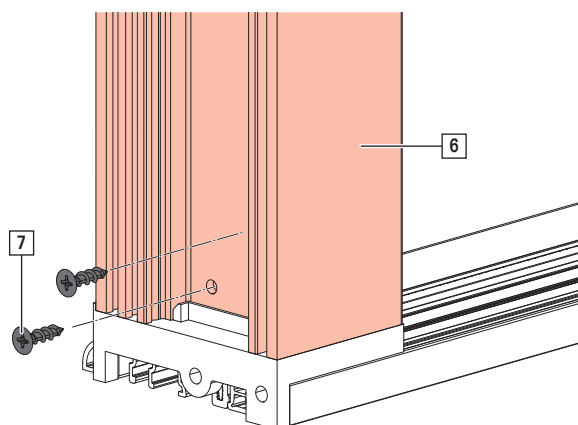


8. Position the frame [6] on the threshold retainer and fasten with screws [7].



INFO

Install the wind stop if necessary. →
5.10.3 "Wind stop and aero stop" from
page 98



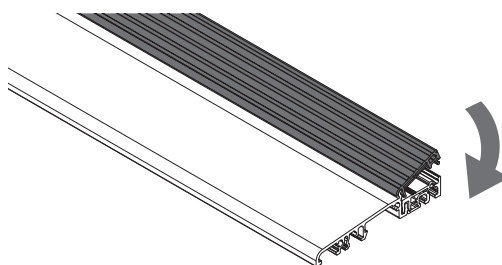
9. Remove excess sealing compound.

10. Clip on the cover and seal it outwards.



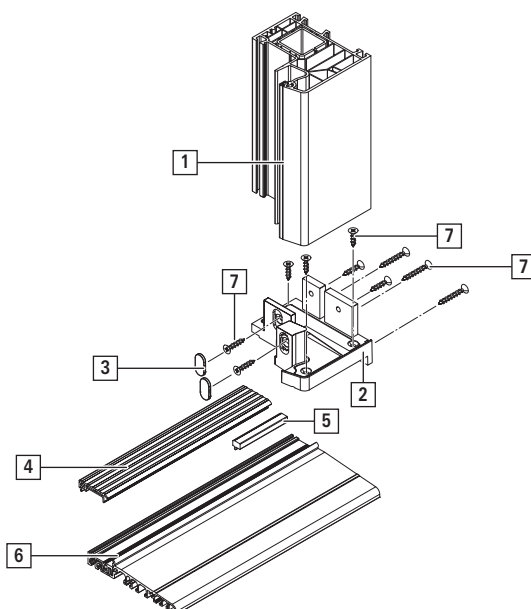
INFO

Use a rubber mallet.



5.7.3 Threshold retainer link

- [1] Frame
- [2] Threshold retainer
- [3] Cover caps
- [4] Cover
- [5] Adapter profile
- [6] Threshold
- [7] Screws

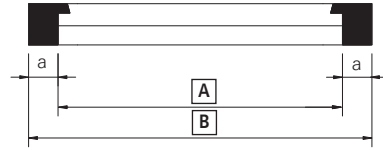


Installation

With retainer – inward opening

Threshold retainer link

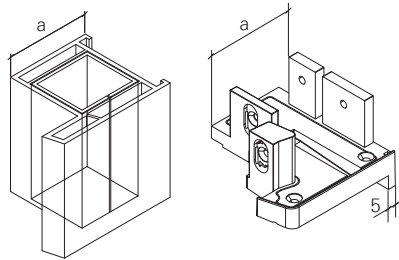
1. Cut the threshold to size: $[B] - 2 \times 5$
Cut the cover to size: $[A] = [B] - 2 \times a$
[A] Cover cutting
[B] Frame external width
[A] Visible width of frame (without overlap)



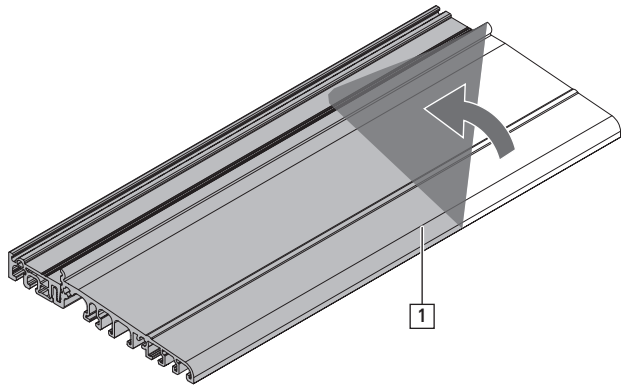
INFO

Cut the frame such that it is obtuse.

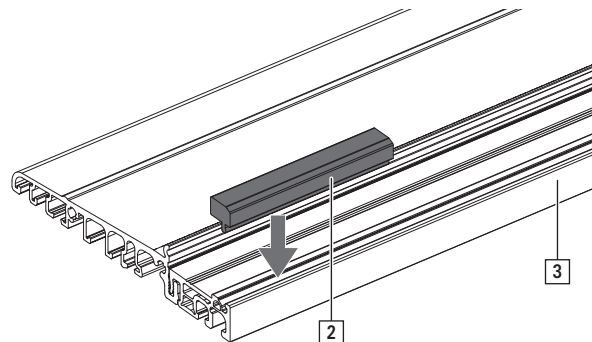
Saw down the threshold and cover in separate sawing steps.



2. Remove the protective film [1] in the installation area.

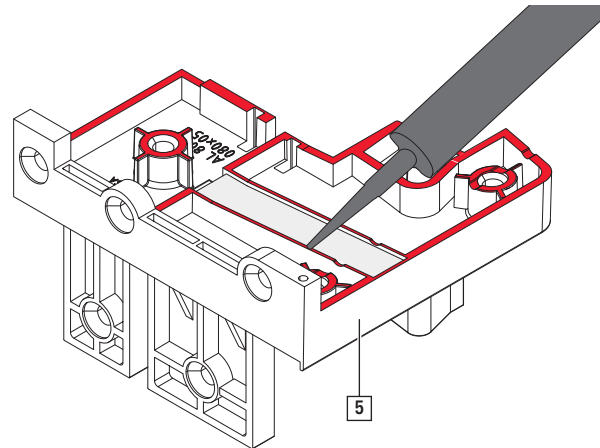


3. Clean the threshold in the installation area using suitable cleaning agents.
4. For Eifel TB (in case of a gap between the threshold and threshold retainer):
Cut the adapter profile [2] to size according to the threshold retainer width.
Seal the adapter profile all the way round [3] and place it in the threshold [4].

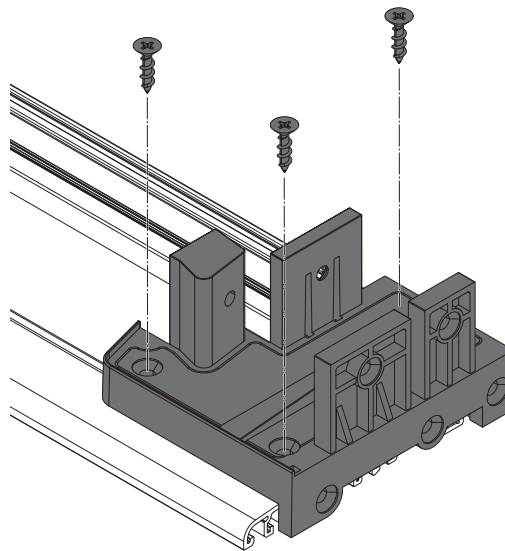




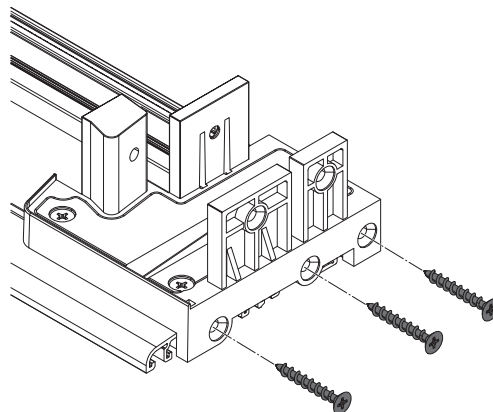
5. Seal the threshold retainer [5] all the way round.



6. Position the threshold retainer on the threshold so that it is flush and fasten with screws.



7. Fasten the threshold retainer to the threshold.

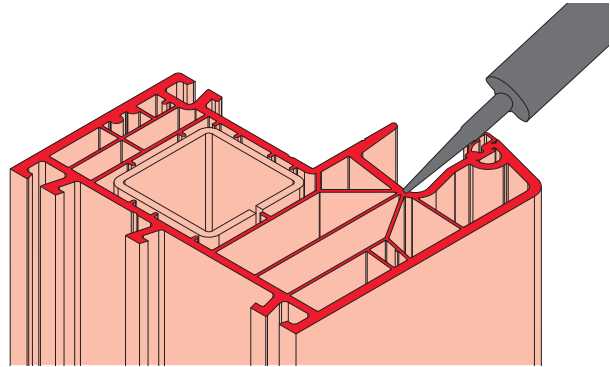


Installation

With retainer – inward opening

Threshold retainer link

8. Seal the frame profile all the way round.

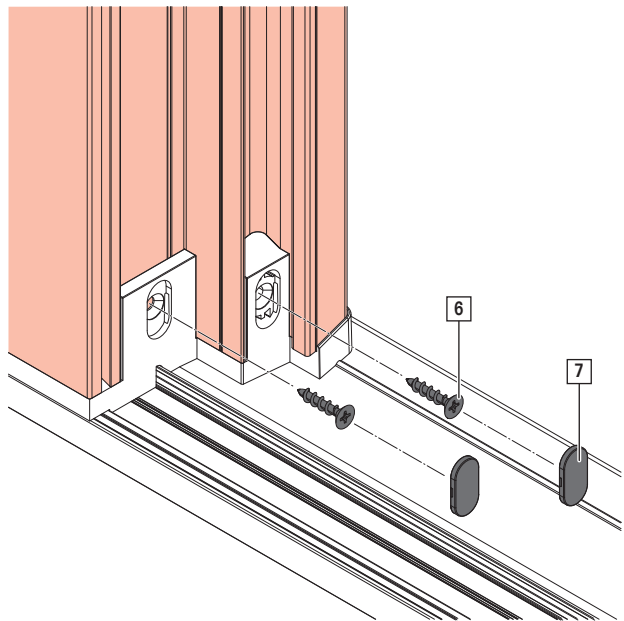


9. Position the frame on the threshold retainer and fasten with screws [6].
Clip in the cover caps [7].

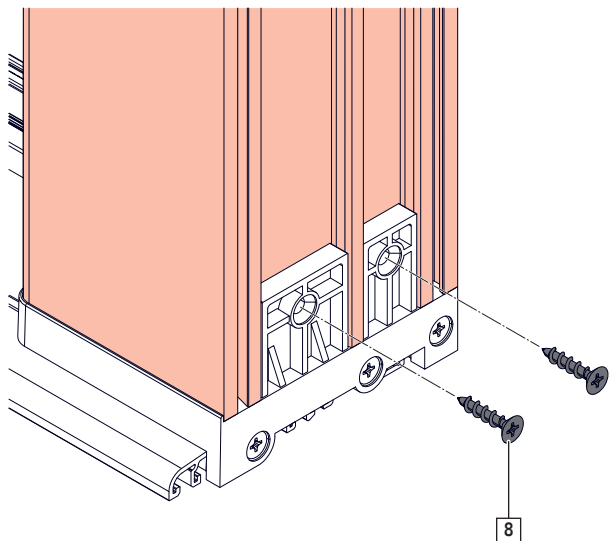


INFO

Install the wind stop if necessary. →
*5.10.3 "Wind stop and aero stop" from
page 98*



10. Fasten the threshold retainer to the frame [8].



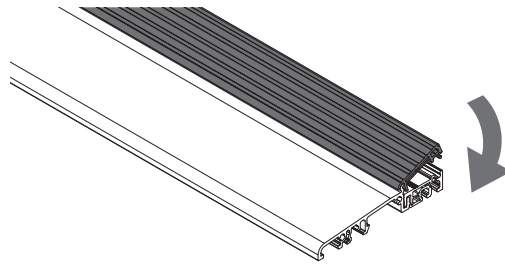
11. Remove excess sealing compound.



12. Clip on the cover and seal it outwards.

**INFO**

Use a rubber mallet.



5.7.4 Threshold retainer outline

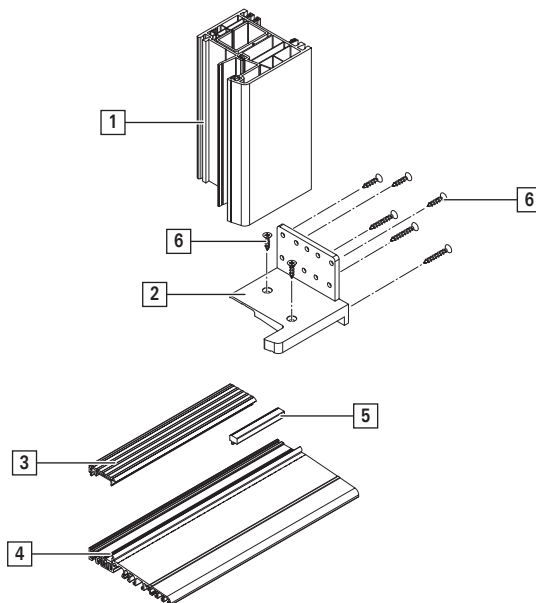
**INFO**

The figures show installation for a PVC profile.

**INFO**

Note the protection for the end-grain timber on timber profiles.

- [1] Frame
- [2] Threshold retainer
- [3] Cover
- [4] Threshold
- [5] Adapter profile
- [6] Screws



Installation

With retainer – inward opening

Threshold retainer outline

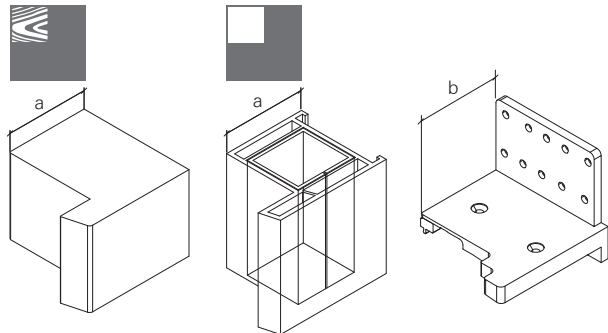
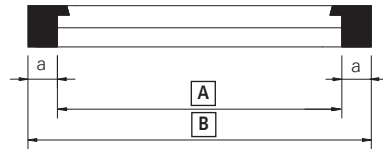
1. Cut the threshold to the frame width [B].
Cut the cover to size: $[A] = [B] - 2 \times a$
[A] Cover cutting
[B] Frame external width (= threshold length)
[A] Visible width of frame (without overlap)
[B] Threshold retainer width



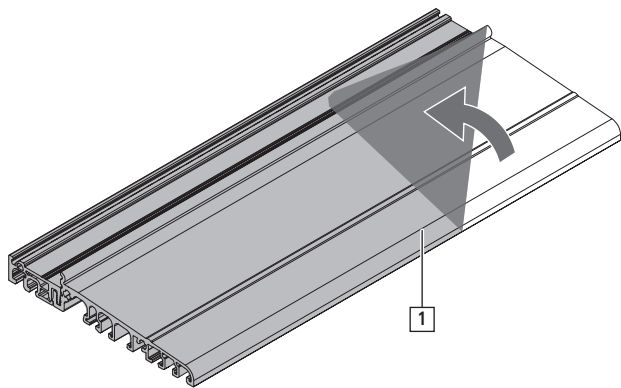
INFO

Cut the frame such that it is obtuse.

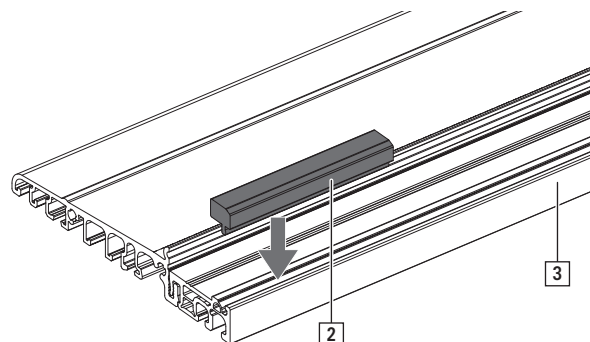
Saw down the threshold and cover in separate sawing steps.



2. Remove the protective film [1] in the installation area.

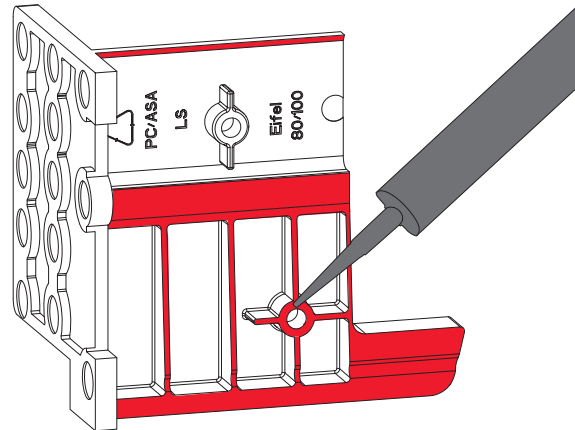


3. Clean the threshold in the installation area using suitable cleaning agents.
4. For Eifel TB (in case of a gap between the threshold and threshold retainer):
Cut the adapter profile [2] to size according to the threshold retainer width.
Place in the threshold [3].

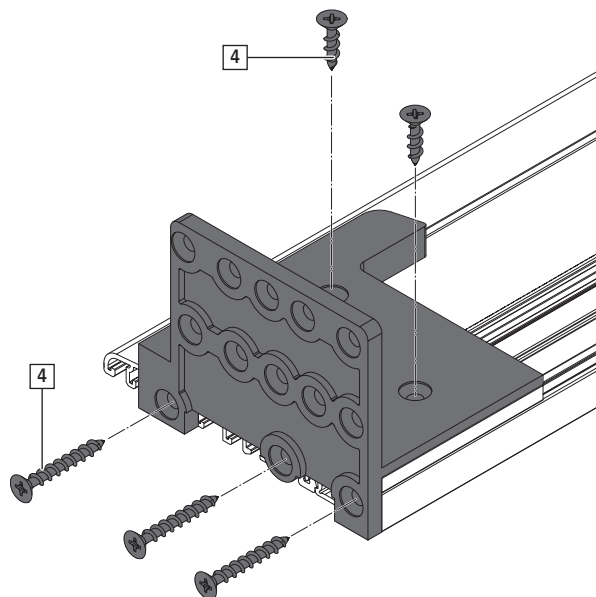




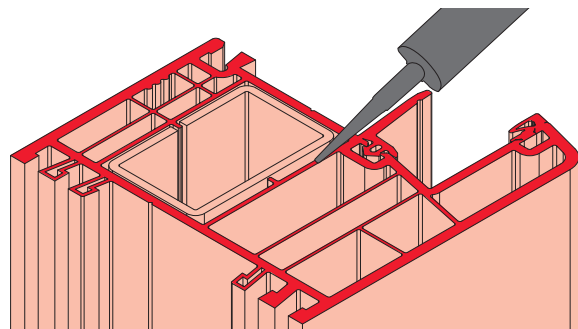
5. Seal the threshold retainer all the way round.



6. Position the threshold retainer on the threshold so that it is flush and fasten with screws [4].



7. Seal the frame profile all the way round.



Installation

With retainer – inward opening

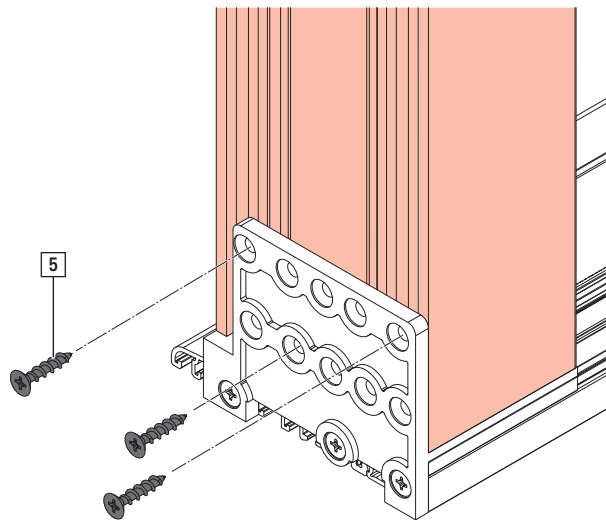
Universal threshold retainer

8. Position the frame on the threshold retainer and fasten with screws [5].



INFO

Install the wind stop if necessary. →
*5.10.3 "Wind stop and aero stop" from
page 98*



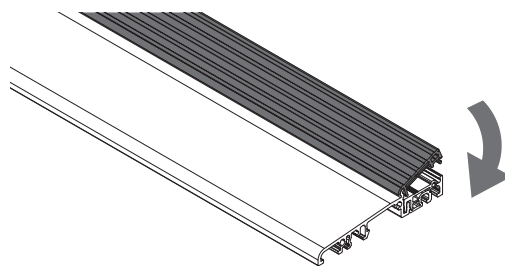
9. Remove excess sealing compound.

10. Clip on the cover and seal it outwards.



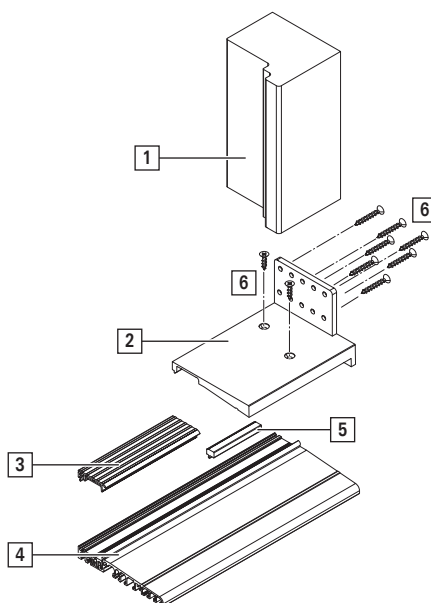
INFO

Use a rubber mallet.



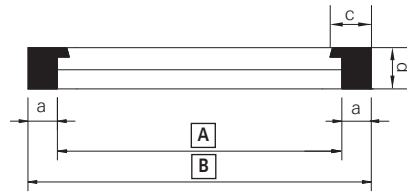
5.7.5 Universal threshold retainer

- [1] Frame
- [2] Threshold retainer
- [3] Cover
- [4] Threshold
- [5] Adapter profile
- [6] Screws





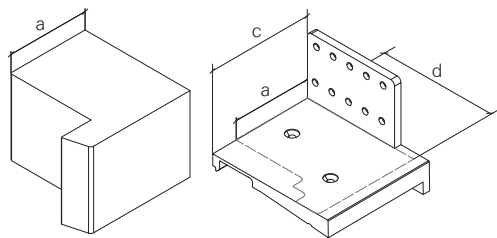
1. Cut the threshold to the frame width [B].
Cut the cover to size: $[A] = [B] - 2 \times c$
[A] Cover cutting
[B] Frame external width (= threshold length)
[A] Visible width of frame (without overlap)
[C] Visible width of frame (with overlap)
[D] Profile depth



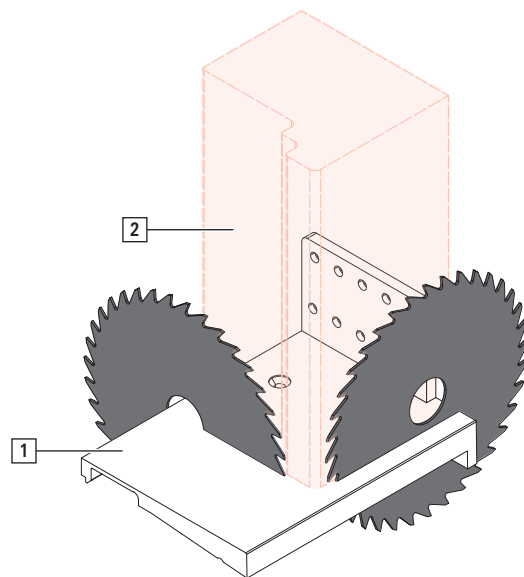
INFO

Cut the frame such that it is obtuse.

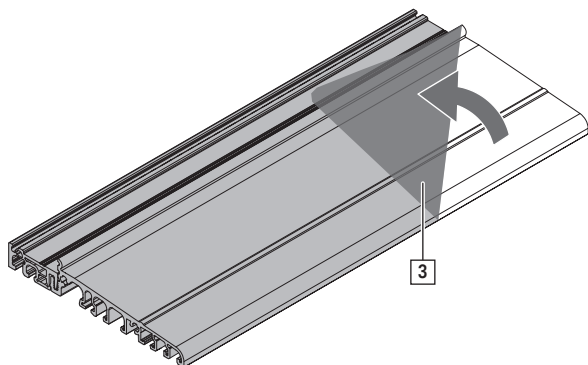
Saw down the threshold and cover in separate sawing steps.



2. Cut the threshold retainer [1] to size according to the frame [2].



3. Remove the protective film [3] in the installation area.



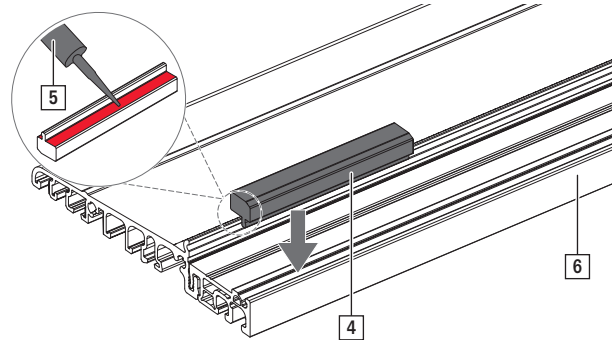
Installation

With retainer – inward opening

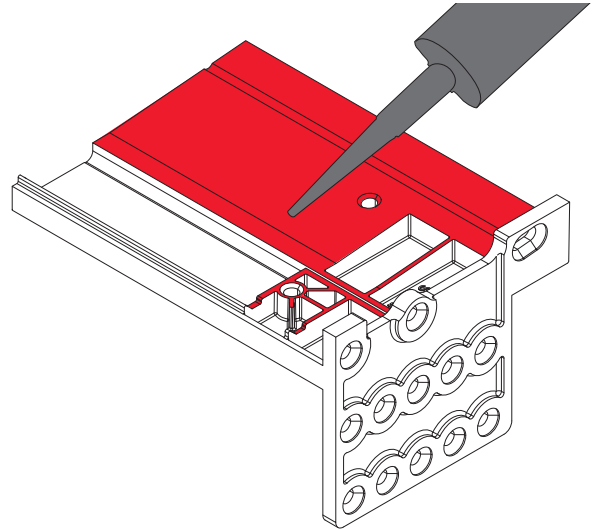
Universal threshold retainer

4. Clean the threshold in the installation area using suitable cleaning agents.

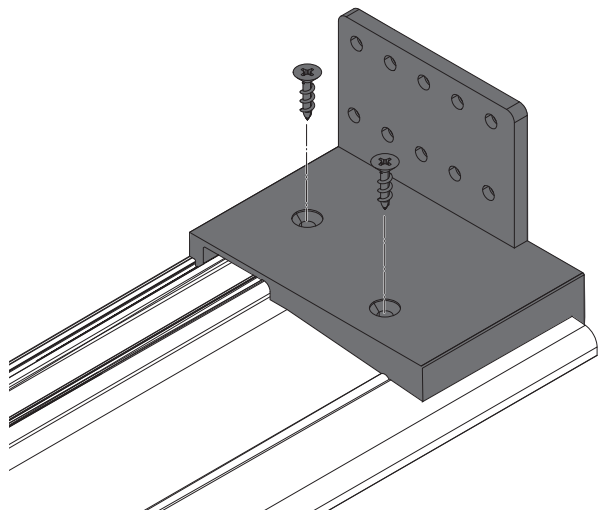
5. For Eifel TB (in case of a gap between the threshold and threshold retainer):
Cut the adapter profile [4] to size according to the threshold retainer width.
Seal the adapter profile all the way round [5] and place it in the threshold [6].



6. Seal the threshold retainer all the way round.



7. Position the threshold retainer on the threshold so that it is flush and fasten with screws.



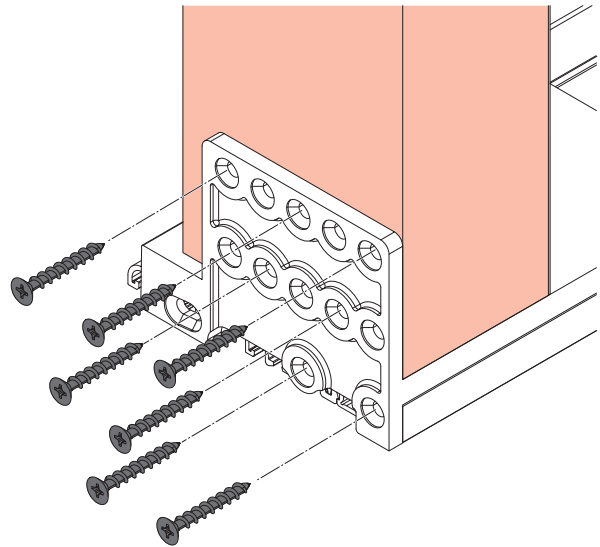
8. Seal the frame profile all the way round.



9. Position the frame on the threshold retainer and fasten with screws.

**INFO**

Install the wind stop if necessary. →
*5.10.3 "Wind stop and aero stop" from
page 98*

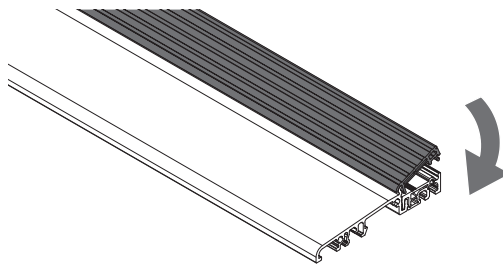


10. Remove excess sealing compound.

11. Clip on the cover and seal it outwards.

**INFO**

Use a rubber mallet.



5.7.6 Compensation profile



INFO

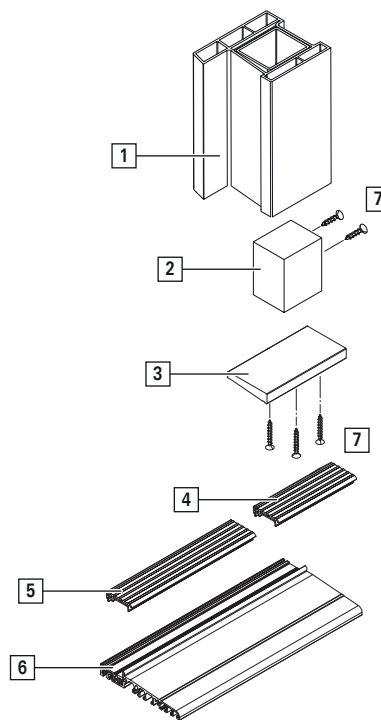
The figures show installation for a PVC profile.



INFO

Note the protection for the end-grain timber on timber profiles.

- [1] Frame
- [2] Filler piece
- [3] Compensation profile
- [4] Cover cutting
- [5] Cover
- [6] Threshold
- [7] Screws



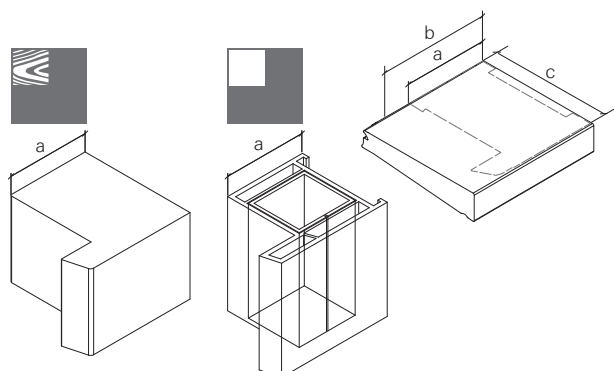
1. Cut the threshold to the frame width.
Cut the cover to size: length = frame width - 2 x b
Cut two cover cuttings to size: length = B
- [A] Visible width of frame (without overlap)
 - [B] Visible width of frame (with overlap)
 - [C] Profile depth



INFO

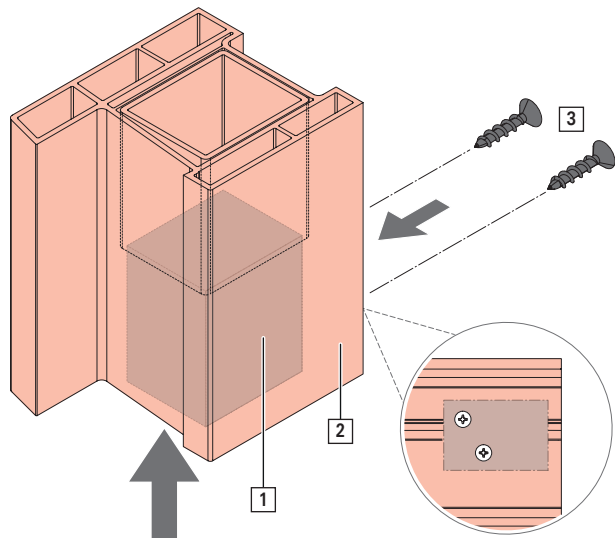
Cut the frame such that it is obtuse.

Saw down the threshold and cover in separate sawing steps.

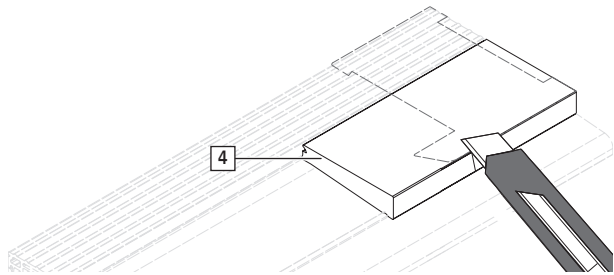




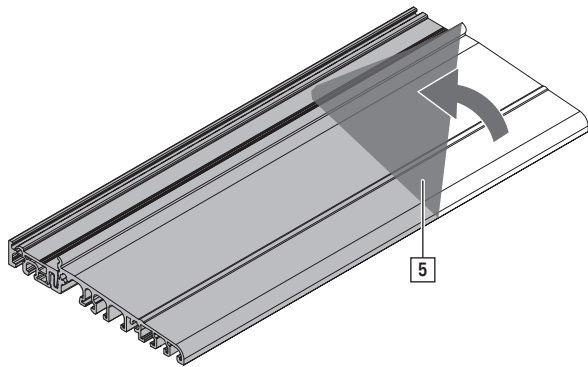
2. Push the filler piece [1] into the frame [2] and fasten with screws [3].



3. Cut the compensation profile [4] to size according to the frame profile (b x c).



4. Remove the protective film [5] in the installation area.



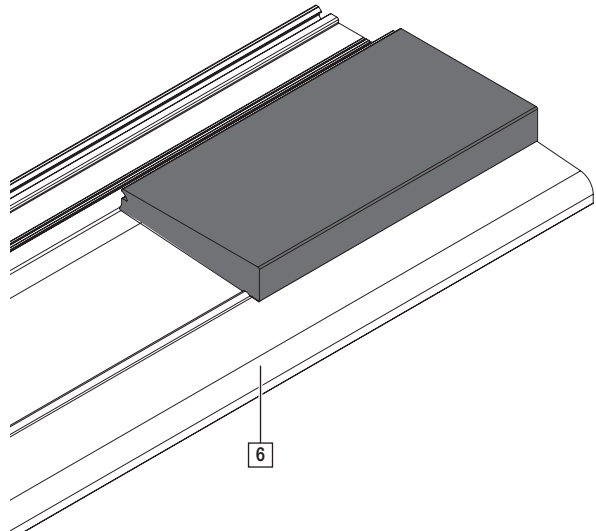
5. Clean the threshold in the installation area using suitable cleaning agents.

Installation

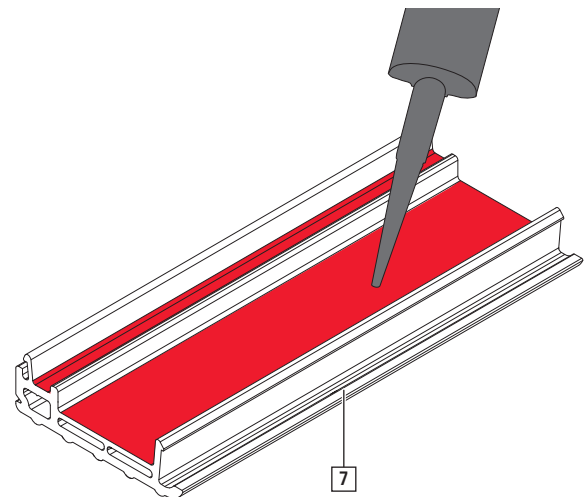
With retainer – inward opening

Compensation profile

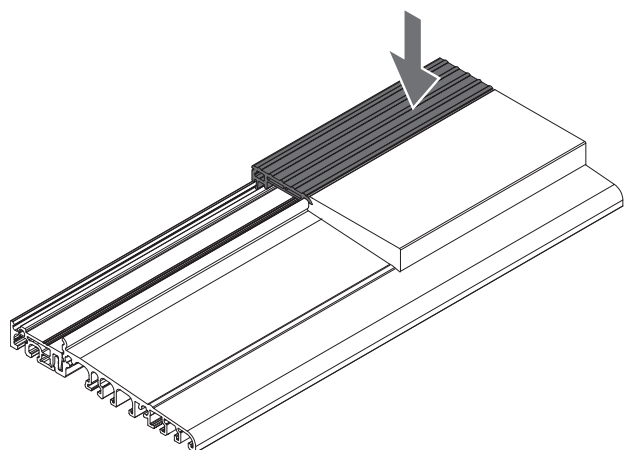
6. Place the compensation profile on the threshold [6] so that it is flush.



7. Seal the cover cutting [7].



8. Place the cover cutting on the threshold so that it is flush.





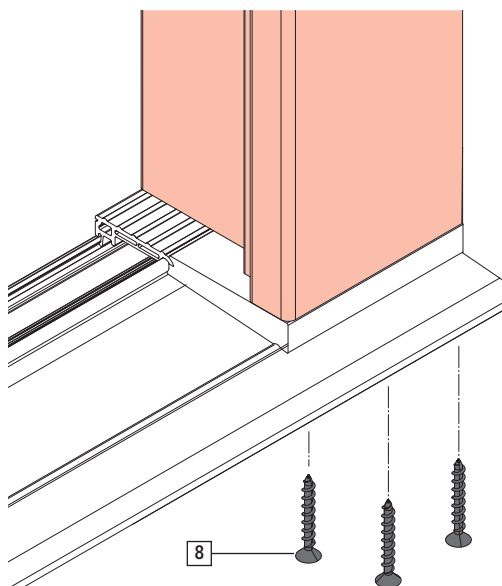
9. Position the frame so that it is flush and fasten with screws [8].

For PVC profiles:



INFO

Install the wind stop if necessary. →
5.10.3 "Wind stop and aero stop" from
page 98



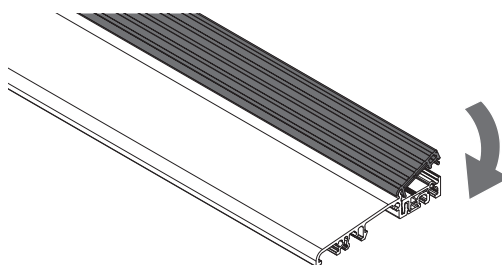
10. Remove excess sealing compound.

11. Clip on the cover and seal it outwards.



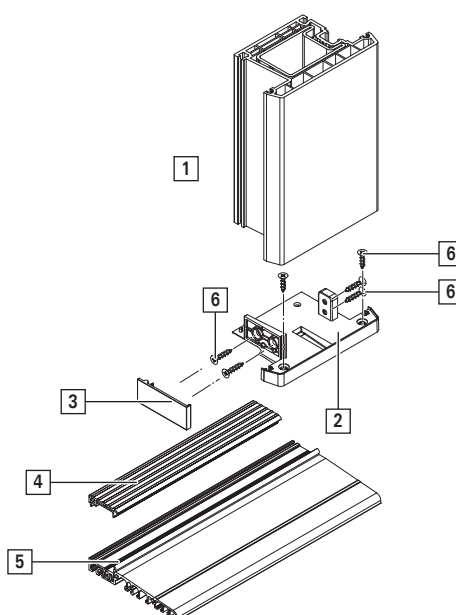
INFO

Use a rubber mallet.



5.7.7 Centre post bracket lug

- [1] Frame
- [2] Centre post bracket
- [3] Cover cap
- [4] Cover
- [5] Threshold
- [6] Screws





INFO

Installation as per "Threshold retainer lug" → *from page 47*

5.8 Floor door gaskets

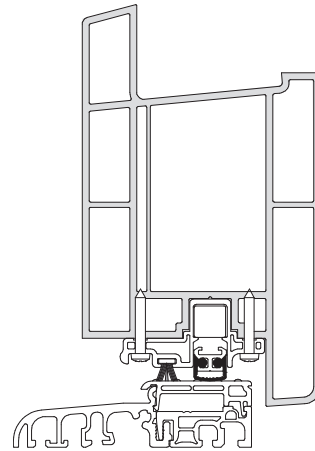
Material	Design		Variant	Automatic gasket	Sliding threshold seal
Timber	Balcony door	Single-sashed	Inward opening	–	–
			Outward opening	–	–
		Double-sashed	Inward opening	–	–
			Outward opening	–	–
	Door	Single-leafed	Inward opening	■	■
			Outward opening	■	■
		Double-leafed	Inward opening	■	■
			Outward opening	■	■
PVC	Balcony door	Single-sashed	Inward opening	–	–
			Outward opening	–	–
		Double-sashed	Inward opening	–	–
			Outward opening	–	–
	Door	Single-leafed	Inward opening	■	■
			Outward opening	■	■
		Double-leafed	Inward opening	■	■
			Outward opening	■	■



5.8.1 Automatic gaskets

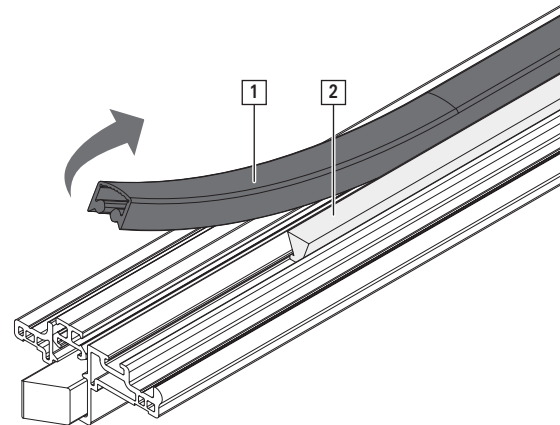
Installation situations

Texel automatic floor door gasket with Eifel TB threshold

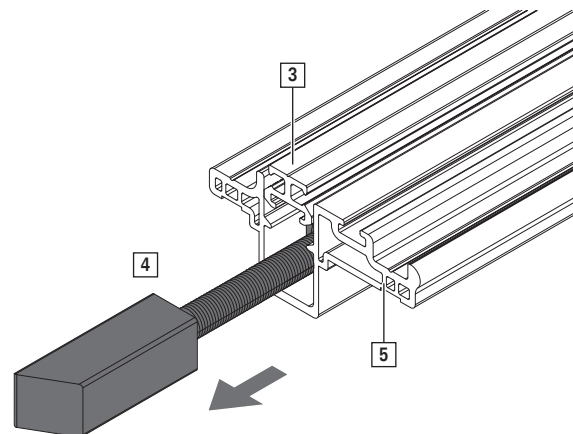


Single-leafed door

1. Lift the rubber lip [1] and move the brush gasket [2].



2. Slightly lift the aluminium profile [3] and use a suitable tool (e.g. combination pliers) to release the pressure piece [4] from the PVC profile [5] and pull it out fully.

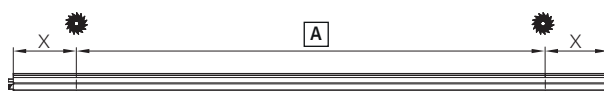


- Crop the Texel automatic floor door gasket by the dimension X from the outside.

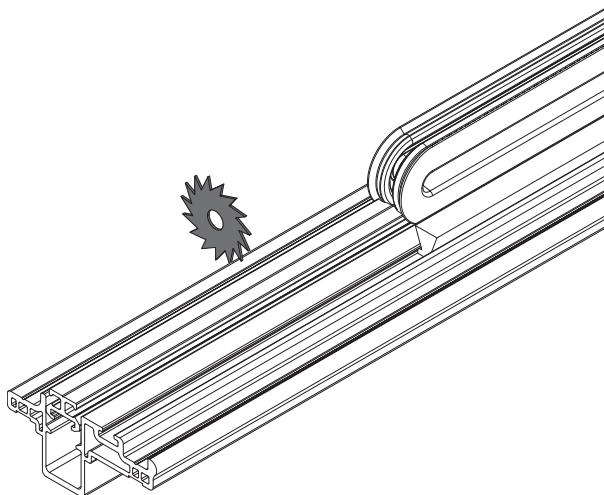


INFO

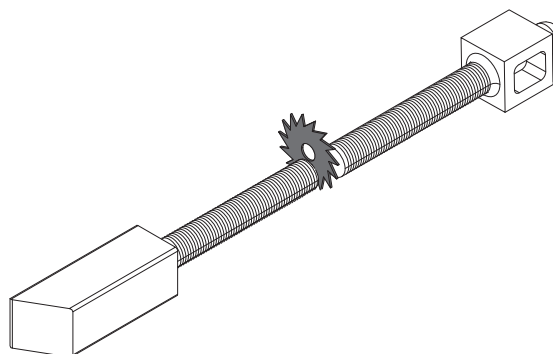
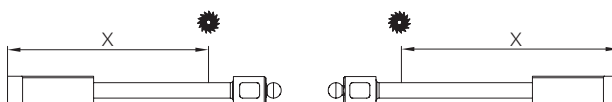
The Texel automatic floor door gasket can be cropped by up to 125 mm on the left and right.



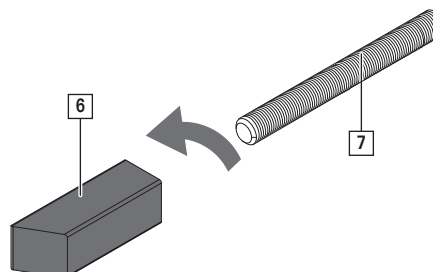
[A] Sash rebate width



- Crop the pressure piece by the dimension X from the outside.

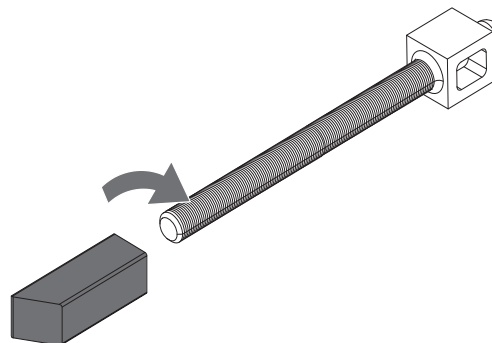


- Unscrew the pressure piece activation mechanism [6] from the pressure piece rod [7].





6. Fasten the pressure piece activation mechanism to the remaining pressure piece rod.



7. Insert the pressure piece into the PVC profile. Ensure that the slope of the pressure piece activation mechanism is oriented as shown in the figure. Push the pressure piece in firmly until it clicks into place.

$X \approx 8 \text{ mm}$

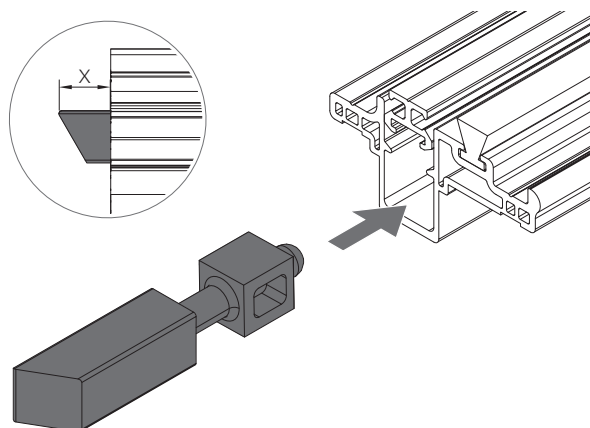


ATTENTION

Positioning the pressure piece incorrectly may cause property damage.

Positioning the pressure piece incorrectly means that leaktightness cannot be ensured.

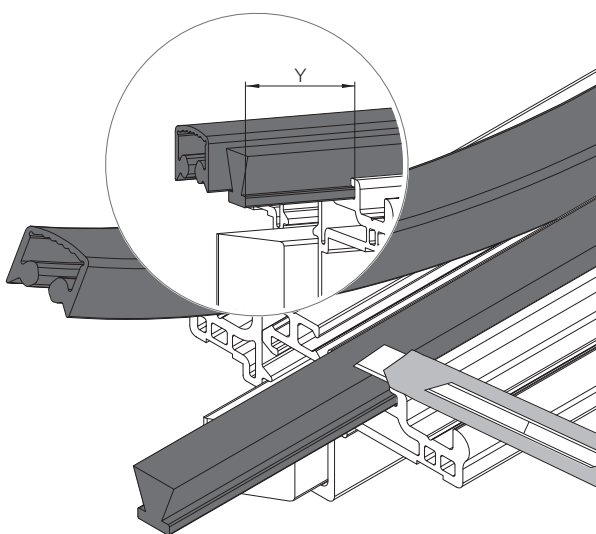
- Ensure there is a projection. The pressure piece must protrude far enough that the Texel automatic floor door gasket is activated when the door is closed.



INFO

The pressure piece is positioned correctly once it can no longer be pulled out again by hand.

8. Crop the rubber lip and brush gasket equally. Ensure there is a projection.
 $Y \approx X$ (projection of pressure piece activation mechanism)



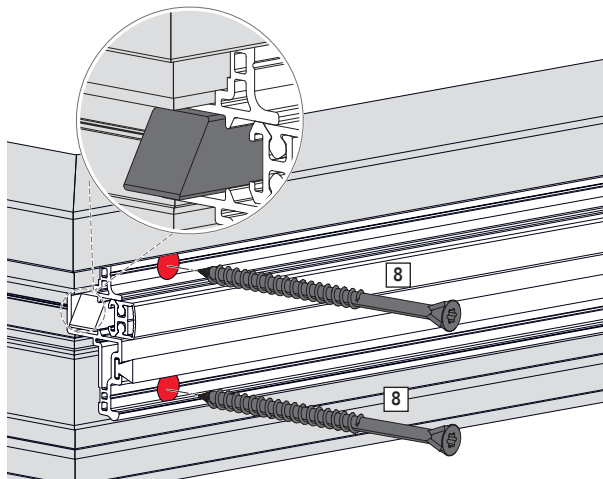
9. For hardware axis 13:
Cut the adapter profile for Texel to the sash rebate width.
Clip the adapter profile into the leaf groove.
10. Fasten the Texel automatic floor door gasket to the leaf with screws [8]. The number of screws depends on the length of the gasket.



ATTENTION
Inserting screws incorrectly may cause property damage.

Inserting screws incorrectly may jeopardise tight sealing.

- ▶ Insert screws so that they are straight.
- ▶ Insert screws so that the screw head is located within the sliding threshold seal and does not prevent proper operation.



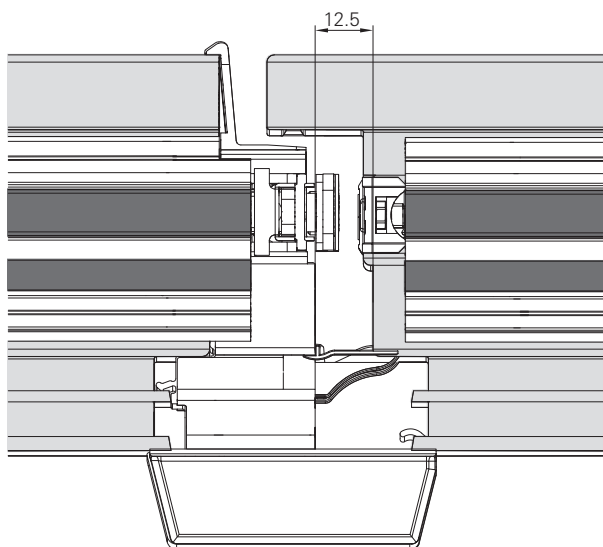
Double-leafed door

1. Steps 1 - 9 are identical to the steps for single-leafed doors.



INFO

On double-leafed doors, note the distance in the area of the floating mullion.

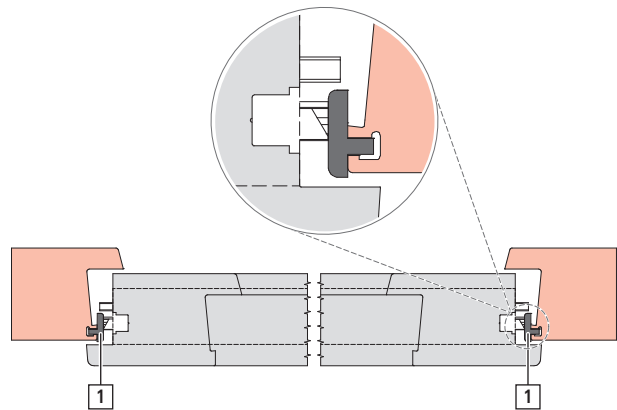




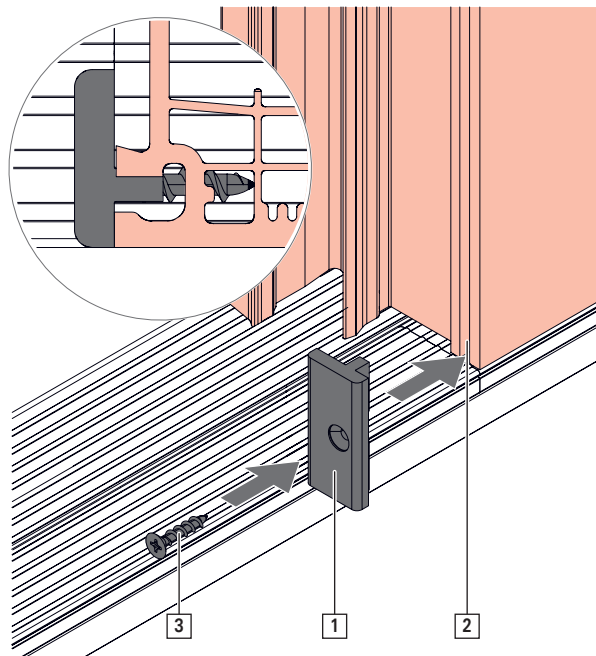
5.8.2 Pressure plate for automatic gaskets

Installation situations

[1] Pressure plates for Texel automatic floor door gasket



1. Insert the pressure plate [1] into the frame groove [2] on the right and left and position on the threshold.



2. Secure each pressure plate with one screw [3].



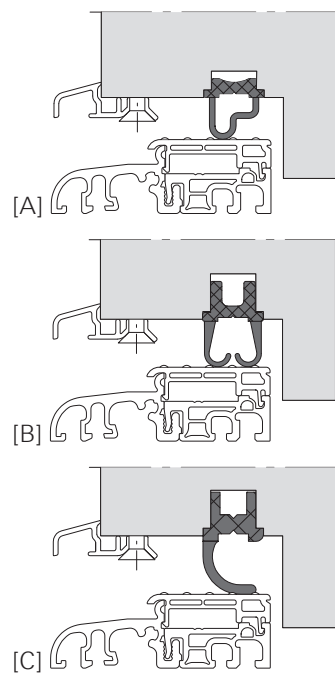
INFO

Variant: secure the pressure plate for smooth rebate with two screws.

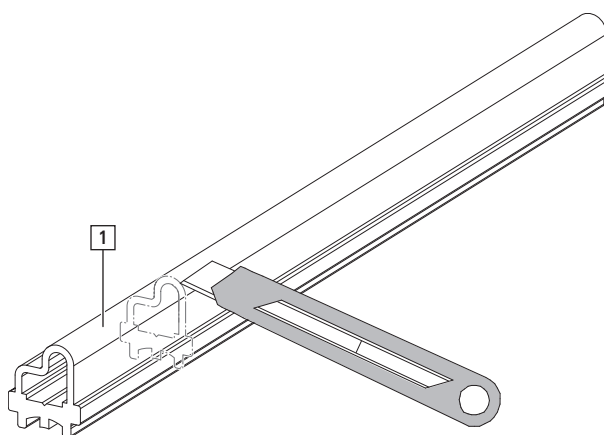
5.8.3 Sliding threshold seal

Installation situations

- [A] Amrum sliding threshold seal with Eifel TB threshold
- [B] Sylt sliding threshold seal with Eifel TB threshold
- [C] Rügen sliding threshold seal with Eifel TB threshold

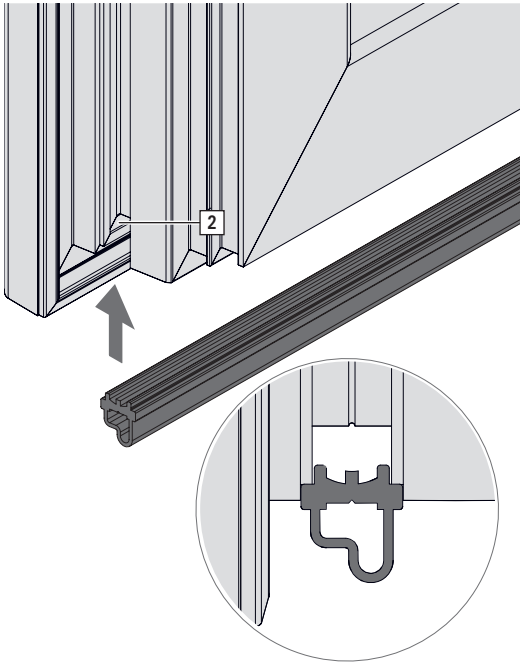


1. Cut the sliding threshold seal [1] to the SRW.





2. Press the sliding threshold seal into the sash profile [2].
Ensure that it is flush.

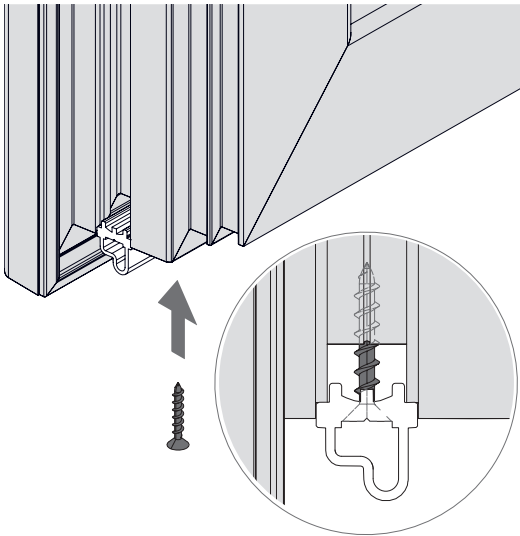


3. Secure the sliding threshold seal on the sash through the sealing lip with screws.
The number of screws depends on the length of the gasket.



ATTENTION
Inserting screws incorrectly
may cause property damage.

- Inserting screws incorrectly may jeopardise tight sealing.
- ▶ Insert screws so that they are straight.
 - ▶ Insert screws so that the screw head is located within the sliding threshold seal and does not prevent proper operation.



5.9 Weather profile strip

Material	Design		Variant	Standard	Comfort	Design
Timber	Balcony door	Single-leafed	Inward opening	■	■	■
			Outward opening	–	–	–
		Double-leafed	Inward opening	–	■	■
			Outward opening	–	–	–
	Door	Single-leafed	Inward opening	■	■	■
			Outward opening	–	–	–
		Double-leafed	Inward opening	–	■	■
			Outward opening	–	–	–

Material	Design		Variant	Standard	Comfort	Design
PVC	Balcony door	Single-leafed	Inward opening	■	■	■
			Outward opening	–	–	–
		Double-leafed	Inward opening	–	■	■
			Outward opening	–	–	–
	Door	Single-leafed	Inward opening	■	■	■
			Outward opening	–	–	–
		Double-leafed	Inward opening	–	■	■
			Outward opening	–	–	–

5.9.1 Standard

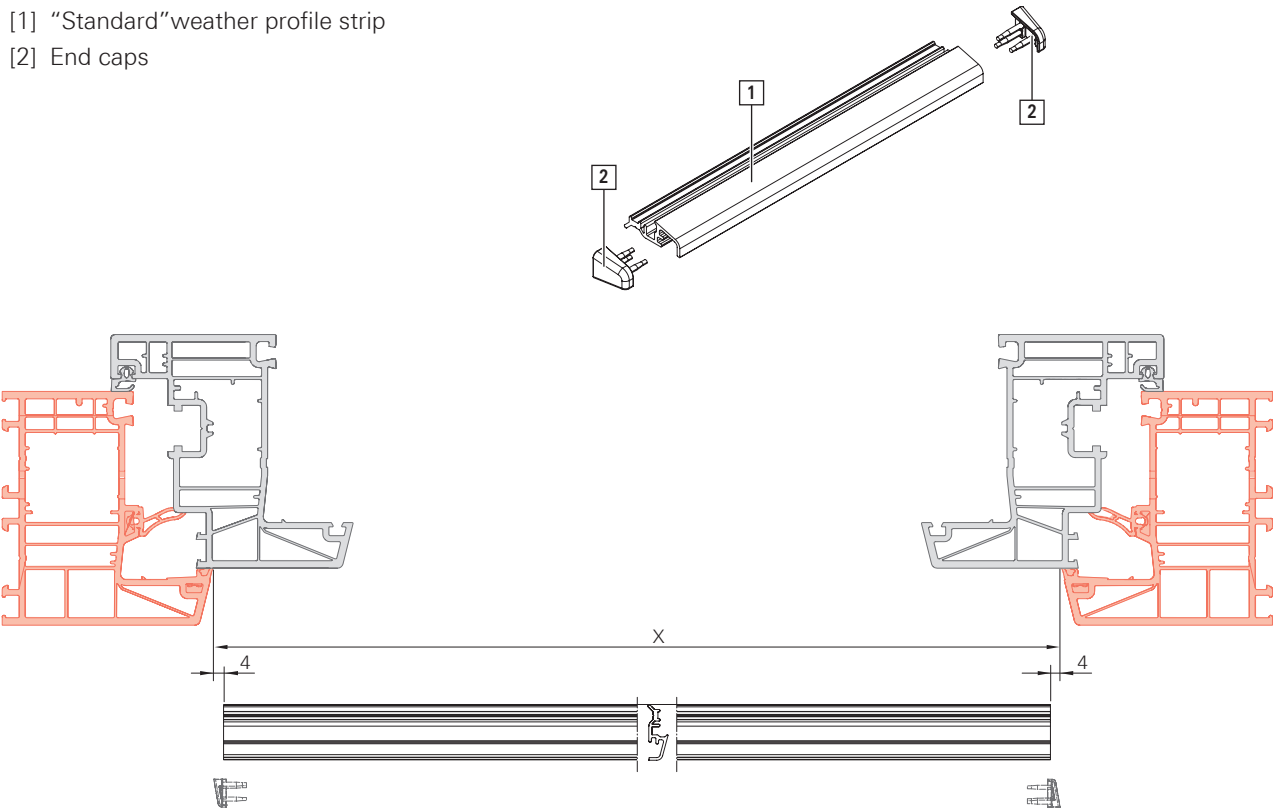
5.9.1.1 Single-leafed door



INFO

The figures show installation for a PVC profile.

- [1] “Standard” weather profile strip
[2] End caps

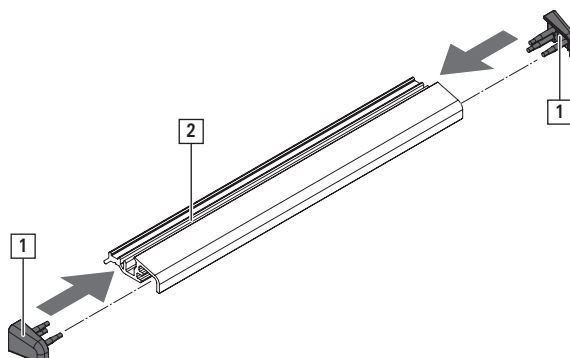


1. Crop the weather profile strip:

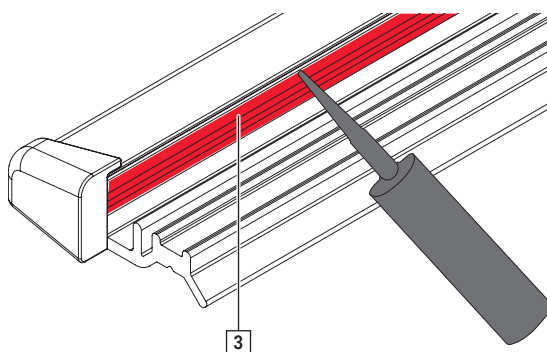


Length = X - (2 x 4) - hardware adjustment range

2. Place the end caps [1] on the weather profile strip [2].



3. Apply sealing compound [3] along the entire length.



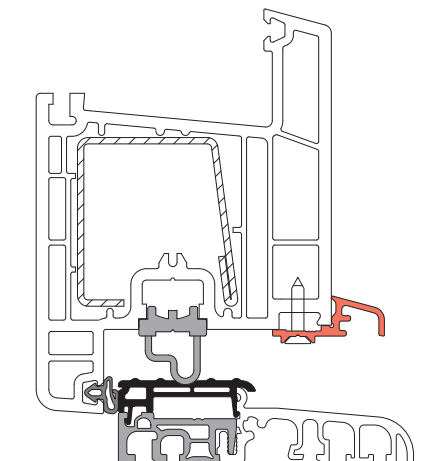
4. Position the weather profile strip at the bottom of the sash and secure with screws.
Drill the drainage holes on the weather profile strip.



ATTENTION
Improper drainage holes may cause property damage.

Incorrect or improper drainage holes may prevent water flowing away as intended.

- Do not drill into the reinforcement profile in the main chamber of the sash.



5.9.2 Comfort

5.9.2.1 Single-leafed door



INFO

The figures show installation for a PVC profile.

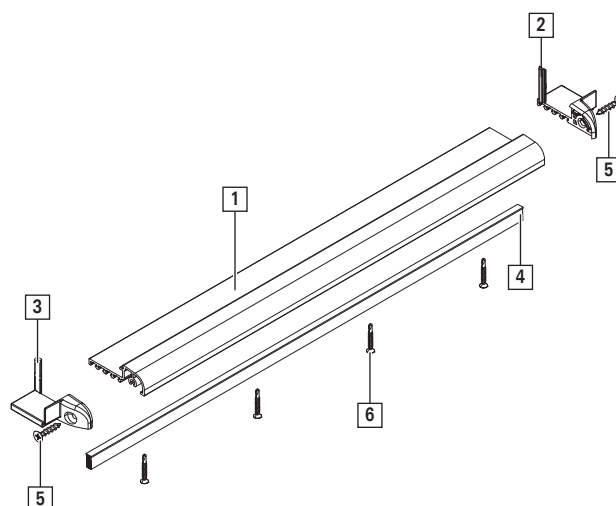
- [1] "Comfort" weather profile strip
- [2] End cap on the locking side
- [3] End cap on the hinge side
- [4] Brush gasket



INFO

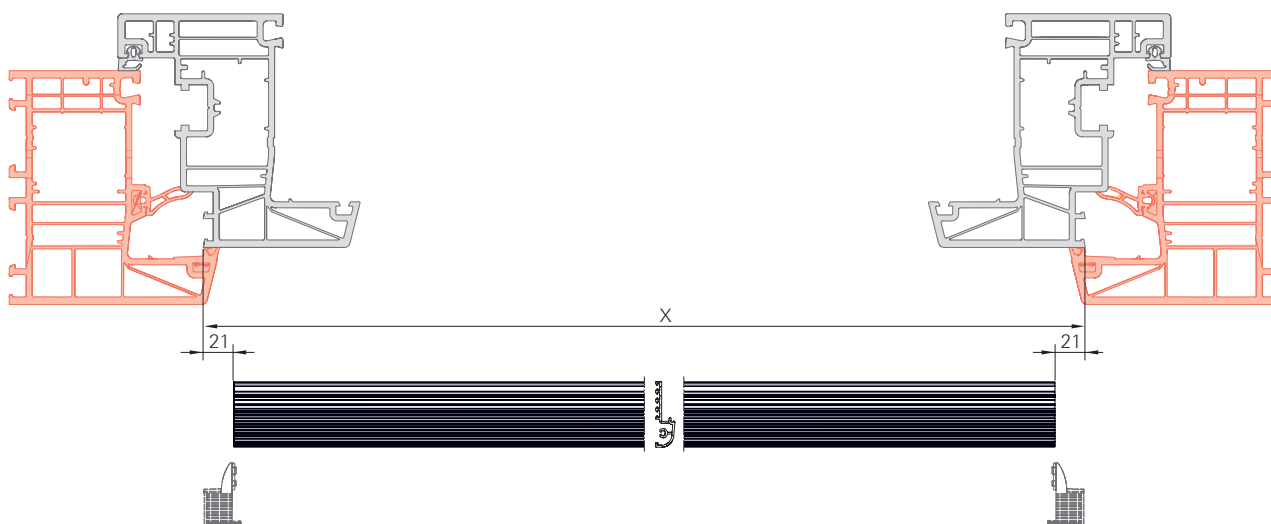
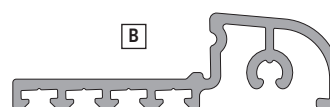
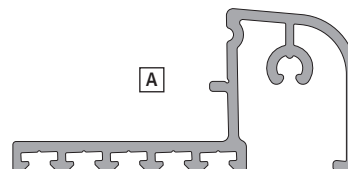
A drip seal can be used instead of or in addition to the brush gasket.

- [5] Fixing screws
- [6] Self-drilling screws



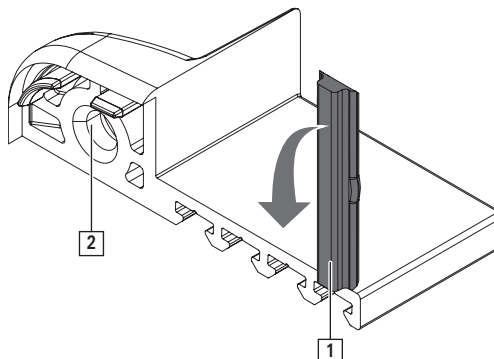
Comfort weather profile strip variants

- [A] CG
- [B] SG

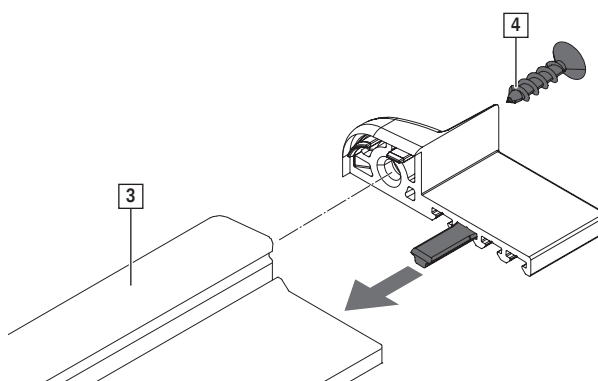




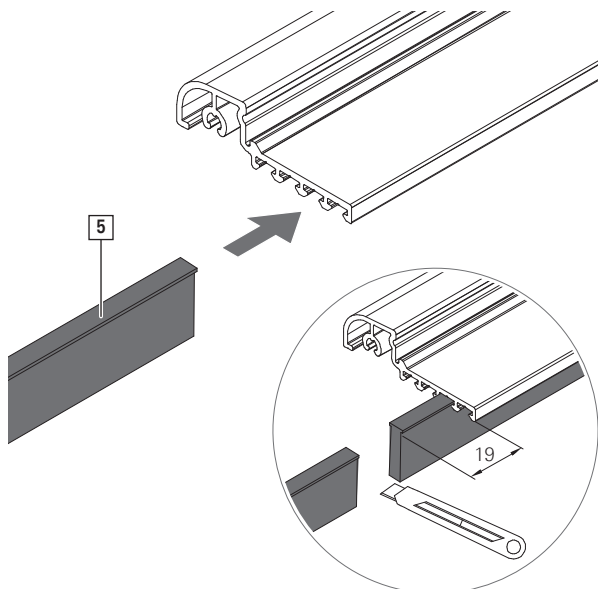
1. Crop the weather profile strip:
 $\text{Length} = X - 2 \times 21$
2. Detach the locating aid [1] from the end cap on the hinge side [2].



3. Insert the locating aid into the free groove of the end cap on the hinge side. Position the end cap on the weather profile strip [3] and fasten with one screw [4].

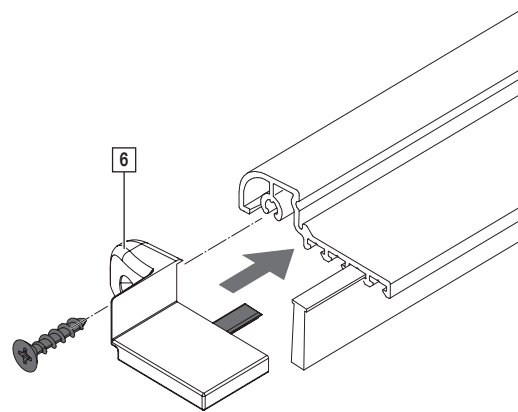


4. Insert the brush gasket / drip seal [5] as far as it will go into the free groove of the end cap on the hinge side.
 Cut the brush gasket / drip seal to length, leaving it to protrude by 19 mm.

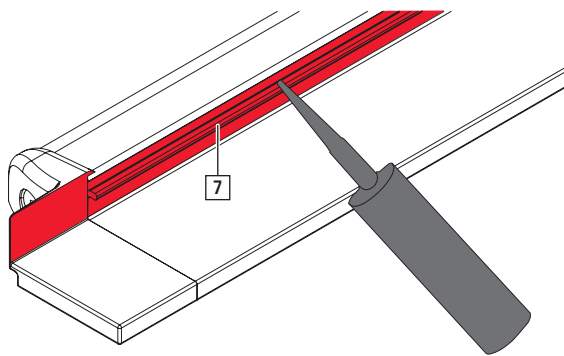


5. Repeat step 2 with the end cap on the locking side [6].

Insert the locating aid into the free groove of the end cap on the locking side. Position the end cap on the weather profile strip and fasten with one screw.



6. Apply sealing compound [7] along the entire length.



7. Position the weather profile strip at the bottom of the leaf and fasten with screws [8].

Drill the drainage holes [A].

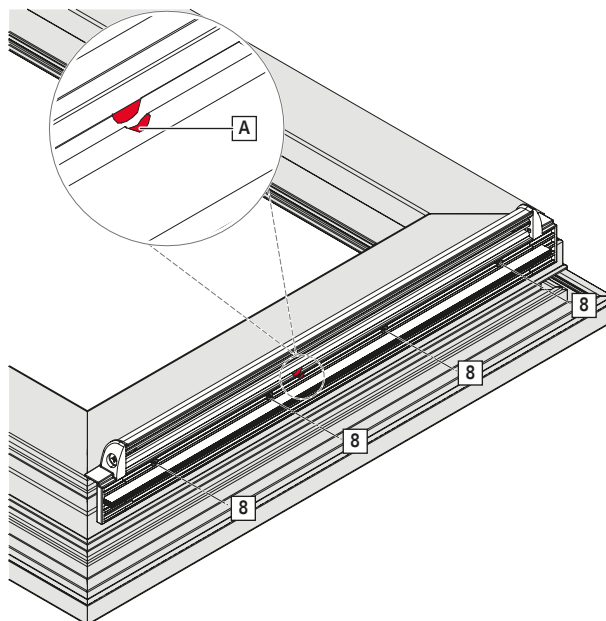


ATTENTION

Improper drainage holes may cause property damage.

Incorrect or improper drainage holes may prevent water flowing away as intended.

- ▶ Do not drill into the reinforcement profile in the main chamber of the leaf.
- ▶ Do not drill into the gaskets in the weather profile strip.





5.9.2.2 Double-leafed door



INFO

The figures show installation for a PVC profile.

First opening leaf

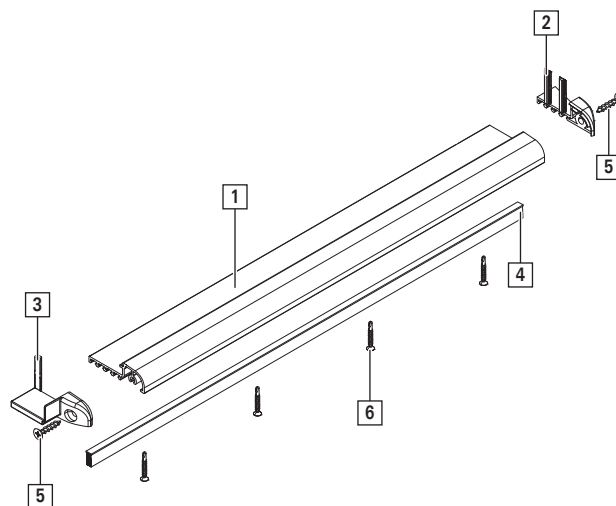
- [1] "Comfort" weather profile strip
- [2] End cap on the floating-mullion profile
- [3] End cap on the hinge side
- [4] Brush gasket



INFO

A drip seal can be used instead of or in addition to the brush gasket.

- [5] Fixing screws
- [6] Self-drilling screws



Second opening leaf

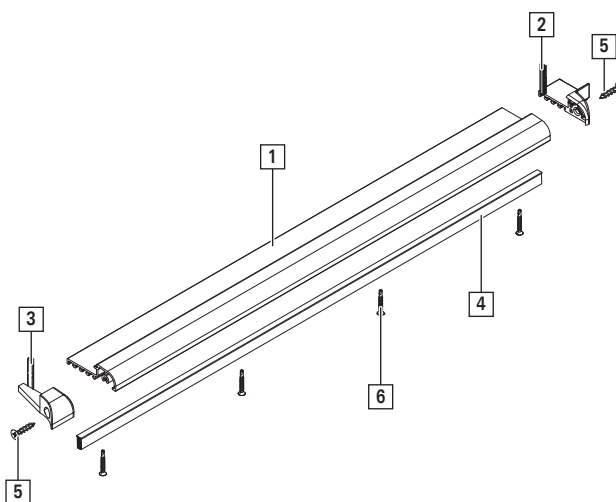
- [1] "Comfort" weather profile strip
- [2] End cap on the hinge side
- [3] End cap on the floating-mullion profile
- [4] Brush gasket



INFO

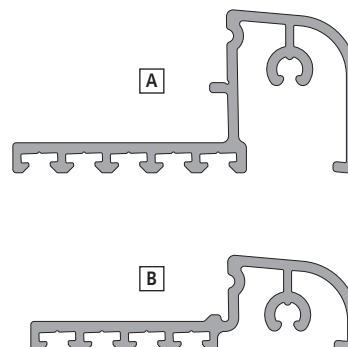
A drip seal can be used instead of or in addition to the brush gasket.

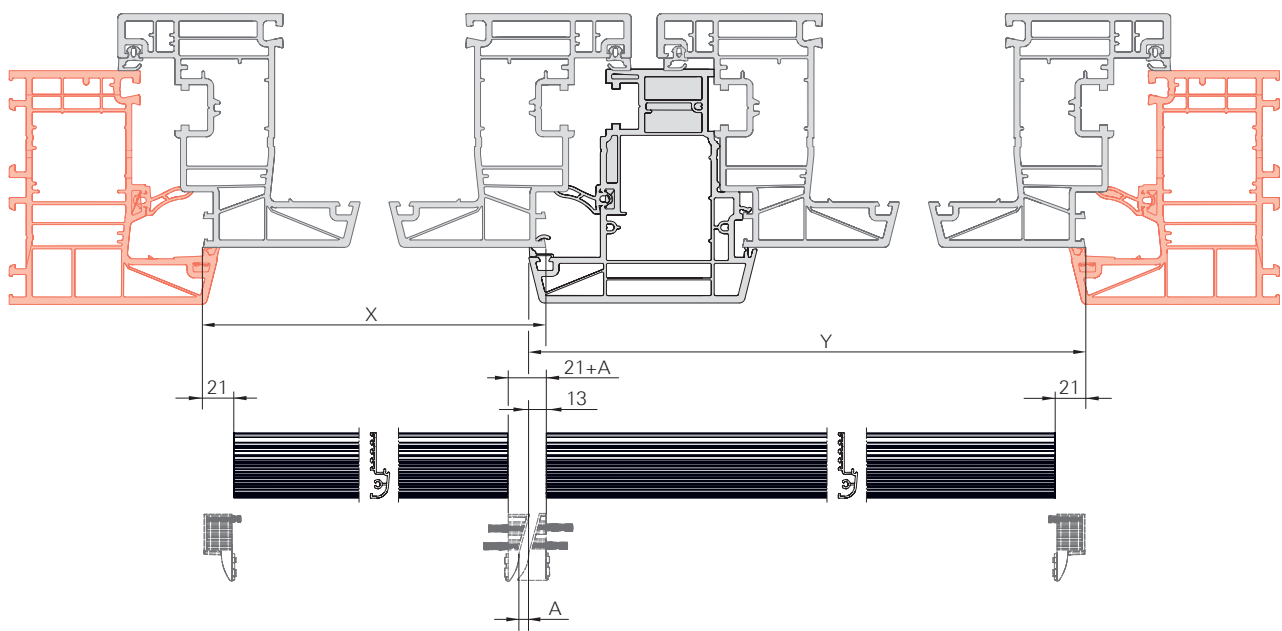
- [5] Fixing screws
- [6] Self-drilling screws



Comfort weather profile strip variants

- [A] CG
- [B] SG





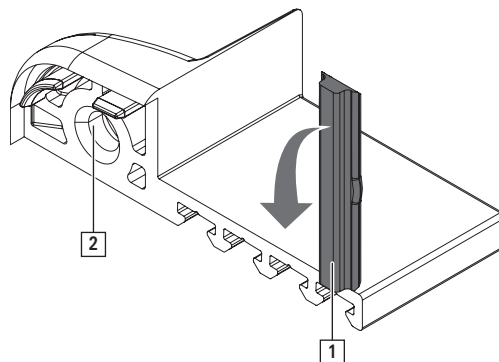
[A] Hardware adjustment range

Cropping the weather profile strip

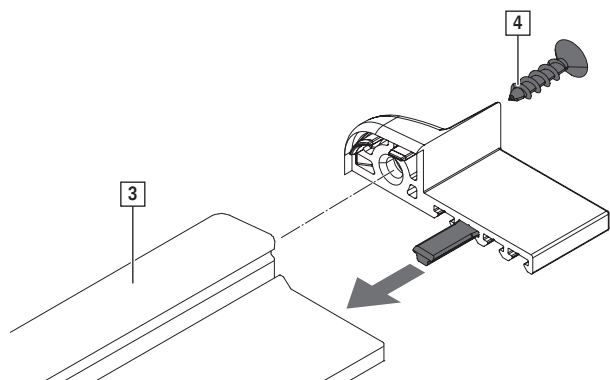
1. Crop the weather profile strip:
 First opening leaf: length = $X - 21 - (21 + A)$
 Second opening leaf: length = $Y - 21 - 13$

Installing the first opening leaf

1. Determine the assignment of the grooves (screw mounting, gasket mounting) in the locating aid.
 Detach the locating aid [1] from the end cap on the hinge side [2].

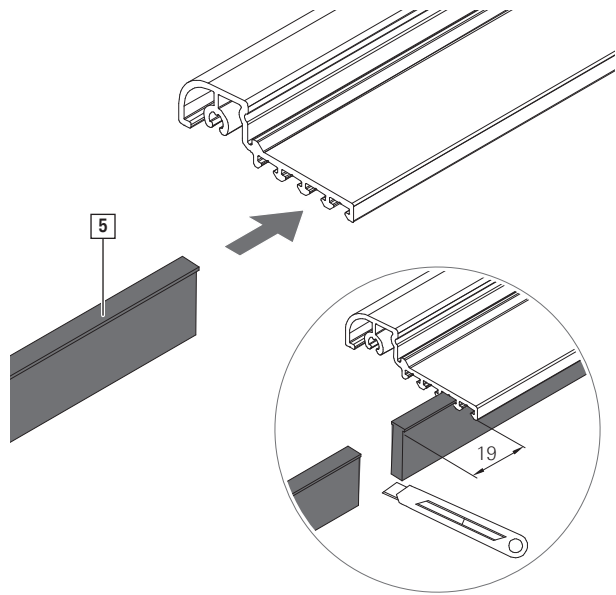


2. Insert the locating aid into the free groove of the end cap on the hinge side. Position the end cap on the hinge side on the weather profile strip [3] and fasten with one screw [4].

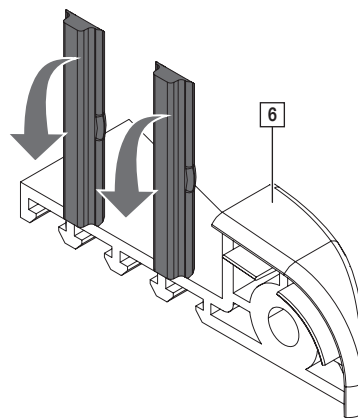




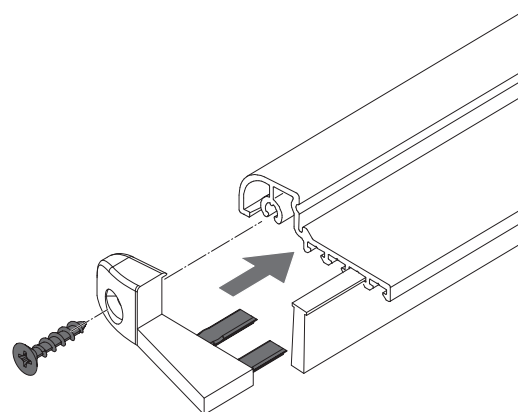
3. Insert the brush gasket / drip seal [5] as far as it will go into the free groove of the end cap on the hinge side.
Cut the brush gasket / drip seal to length, leaving it to protrude by 19 mm.



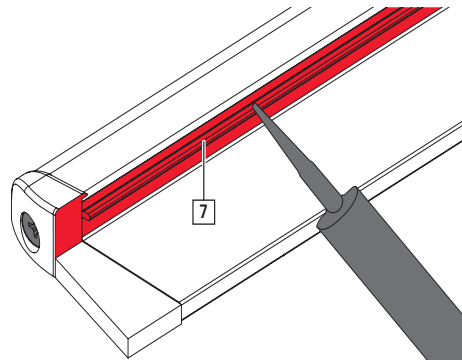
4. Detach the locating aids from the end cap on the floating mullion [6].



5. Insert the locating aids into the free grooves of the end cap on the floating mullion. Position the floating-mullion end cap on the weather profile strip and fasten with one screw.



6. Apply sealing compound [7] along the entire length.



7. Position the weather profile strip at the bottom of the leaf and fasten with screws [8].
 Drill the drainage holes [A].

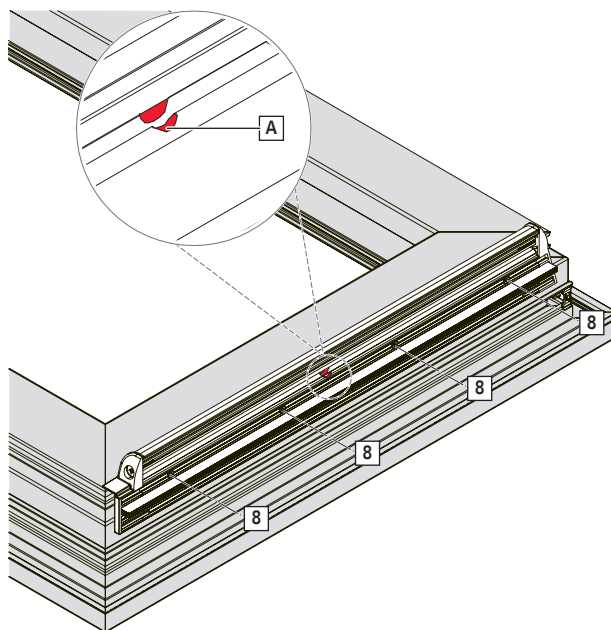


ATTENTION

Improper drainage holes may cause property damage.

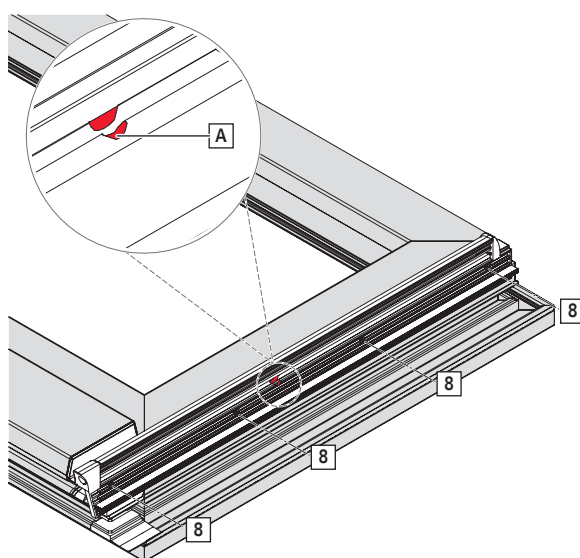
Incorrect or improper drainage holes may prevent water flowing away as intended.

- ▶ Do not drill into the reinforcement profile in the main chamber of the leaf.
- ▶ Do not drill into the gaskets in the weather profile strip.



Installing the second opening leaf

1. Repeat steps 1-7 from "Installing the first opening leaf" for the second opening leaf.



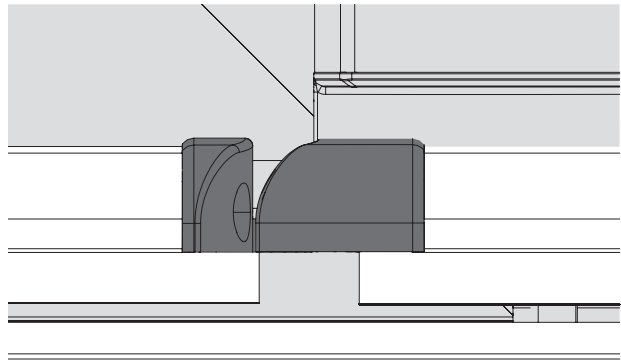


Fig. 5.2: Figure: installation situation in the area of the end caps on the floating mullion

5.9.2.3 Double-leafed door with gasket mounting profile



INFO

The figures show installation for a PVC profile.

First opening leaf

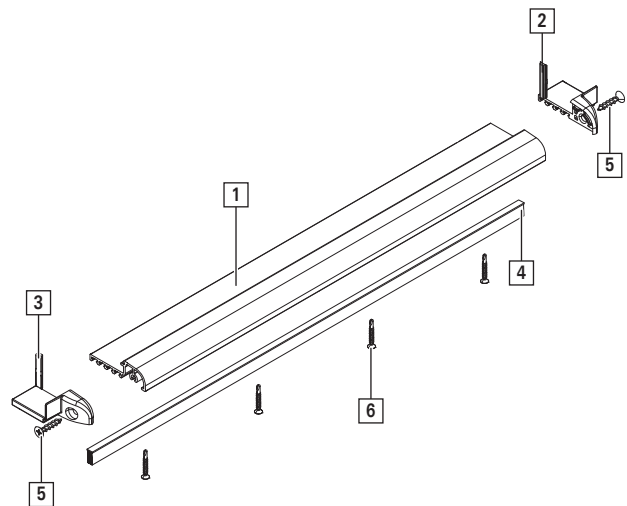
- [1] "Comfort" weather profile strip
- [2] End caps on the locking side
- [3] End caps on the hinge side
- [4] Brush gasket



INFO

A drip seal can be used instead of or in addition to the brush gasket.

- [5] Fixing screws
- [6] Self-drilling screws



Second opening leaf

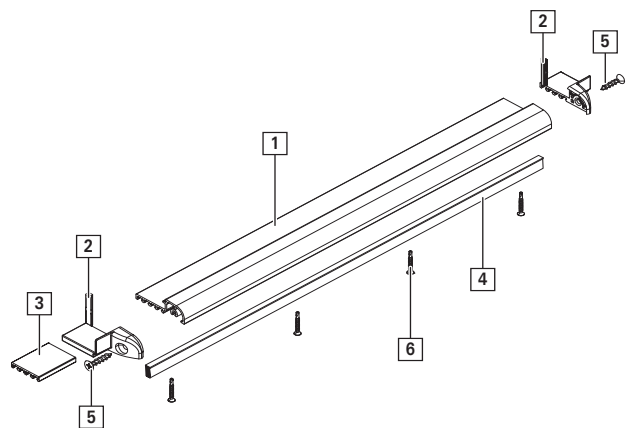
- [1] "Comfort" weather profile strip
- [2] End caps on the hinge side / on the floating mullion
- [3] Gasket mounting profile
- [4] Brush gasket



INFO

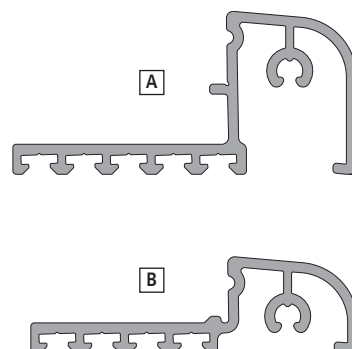
A drip seal can be used instead of or in addition to the brush gasket.

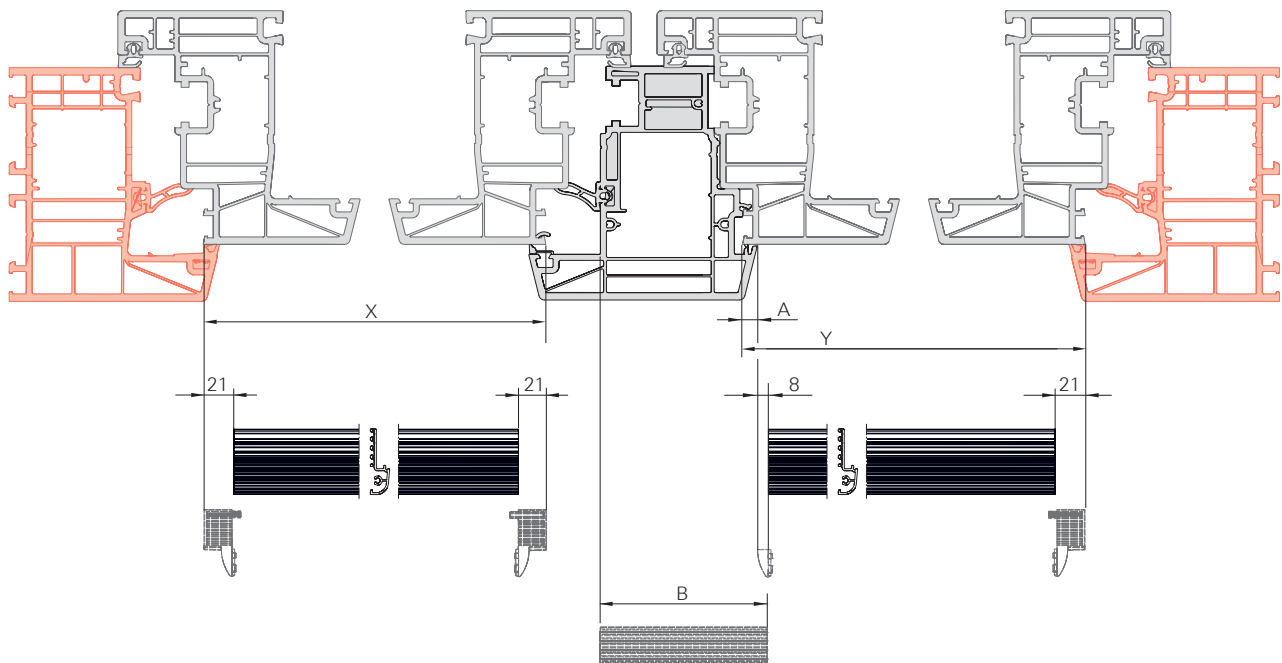
- [5] Fixing screws
- [6] Self-drilling screws



Comfort weather profile strip variants

- [A] CG
- [B] SG





[A] Profile system-dependent dimension

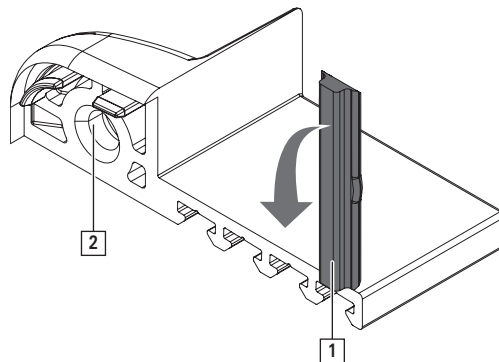
[B] Length of gasket mounting profile

Cropping the weather profile strip

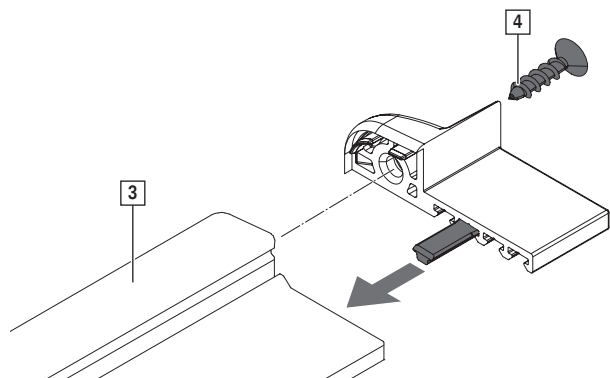
1. Crop the weather profile strip:
 First opening leaf: length = $X - (2 \times 21)$
 Second opening leaf: length = $Y - A - 8 - 21$

Installing the first opening leaf

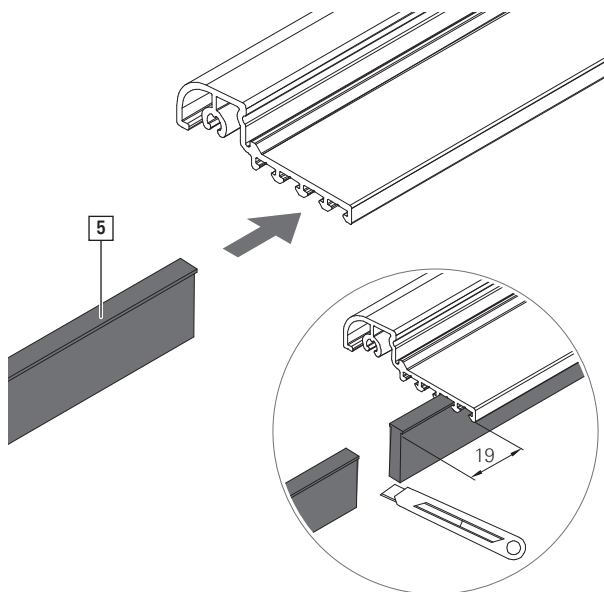
1. Determine the assignment of the grooves (screw mounting, gasket mounting) in the locating aid.
 Detach the locating aid [1] from the end cap on the hinge side [2].



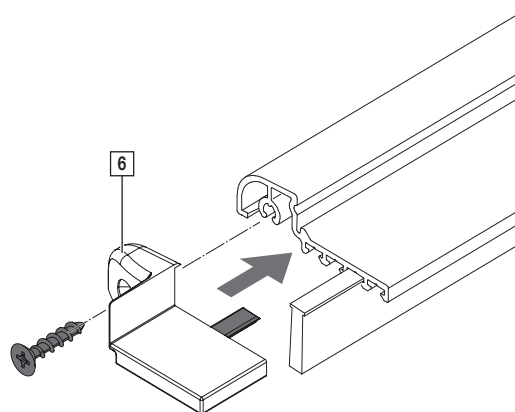
2. Insert the locating aid into the free groove of the end cap on the hinge side. Position the end cap on the hinge side on the weather profile strip [3] and fasten with one screw [4].



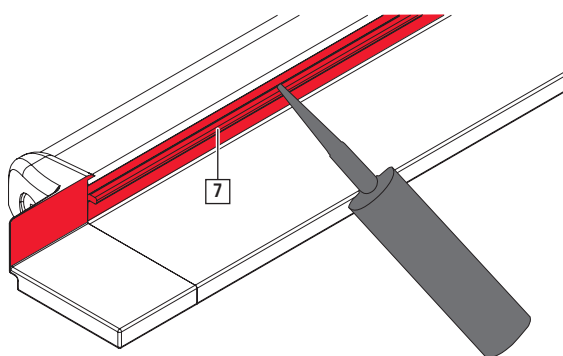
3. Insert the brush gasket / drip seal [5] as far as it will go into the free groove of the end cap on the hinge side.
Cut the brush gasket / drip seal to length, leaving it to protrude by 19 mm.



4. Detach the locating aid from the end cap on the locking side.
Insert the locating aid into the free groove of the end cap on the locking side. Position the end cap on the locking side on the weather profile strip and fasten with one screw.



5. Apply sealing compound [7] along the entire length.





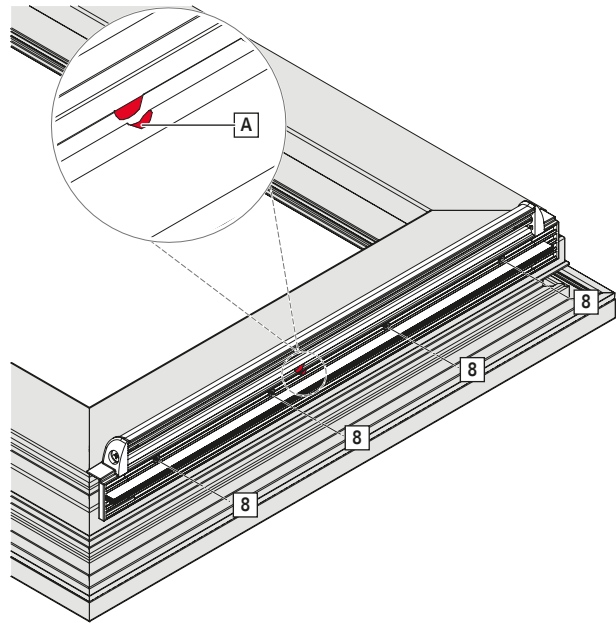
6. Position the weather profile strip at the bottom of the leaf and fasten with screws [8].
 Drill the drainage holes [A].



ATTENTION
Improper drainage holes may cause property damage.

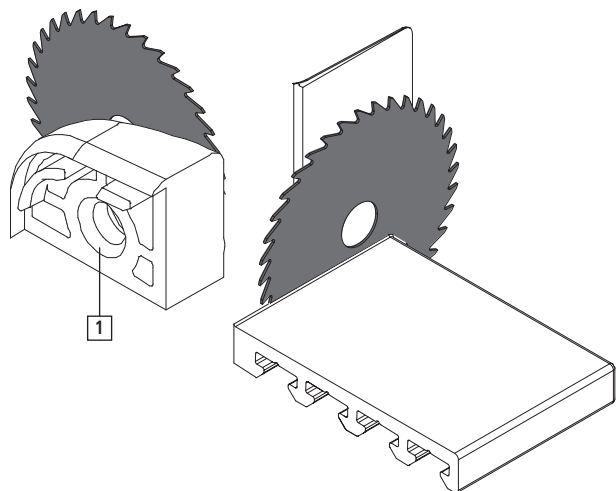
Incorrect or improper drainage holes may prevent water flowing away as intended.

- ▶ Do not drill into the reinforcement profile in the main chamber of the leaf.
- ▶ Do not drill into the gaskets in the weather profile strip.

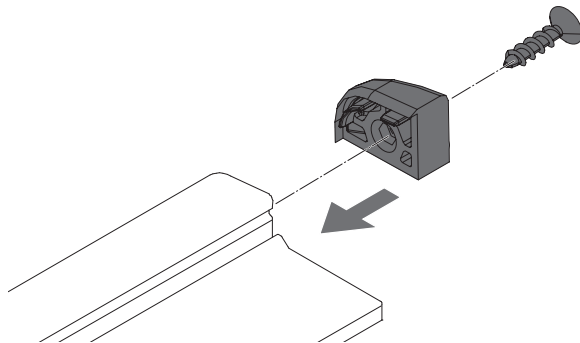


Installing the second opening leaf

1. Determine the assignment of the grooves (screw mounting, gasket mounting) in the locating aid.
 Detach the locating aid from both end caps.
2. Insert the locating aid into the free groove of the end cap on the hinge side. Position the end cap on the hinge side on the weather profile strip and fasten with one screw.
3. Detach the front part of the end cap [1] from the end cap on the floating mullion and dispose of the rest.
 Deburr the separating edges on the front part of the end cap.



4. Position the front part of the end cap on the weather profile strip and fasten with one screw.



5. Apply sealing compound along the entire length.

6. Position the weather profile strip at the bottom of the leaf and fasten with screws [2].

Drill the drainage holes [A].

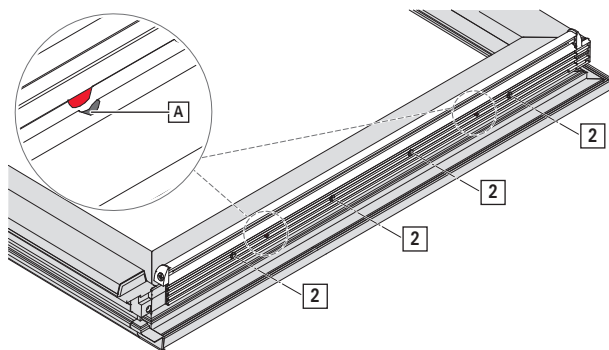


ATTENTION

Improper drainage holes may cause property damage.

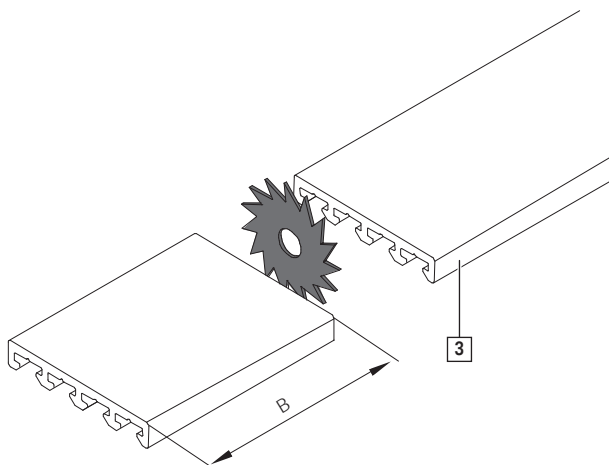
Incorrect or improper drainage holes may prevent water flowing away as intended.

- ▶ Do not drill into the reinforcement profile in the main chamber of the leaf.
- ▶ Do not drill into the gaskets in the weather profile strip.



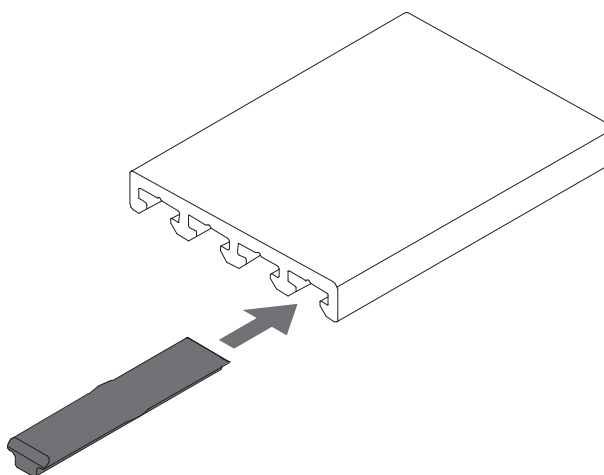
7. Crop the gasket mounting profile [3].

Length = B

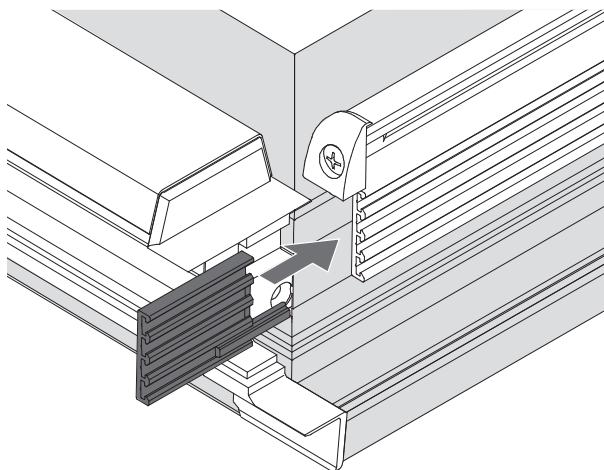




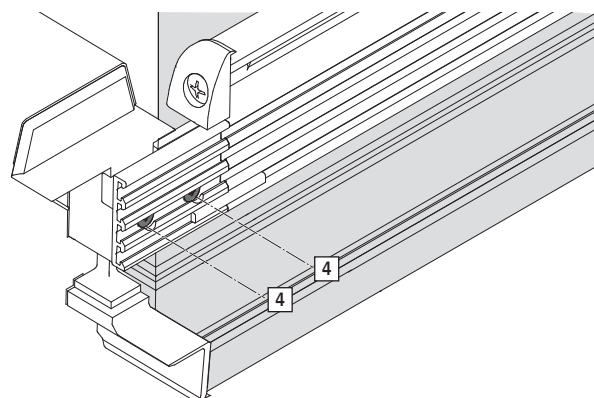
8. Insert the locating aid into the free groove of the gasket mounting profile.



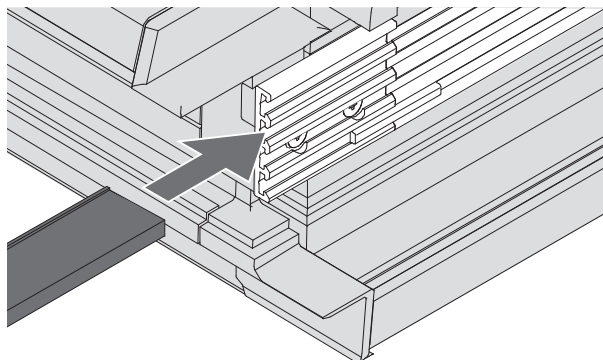
9. Join the gasket mounting profile and the weather profile strip.



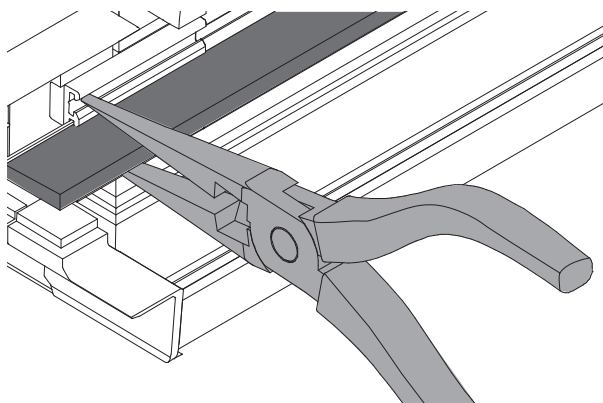
10. Fasten the gasket mounting profile with two screws [4].



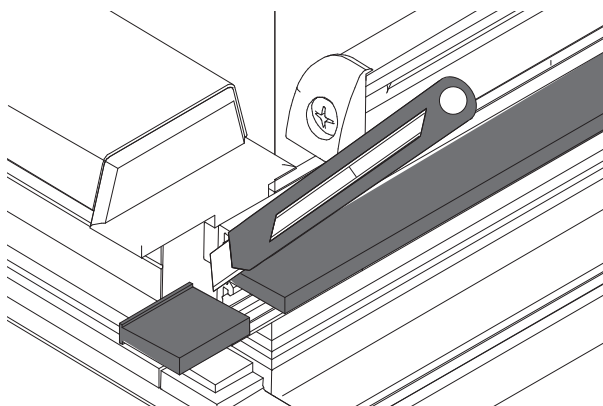
11. Insert the brush gasket / drip seal as far as it will go into the free groove of the end cap on the hinge side.



12. Press the gasket mounting profile together using pliers to fix the brush gasket in position.



13. Cut the brush gasket / drip seal on the gasket mounting profile so that it is level.





5.9.3 Design

5.9.3.1 Single-leafed door

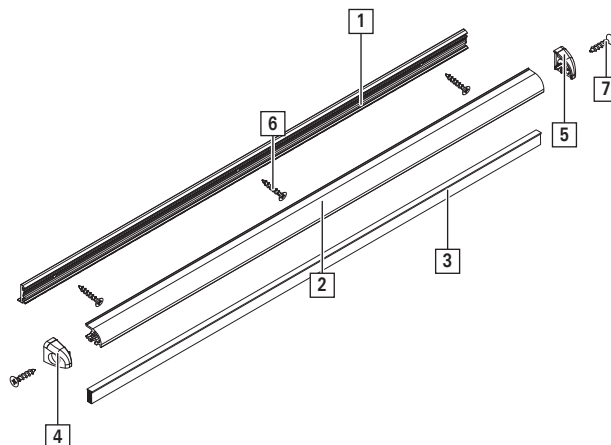
- [1] "Design" weather profile strip mounting profile (SG)
- [2] "Design" weather profile strip clip-in profile
- [3] Brush gasket



INFO

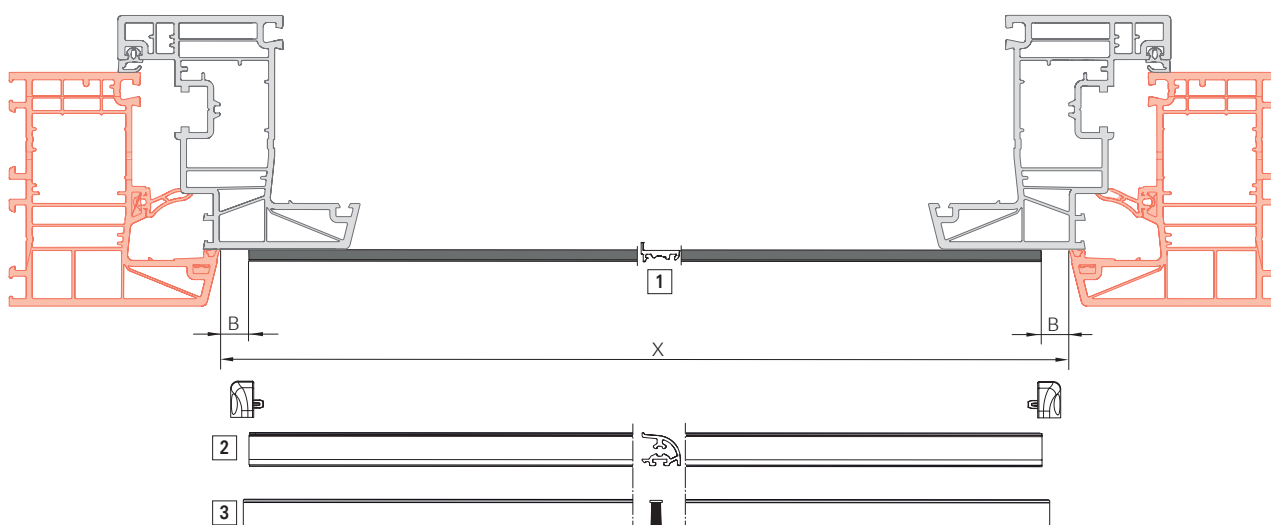
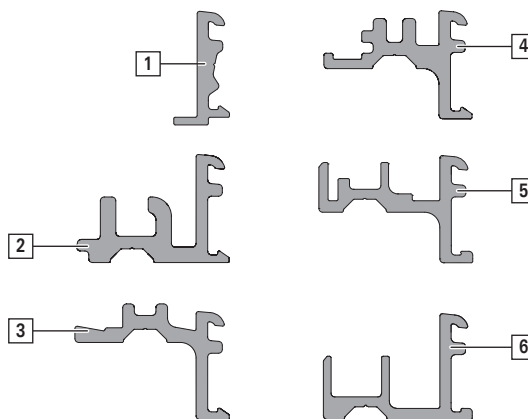
A drip seal can be used instead of or in addition to the brush gasket.

- [4] End cap on the hinge side
 - [5] End cap on the locking side
 - [6] Fixing screws
 - [7] SG: countersunk screws
- CG: self-drilling screws (not sh.)



Mounting profile variants

- [1] AD
- [2] MD I
- [3] MD II
- [4] MD III
- [5] MD IV
- [6] MD V



- [B] Doors: 21.5 mm
- Balcony doors: 18.5 mm

Cropping the weather profile strip

1. Crop the weather profile strip mounting profile [1], clip-in profile [2] and brush gasket / drip seal [3]:

Length of mounting profile: [1] = $X - (2 \times B)$

Length of clip-in profile: [2] = [1]

Length of brush gasket / drip seal: [3] = [1] + (2×3)

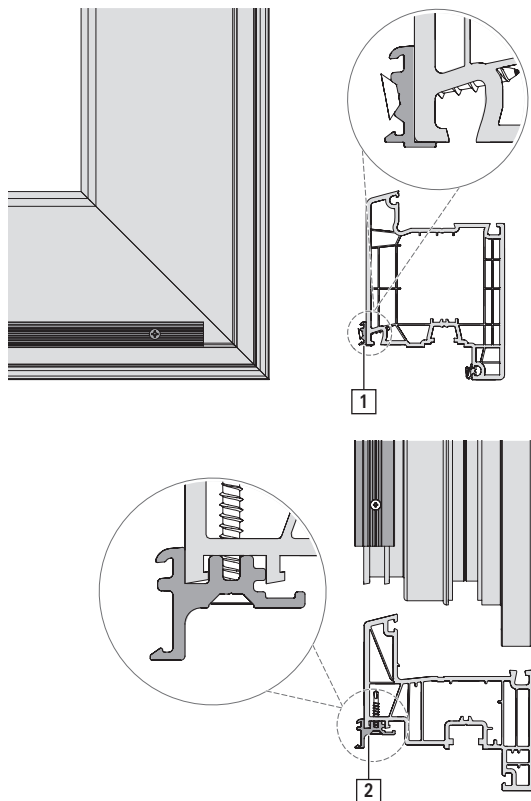


INFO

The differing dimensions for doors and balcony doors are due to the different hardware adjustment ranges.

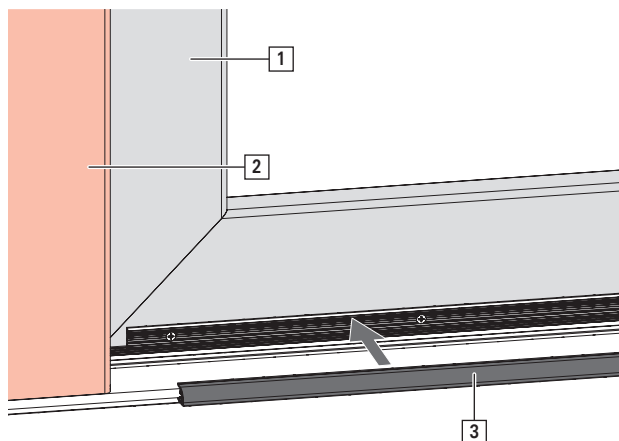
Preparing the leaf

1. Apply sealing compound across the entire mounting profile supporting surface on the leaf.
Fasten the SG mounting profile [1] to the front of the leaf with countersunk screws. Optionally predrill with a drilling jig.
Alternatively: Fasten the CG mounting profile [2] to the bottom of the leaf with self-drilling screws.



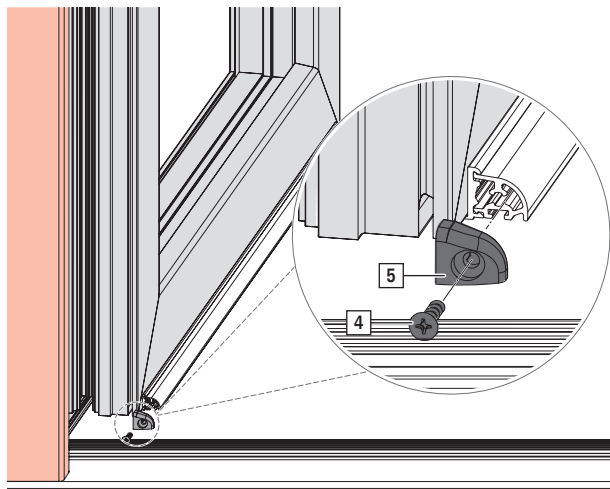
Installing the leaf

1. Install the leaf [1] in the frame [2].
Clip the clip-in profile [3] into the leaf from the outside.





2. Open the leaf. Position the end cap on the hinge side [5] on the clip-in profile on the hinge side and fasten with one screw [4].

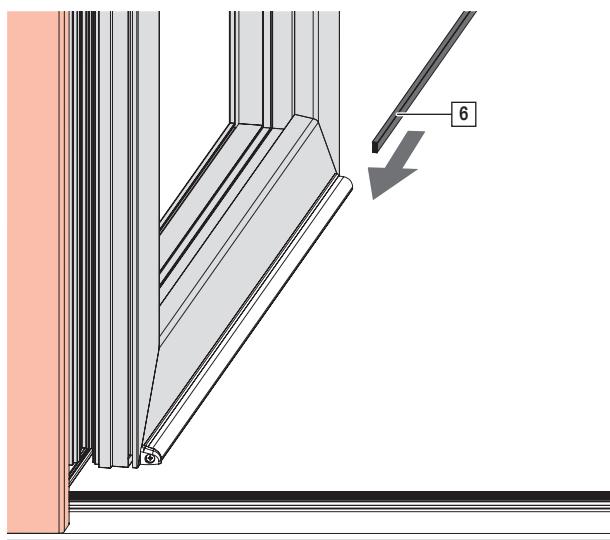


3. Push the brush gasket / drip seal [6] into the clip-in profile.

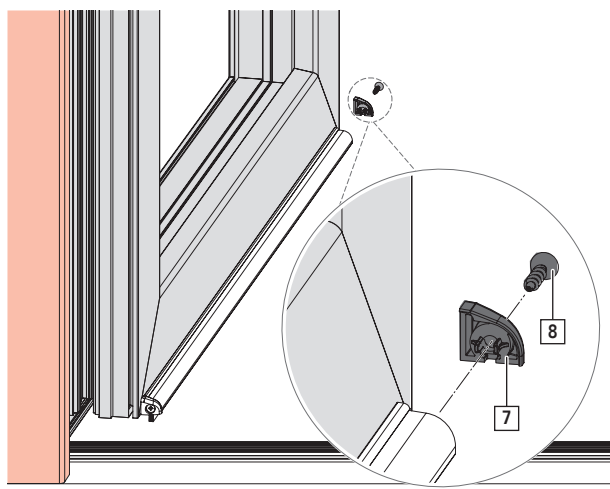


INFO

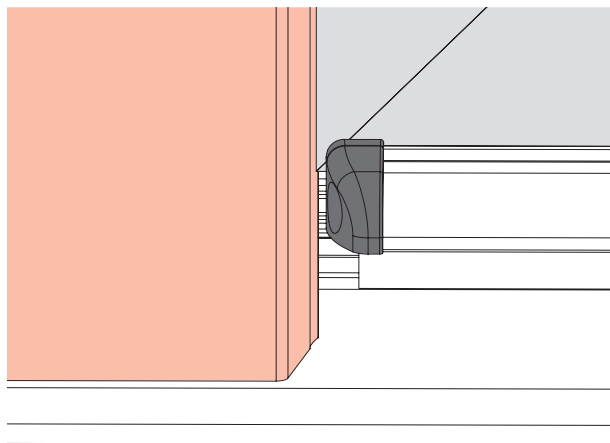
The brush gasket / drip seal protrudes slightly.



4. On the leaf, position the end cap on the locking side [7] on the clip-in profile on the locking side and fasten with a screw [8] to fix the brush gasket / drip seal in position.



5. Installation situation of the end cap in the hinge area.





5.9.3.2 Double-leafed door

First opening leaf

- [1] "Design" weather profile strip mounting profile (CG)
- [2] "Design" weather profile strip clip-in profile
- [3] Brush gasket

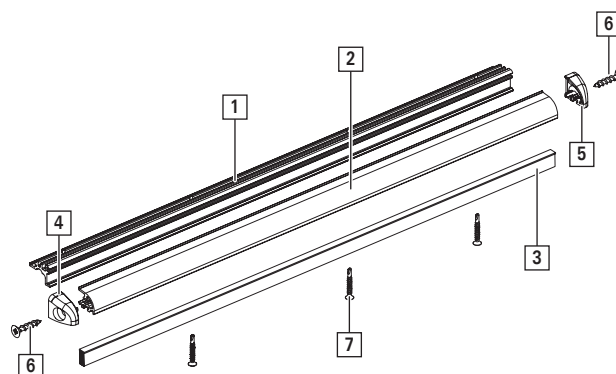


INFO

A drip seal can be used instead of or in addition to the brush gasket.

- [4] End cap on the hinge side
- [5] End cap on the floating mullion
- [6] Fixing screws
- [7] SG: countersunk screws (not sh.)

CG: self-drilling screws



Second opening leaf

- [1] "Design" weather profile strip mounting profile (CG)
- [2] "Design" weather profile strip clip-in profile
- [3] Brush gasket

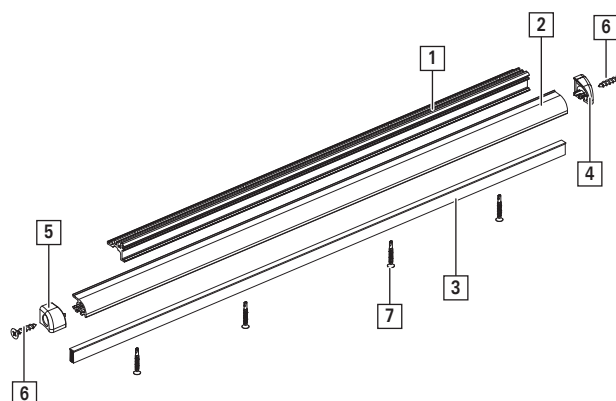


INFO

A drip seal can be used instead of or in addition to the brush gasket.

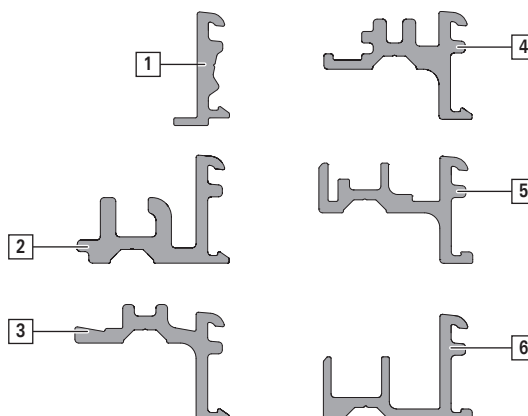
- [4] End cap on the locking side
- [5] End cap on the floating mullion
- [6] Fixing screws
- [7] SG: countersunk screws (not sh.)

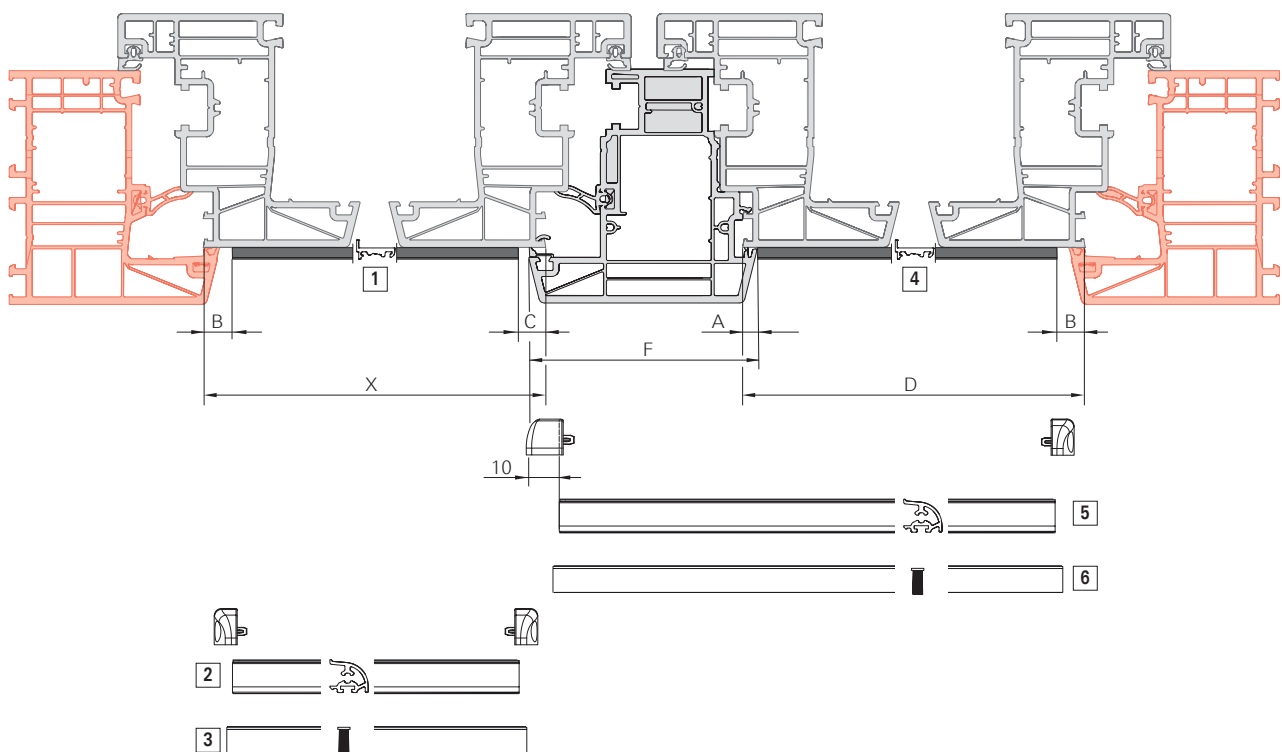
CG: self-drilling screws



Mounting profile variants

- [1] AD
- [2] MD I
- [3] MD II
- [4] MD III
- [5] MD IV
- [6] MD V





[A] Profile system-dependent dimension

[B] Doors: 21.5 mm

Balcony doors: 18.5 mm

[C] Doors: 23.5 mm

Balcony doors: 20.5 mm

Cropping the weather profile strip

1. First opening leaf:

Length of weather profile strip mounting profile: [1] = $X - B - C$

Length of weather profile strip clip-in profile: [2] = [1]

Length of brush gasket / drip seal: [3] = [1] + (2 x 3)

Second opening leaf:

Length of weather profile strip mounting profile: [4] = $D - A - B$

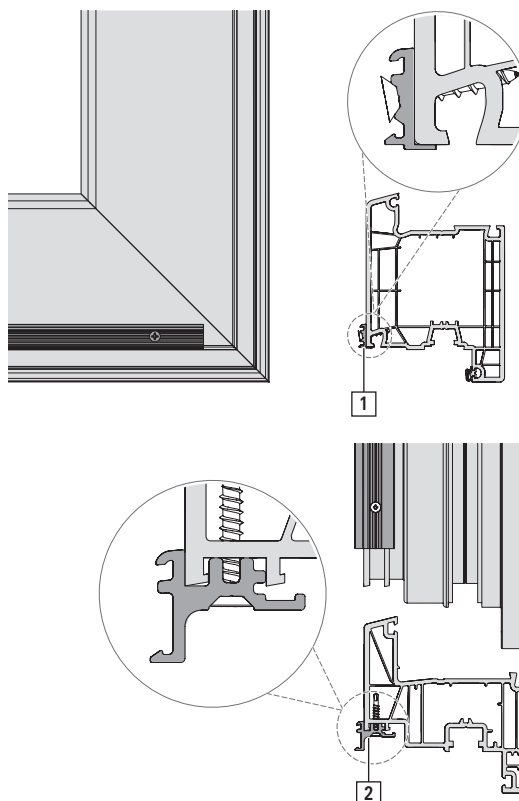
Length of weather profile strip clip-in profile: [5] = [4] + F - 10

Length of brush gasket / drip seal: [6] = [5] + 7 + 3



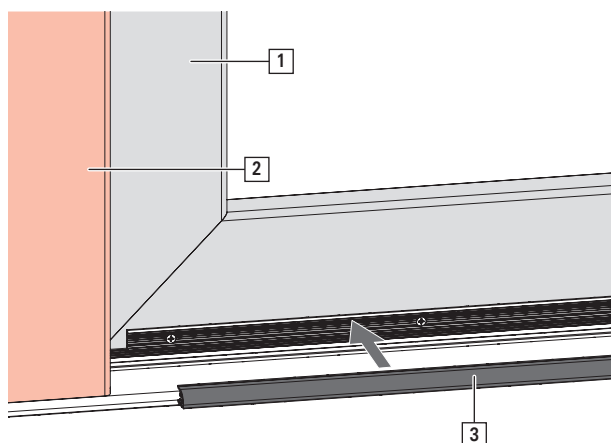
Preparing the leaf

1. Apply sealing compound across the entire mounting profile supporting surface on the leaf.
Fasten the SG mounting profile [1] to the front of the leaf with countersunk screws. Optionally predrill with a drilling jig.
Alternatively: Fasten the CG mounting profile [2] to the bottom of the leaf with self-drilling screws.

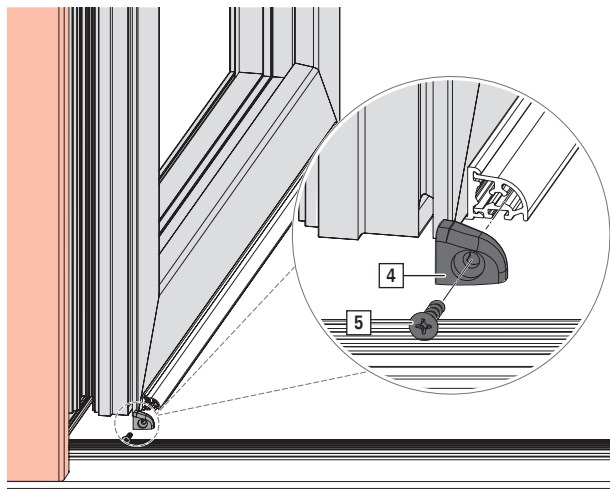


Installing the first opening leaf

1. Install the leaf [1] in the frame [2].
Clip the clip-in profile [3] into the leaf from the outside.



2. Open the leaf. Position the end cap on the hinge side [4] on the clip-in profile on the hinge side and fasten with one screw [5].

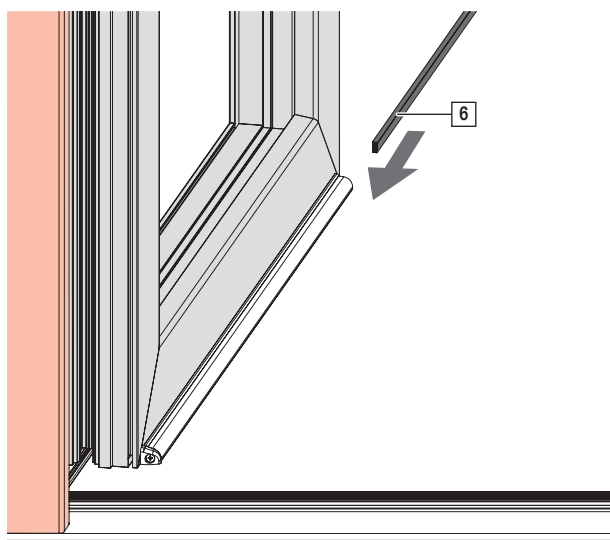


3. Push the brush gasket / drip seal [6] into the clip-in profile.



INFO

The brush gasket / drip seal protrudes slightly.

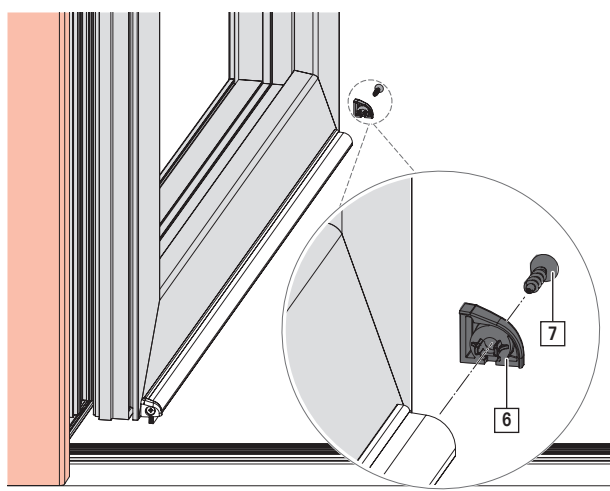


4. Position the floating-mullion end cap [7] on the locking side on the clip-in profile and fasten with one screw [8] to fix the brush gasket / drip seal in position.



INFO

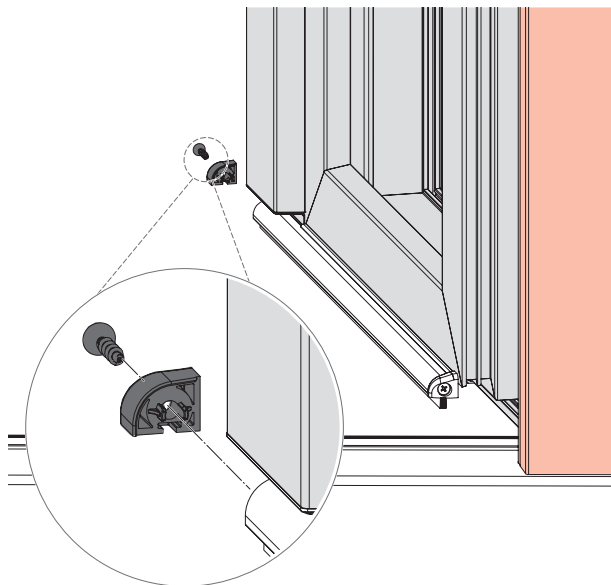
Ensure that you use the correct end cap.



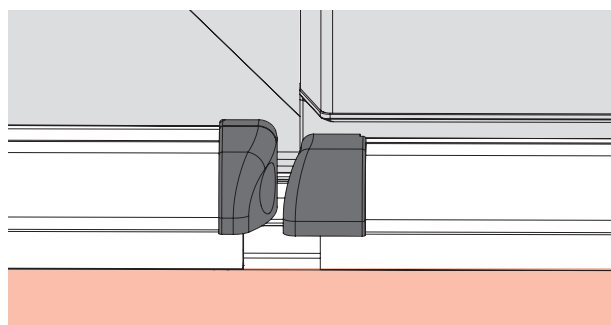


Installing the second opening leaf

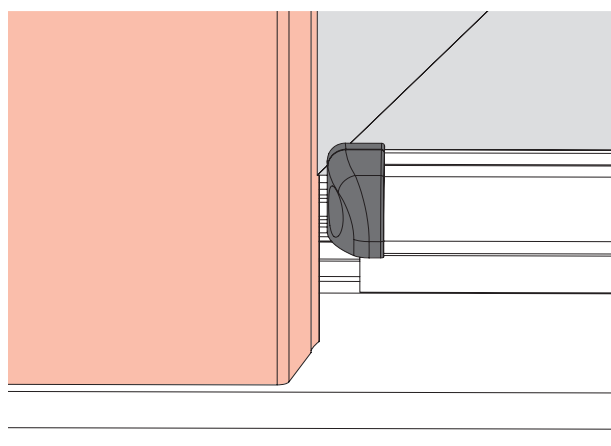
1. Repeat installation steps 1 and 4 for the second opening leaf.



2. Installation situation of the end cap in the floating-mullion area.



3. Installation situation of the end cap in the hinge area.



5.10 Accessories – inward opening

Material	Design		Cover bridge	Wind stop	Eifel TB tilt striker	Run-up blocks
				Aero stop	Packer for Roto NX hinge side Designo (HA 13)	
Timber	Balcony door	Single-leafed	–	–	■	■
		Double-leafed	■	–	■	■
	Door	Single-leafed	–	–	–	–
		Double-leafed	■	–	–	■
PVC	Balcony door	Single-leafed	–	–	■	■
		Double-leafed	■	–	■	■
	Door	Single-leafed	–	■	–	–
		Double-leafed	■	■	–	■

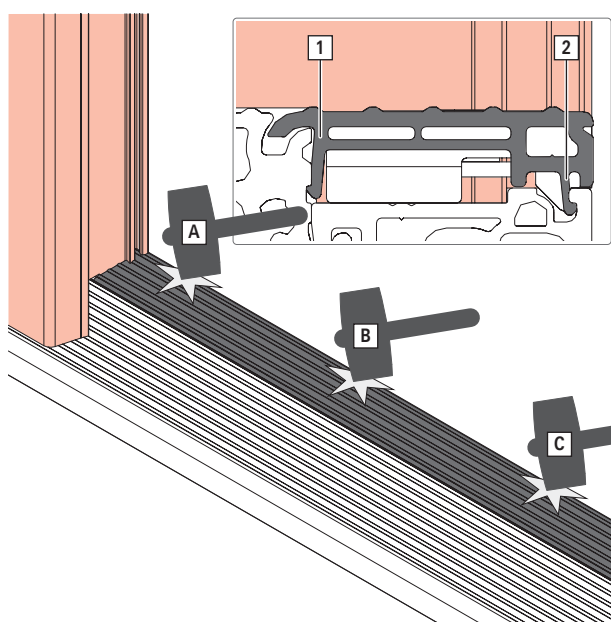


INFO

All other accessory components can be used anywhere.

5.10.1 Cover

1. Apply sealing compound along the entire length of the threshold rebate.
2. Mount the cover in the centre [1] of the threshold.
Clip in the cover at the outside [2] of the threshold using a rubber hammer or by hand, going from the start [A], step by step towards the end ([B], [C], etc.).





5.10.2 Cover bridge



INFO

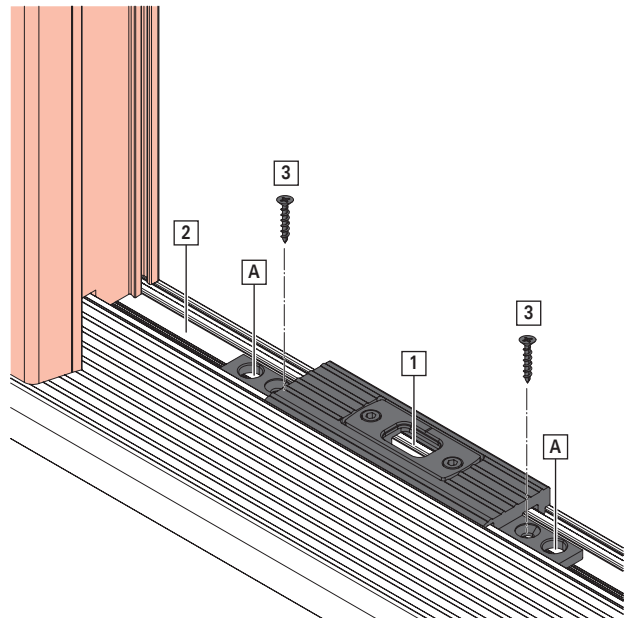
Using the cover bridge changes the $U_{t,BW}$ value and the isotherms in this area.

1. Apply sealing compound to the threshold across the entire area of the cover bridge seat.
Position the cover bridge [1] in the threshold [2].
Fasten with two screws [3].
[A]: fasten on the construction site with two dowels and two screws.

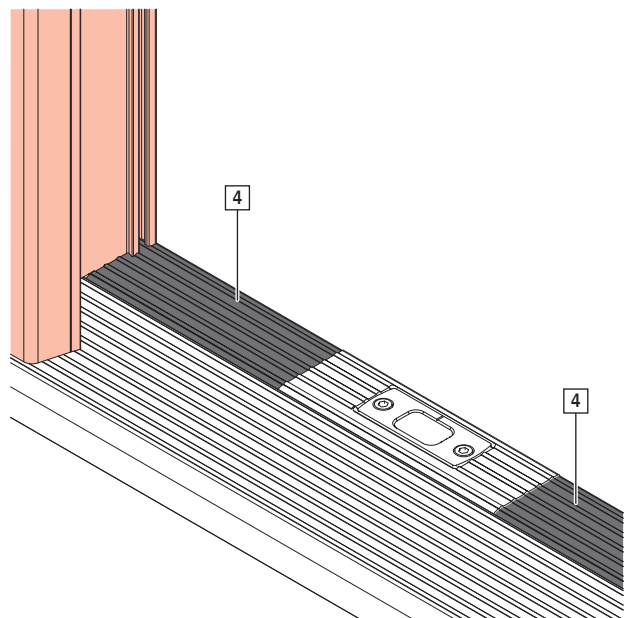


INFO

Screws must be securely screwed into the substructure / subfloor.



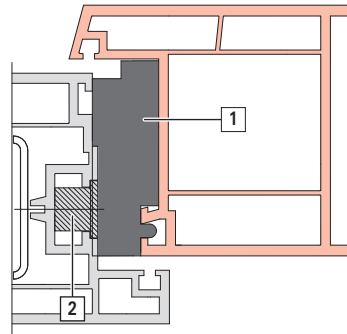
2. Apply sealing compound along the entire length of the threshold rebate. Mount and clip in the cover [4] → *from page 96*.



5.10.3 Wind stop and aero stop

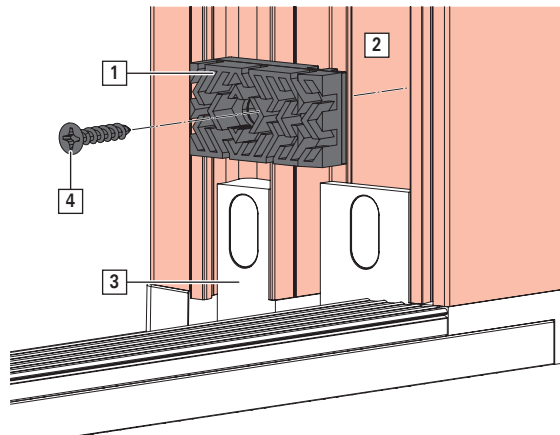
Installation situations

- [1] Wind stop
(for vertical sealing of the rebate area)
- [2] Aero stop
(as a counter bearing for the wind stop)



Installing the wind stop

1. Position the wind stop [1] in the frame rebate groove [2] connected to the retainer [3].



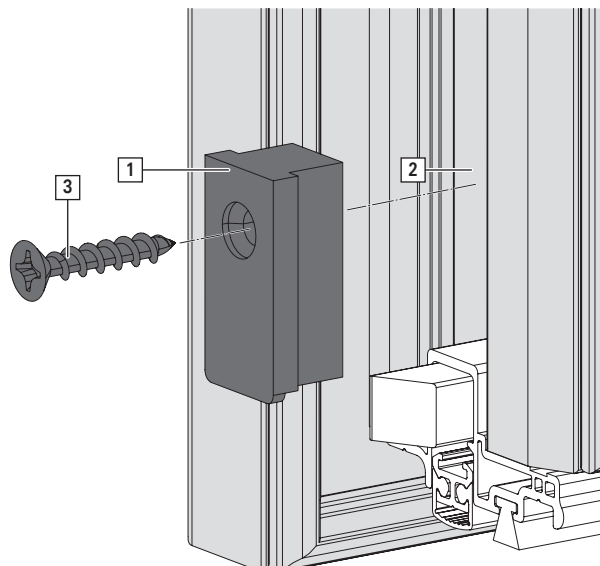
2. Fasten with a screw [4].

**INFO**

Use appropriate sealing compound to optimise the sealing of the rebate area.

Installing the aero stop

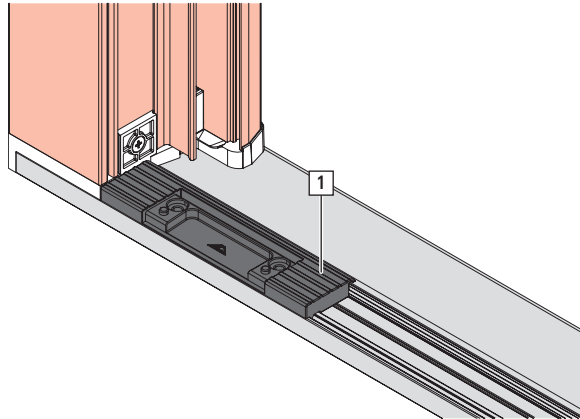
1. Place the aero stop [1] in the sash rebate groove [2].
Fasten in the centre at the height of the wind stop with one screw [3].



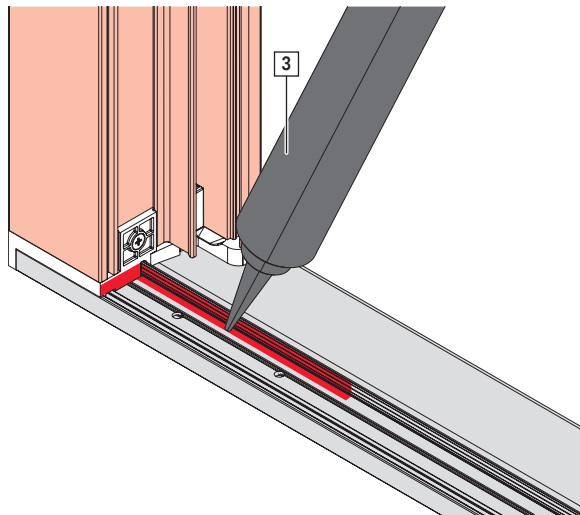


5.10.4 Eifel TB tilt striker

1. Fit the tilt striker [1].



2. Apply sealing compound [3] to the threshold across the entire area of the tilt striker seat.



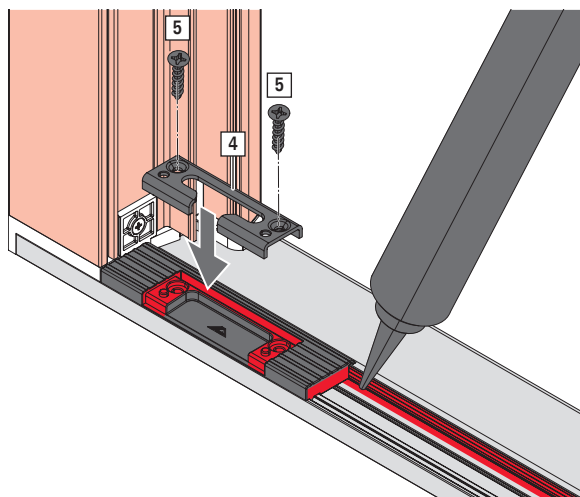
3. Insert the tilt striker.
Apply sealing compound to the tilt striker across the entire area of the top part.
Fit the top part of the tilt striker [4].
For transport, fasten the tilt striker with two screws [5].



INFO

After installing the balcony door, remove the screws again and fasten the tilt striker to the substructure with longer screws.

Apply sealing compound to the threshold across the entire area of the cover seat.

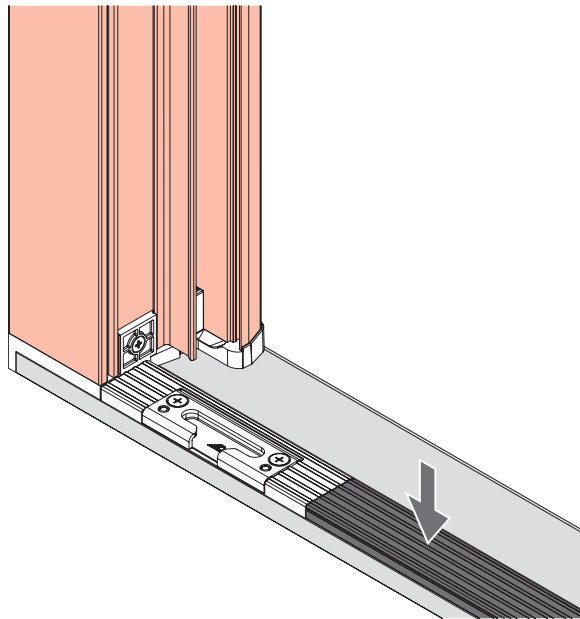


4. Clip on the cover [6].



INFO

The tilt striker and cover line up precisely level with each other.





5.10.5 Packer for hinge side Designo (HA 13)

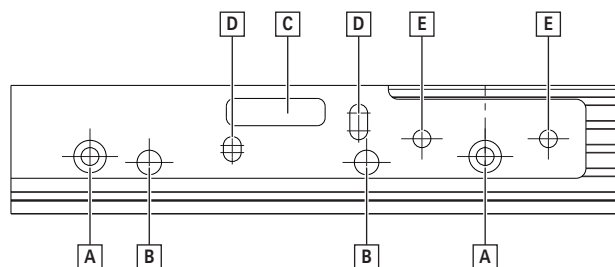


INFO

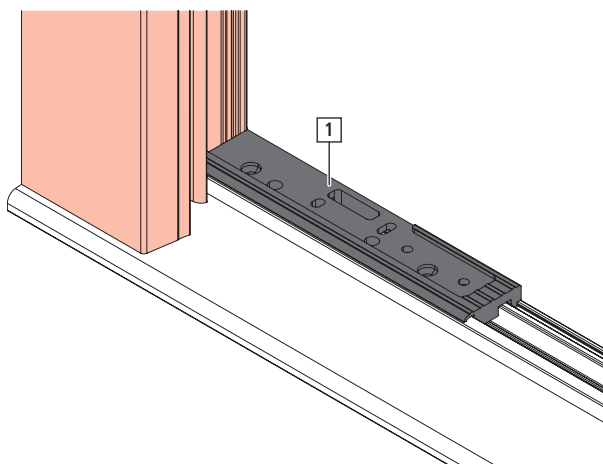
The figures show installation for a PVC profile.

Description of hole pattern for packer for hinge side Designo (HA 13 mm)

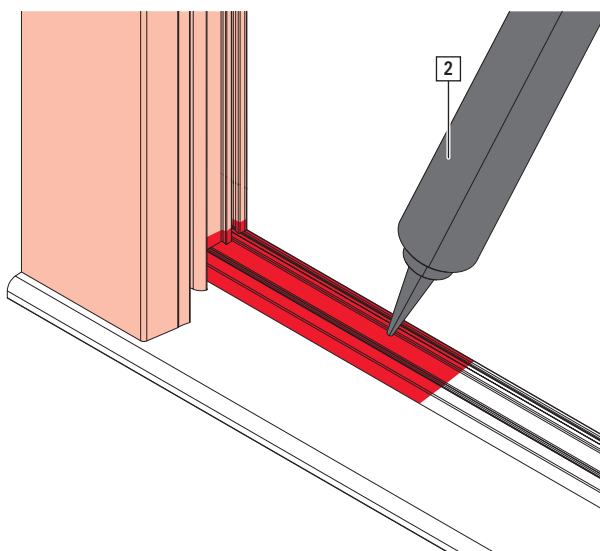
- [A] Packer screw fixing
- [B] Mount for bolt for the timber Designo baseplate
- [C] Mount for support for the PVC Designo baseplate
- [D] Screw fixing for the Designo pivot rest
- [E] Screw fixing for the turn restrictor frame component



1. Place the packer [1] in the frame corner.



2. Apply sealing compound [2] to the threshold across the entire area of the packer.

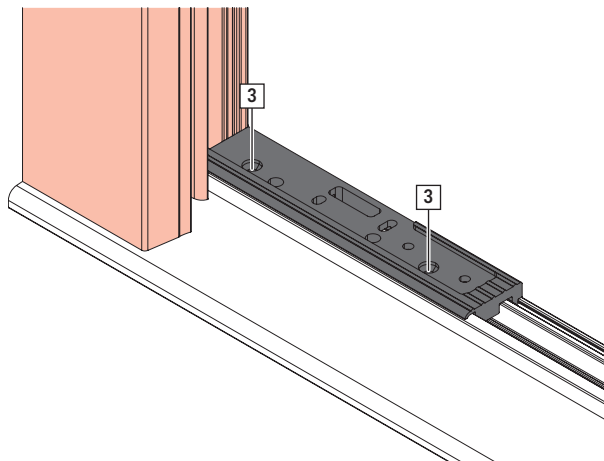


Installation

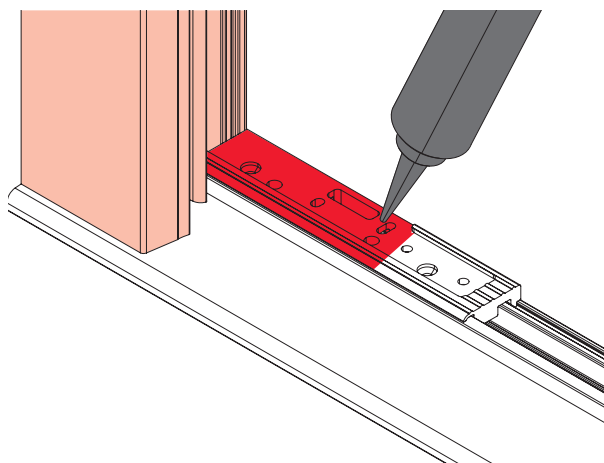
Accessories – inward opening

Packer for hinge side Designo (HA 13)

3. Insert the packer.
Fasten to the threshold with two screws [3].

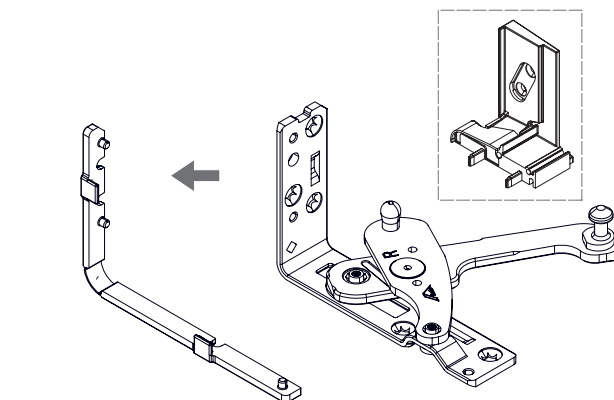
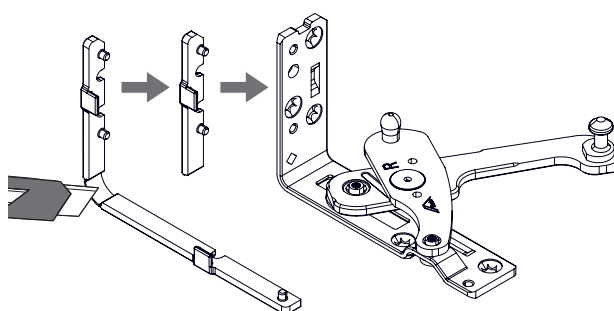


4. Apply sealing compound in the area of the pivot rest.



5. Detach the PVC packer and separate and remove the lower part. Place the upper part of the PVC part on the pivot rest.

The exception is when the PVC packer is used in conjunction with the rebate-screwed threshold retainer which can be combined with Roto NX | hinge side Designo: fully remove the PVC packer from the pivot rest.





6. Open the pivot rest [4] and position on packer with bolt.



INFO

In the case of the pivot rest for the smooth rebate, it may be necessary to support the vertical side with packers.

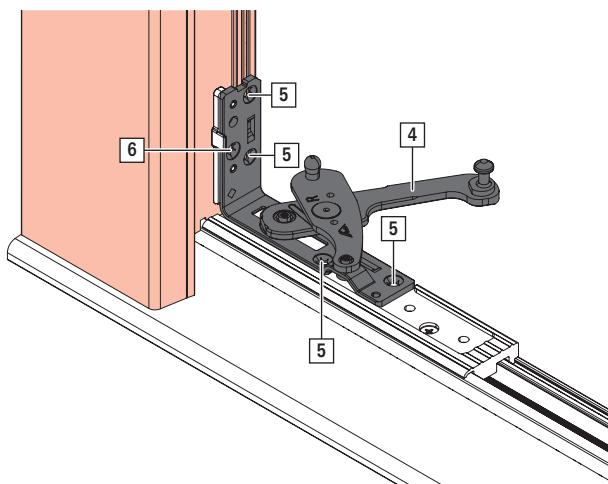
Fasten with four screws [5].



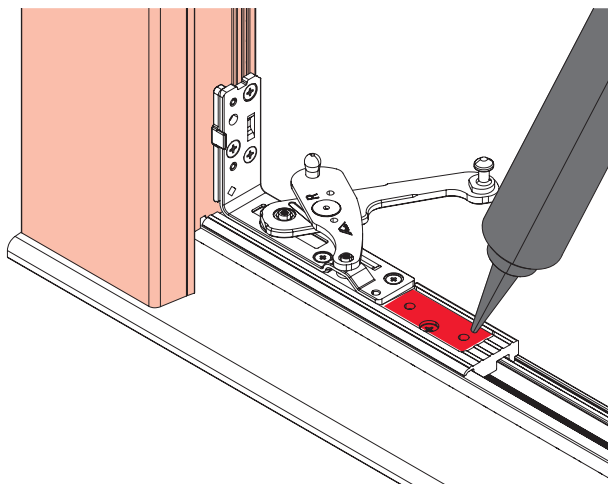
INFO

Screws must be securely screwed into the substructure / subfloor.

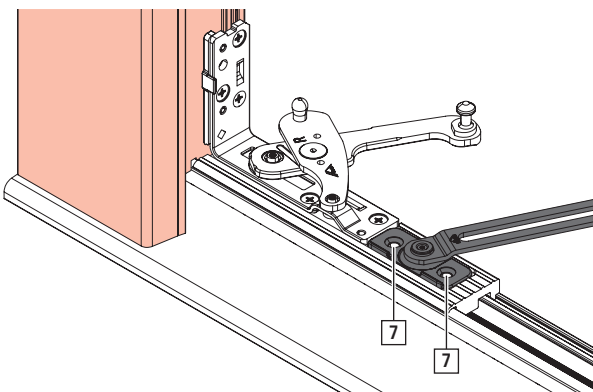
Fasten the pivot rest with an additional screw [6].




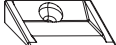
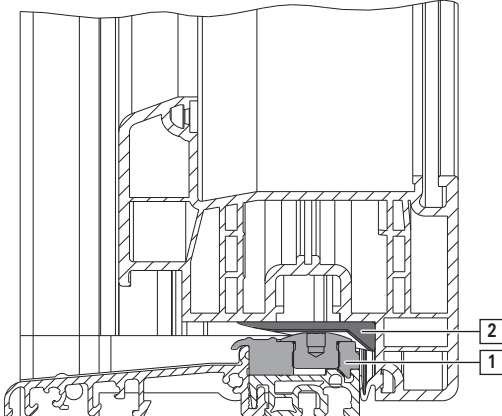

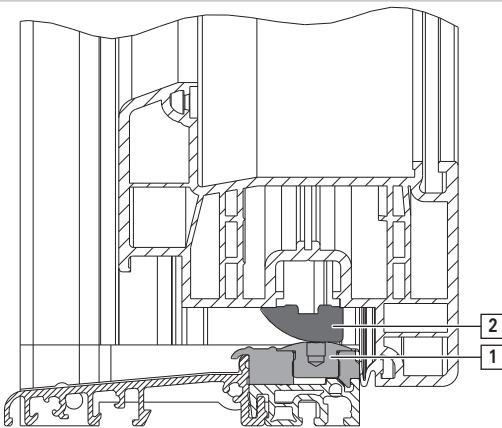
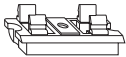
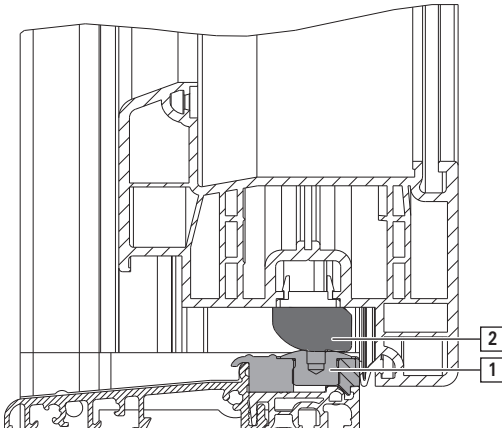
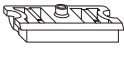
7. Apply sealing compound in the area of the turn restrictor.



8. Position the turn restrictor on the packer and fasten with two screws [7].



5.10.6 Run-up block

Threshold rebate clearance	Frame component	Leaf component	Installation situation
4 mm	 [1] Rebate run-up block for threshold	 [2] Run-up plate for adjustable rebate run-up block	
10 mm		 [2] Run-up block security component for filling the rebate clearance	
12 mm		 [2] Run-up block for groove mounting	
		 Run-up block for floating-mullion installation	



INFO

No run-up block is provided for thresholds with 7 mm rebate clearance.

1. Insert the rebate run-up block into the Eifel TB threshold. Break the cover to do so. If necessary, cut the sash gasket in the area of the run-up block.



6 Adjustment

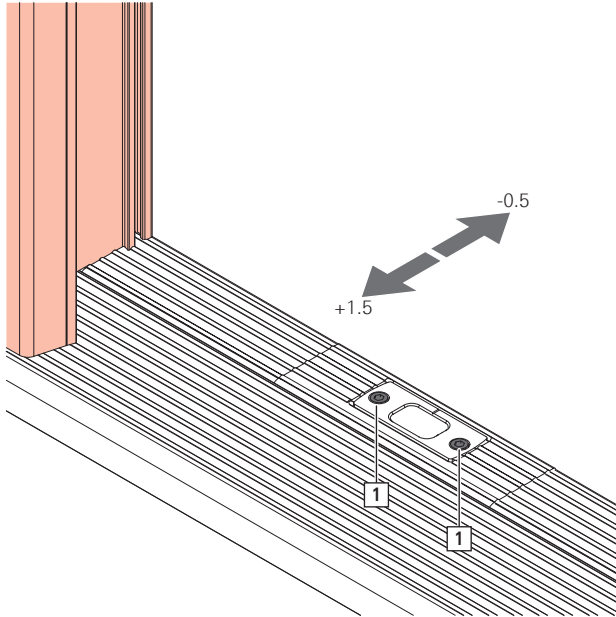


INFO

Roto hardware components may only be adjusted by authorised professionals when the element is installed.

6.1 Adjusting the cover bridge

Use a SW3 hex key on the adjusting screws [1] to adjust the gasket compression (-0.5 / +1.5 mm).



7 Maintenance



CAUTION

Performing maintenance work incorrectly can lead to injuries.

Performing maintenance incorrectly can lead to injuries.

- ▶ Ensure that there is sufficient space for installation before starting work.
- ▶ Ensure that the installation site is clean and tidy.
- ▶ Always have hardware adjustment and replacement work performed by a specialist company.
- ▶ Secure the sash against unintentionally opening or closing.
- ▶ Do not unhinge the sash for maintenance.



ATTENTION

Incorrect or improper testing may cause property damage.

Incorrect or improper testing of the hardware may cause the element to malfunction.

- ▶ Have the hardware checked by a specialist company when installed.
- ▶ If defects need to be remedied, have the element unhinged and remounted by a specialist company.



INFO

The manufacturer must draw the attention of builders and end consumers to these maintenance instructions.

Roto Frank Fenster- und Türtechnologie GmbH recommends the manufacturer conclude a maintenance agreement with their end users.

No legal claims can be derived from the following recommendations; their application is to be based on the specific individual case.

	Responsibility	
Maintenance interval	<input type="checkbox"/>	→ from page 106
Cleaning		→ from page 107
Clean hardware	<input type="checkbox"/>	
Care		→ from page 107
Lubricate movable parts	<input type="checkbox"/>	
Lubricate locking points	<input type="checkbox"/>	
Performance test		
Check that hardware components are fitted securely	<input type="checkbox"/>	
Inspect hardware components for wear	<input type="checkbox"/>	
Check that movable parts work properly	<input type="checkbox"/>	
Check that locking points work properly	<input type="checkbox"/>	
Check ease of movement	■	
Repair		→ from page 108
Retighten screws	■	
Replace damaged components	■	

☐ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company

7.1 Maintenance intervals



ATTENTION

Failure to adhere to maintenance intervals may cause property damage.

The maintenance interval for all tasks relating to the hardware components is **annually** at the least. In hospitals, schools and hotels, the maintenance interval is **six-monthly**.

Regular maintenance is necessary in order to maintain the proper and smooth-running operation of the hardware and to prevent premature wear or even defects.

- ▶ Determine and adhere to the appropriate maintenance interval in accordance with the ambient conditions.



7.2 Cleaning



ATTENTION

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.

- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the components, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carboic acid, chlorine, tannic acid) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the components.

Cleaning the hardware

- ▶ Clean deposits and contaminants off the hardware using a soft cloth.
- ▶ Lubricate movable parts and locking points after cleaning. → 7.3 "Care" from page 107
- ▶ Apply a thin protective film to the hardware, for example using a cloth soaked in oil.

7.3 Care



ATTENTION

Using incorrect lubricants may cause property damage.

Substandard lubricants can prevent the hardware from working properly.

- ▶ Use high-quality lubricants.
- ▶ Only use resin-free and acid-free lubricants.
- ▶ Use appropriate lubricant in more challenging climatic conditions. Note the manufacturer specifications.



ATTENTION

Cleaning agents and lubricants may pollute the environment.

Leaking or excess cleaning agents and lubricants may pollute the environment.

- ▶ Remove any leaking or excess cleaning agents and lubricants.
- ▶ Dispose of cleaning agents and lubricants separately and properly.
- ▶ Observe the applicable directives and national laws.

Ease of movement can be improved by lubricating or adjusting the hardware. All functional hardware components must be lubricated on a regular basis.

Recommended lubricants

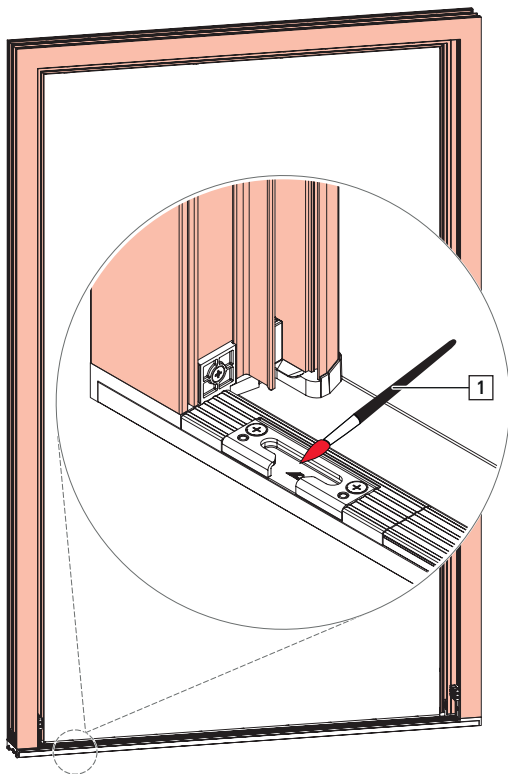
- Roto NX / NT grease



INFO

The figure displays the positioning of potential lubrication points. The figure does not necessarily match the installed hardware. The quantity of lubrication points varies depending on the size and design of the element.

7.3.1 Lubrication points



[1] Grease

7.4 Performance test



WARNING

Improper repair work may pose a risk of death!

Improper maintenance may prevent the element from working properly and make it less safe to use.

- Always have repairs performed by a specialist company.

Check for proper operation:

- Inspect hardware components for damage, deformation and a firm fit.
- Check that doors or balcony doors run smoothly by opening and closing them.
- Check the door or balcony door gaskets for elasticity and fit.
- Check closed doors or balcony doors to ensure that they are leakproof.
- Locking and unlocking torque max. 10 Nm. The test can be performed using a torque wrench.

Have malfunctions remedied by a specialist company.

7.5 Repair



WARNING

Improper repair work may pose a risk of death!

Improper maintenance may prevent the element from working properly and make it less safe to use.

- Always have repairs performed by a specialist company.



ATTENTION

Improper screw fixings may cause property damage.

Loose or faulty screws can prevent the hardware from working properly.

- ▶ Check that the individual screws are secure and seated correctly.
- ▶ Tighten or replace loose or faulty screws.
- ▶ Use only the suggested screws.

Repair work includes replacing and repairing components and is only necessary if components have become damaged after wear or as a result of external circumstances. The hardware must be secured reliably in order to ensure that the element works properly and is safe to use.

The following tasks must only be performed by a specialist company:

- All adjustment work on the hardware,
- Replacing hardware or hardware components,
- Installing and removing windows, doors or balcony doors

The specialist company must observe the following:

- Perform the necessary repair work properly, according to generally recognised engineering practice and in accordance with the applicable regulations.
- Do not perform makeshift repairs on worn or damaged components.
- Only use original or approved spare parts for repairs.

8 Dismantling



WARNING

Improper dismantling may pose a risk of death!

The sash may fall during dismantling.

- ▶ Secure the sash to prevent it from falling, e.g. by using two people.
- ▶ Always have dismantling work performed by a specialist company.



CAUTION

Physical strain may cause injury and damage to health.

Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.

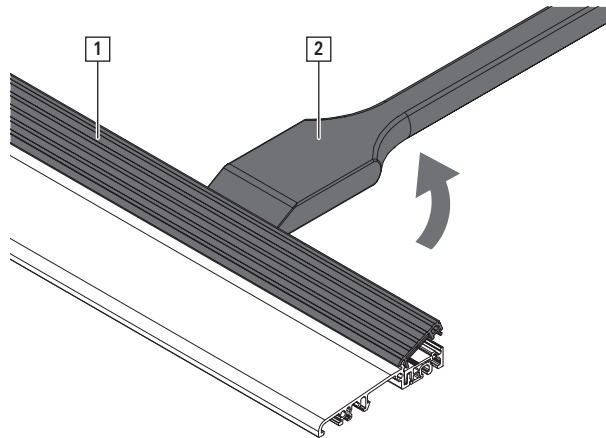


INFO

Unless otherwise stated, dismantling is performed in reverse order to installation.

8.1 Cover

Remove the cover [1] using a glazing tool [2].





9 Transport

9.1 Transporting components



ATTENTION

Property damage to PVC components in cold or sunlight!

If it cannot be ensured that PVC components will be transported at temperatures below $> 15^{\circ}\text{C}$, improper use may result in damage.

1. Do not throw, tip or drop PVC components.
2. Protect PVC components against sunlight.

Do not wrap multiple components together in film (avoid stress / deformation).

The surface of PVC is prone to scratching. Sharp edges on shelves, nails in pallets, coarse dirt particles between the products and other sharp-edged objects can cause scratches / score marks, potentially leading to a notch effect and breakage. Ensure that there are no scratches or score marks on the surface upon receipt.

9.2 Transporting elements and hardware



DANGER

Improper transport poses a risk of death!

Improper procedures for transporting, loading or unloading elements may cause serious injuries and glass breakage as a result of the elements swinging open, falling or becoming overloaded.

- ▶ Note the applicable accident prevention regulations.
- ▶ Note force application points and reaction forces.
- ▶ Prevent the sash from opening uncontrollably.
- ▶ Avoid jerky movements.
- ▶ Use suitable transportation means and protective devices.
- ▶ Watch out for protruding components.
- ▶ Transport heavy loads with two people and use suitable transportation means (such as an industrial truck).



CAUTION

Trapped limbs may result in injuries.

The transported goods can skid, open, close or fall during transportation tasks. This can result in limbs being trapped and seriously injured.

- ▶ Never reach near the scissor stays.
- ▶ Close the sash after installation and secure it in place for transport.
- ▶ Wear safety gloves and protective footwear.



CAUTION

Physical strain may cause injury and damage to health.

Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.

Hardware is supplied to the specialist company as complete sets. The components are packaged accordingly for each scope of delivery. The instructions for safely transporting the hardware are described below.

Observe the following basic instructions when transporting hardware:

- ▶ Transport larger scopes of delivery using appropriate transportation means (such as industrial trucks).
- ▶ Note the transport weight in order to select appropriate transportation means.
- ▶ Ensure that the transport process is careful and appropriate for the material and that components are protected against dirt during transport.
- ▶ Immediately check the delivery for completeness and transport damage on receipt.



INFO

Submit a complaint about any defects as soon as they are identified. Claims for damages may only be made within the reclamation period.

Use the following transportation means for support when transporting, loading and unloading larger scopes of delivery:

- Industrial trucks, e.g. forklifts, telescopic handlers, pallet trucks
- Lifting equipment, e.g. transport nets, carry straps, round slings
- Protective devices, e.g. edge protection, spacer blocks



INFO

Industrial trucks and lifting devices may only be operated by qualified persons.



INFO

Lifting equipment and protective devices may only be used if they are in full working order.

9.3 Storing components

Incoming goods inspection

The high-quality PVC products we deliver are inspected before dispatch. However, temperature fluctuations may cause their dimensions to change. Check the goods at room temperature within ten days of receipt to ensure that their dimensions are stable and store them out of sunlight after this check.

Only perform dimension checks straight after receiving the goods if the products are at room temperature (>15 °C) on delivery. Products with higher or lower temperatures may lead to incorrect measured values due to temperature-related expansion or contraction of the PVC. If products are too cold before the dimension check, temporarily store them in a dry place to bring them up to room temperature.



Storage location



ATTENTION

Property damage to PVC components in cold or sunlight!

If it cannot be ensured that PVC components will be stored at room temperature, they may be damaged.

1. Do not throw, tip or drop PVC components.
2. Protect PVC components against sunlight.
3. Do not store thresholds, including cover, outdoors for prolonged periods. Direct sunlight or single-sided heating poses the risk of permanent warping due to thermal expansion and the release of internal residual stress.

Store all components as follows until they are installed:

- In a dry place where they are protected
- On a level, clean surface (prolonged storage on transport frames for more than 24 hours is prohibited.)
- On a clean surface (the surface of PVC is prone to scratching. Sharp edges on shelves, nails in pallets, coarse dirt particles between the products and other sharp-edged objects can cause scratches / score marks, potentially leading to a notch effect and breakage. Ensure that there are no scratches or score marks on the surface upon receipt.)
- If storing multiple layers of components, always remove components from the top first.

10 Disposal



ATTENTION

Incorrect disposal may pollute the environment.

Pieces of hardware are raw materials.

- ▶ Dispose of hardware for environmentally friendly material reutilisation as mixed scrap.

10.1 Disposing of packaging

The hardware is supplied as complete sets together with the packaging. Once unpacked, the installation company or builder is responsible for disposing of the packaging properly. The packaging materials are produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of packaging:

- ▶ Do not dispose of packaging in household waste.
- ▶ Hand over packaging at local waste collection points or recycling centres.
- ▶ Observe the national regulations on the disposal of recyclable materials.
- ▶ Contact the local authorities if necessary.

10.2 Disposing of hardware

Once the hardware is finished with, the end user or builder is responsible for properly disposing of the windows, doors or balcony doors and the hardware, including any accessories. Hardware is produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of hardware:

- ▶ Observe the information and specifications for disposal contained in the other applicable documents.
- ▶ Separate hardware components from windows, doors or balcony doors.
- ▶ Do not dispose of hardware in household waste.
- ▶ Hand over hardware at local waste collection points or recycling centres.
- ▶ Observe the national regulations on the disposal of recyclable materials.
- ▶ Contact the local authorities if necessary.



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From a single source: Optimum hardware systems to meet all challenges

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