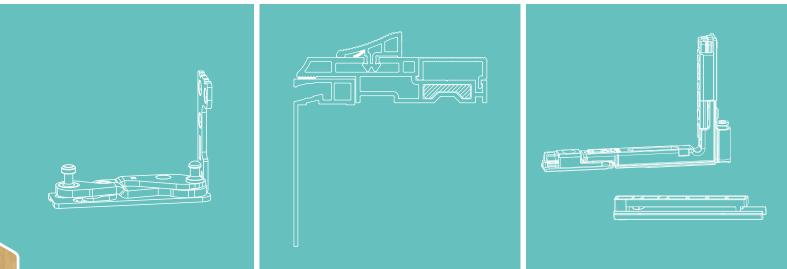




# MACO MULTI MATIC TILT AND TURN HARDWARE



PVC

# ASSEMBLY INSTRUCTIONS

Multi Power in thresholds

Use only by certified specialists!

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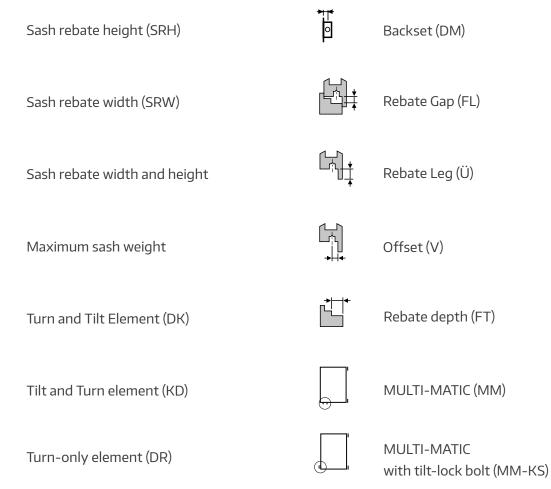
Hinging/unhinging of the sash Settings Maintenance instructions Notes for security windows according to EN 1627

Additional assembly instructions for central lock (Order No. 759173) and assembly instructions for hinge side Multi Power (Order No. 757808) must be observed!

# Key and Abbreviations



ß



#### AWD = Application diagram

ZV = Central lock



# Important Information

#### **Target audience**

This documentation is intended exclusively for specialist companies and certified specialists. The work-steps described here in may only be carried out by certified specialists.

#### Instructions for use

- > Unless otherwise indicated, measurements are made in millimetres.
- > Mount all hardware parts professionally as described in this manual and observe all safety instructions.
- > All diagrams are only symbolic.
- > Further technical documents can be found in our online catalogue (TOM) at extranet.maco.eu.
- > This print document is constantly being revised and is available for download in the current version at www.maco.eu.
- > Printing errors, mistakes and changes are reserved.
- > Please send feedback or suggestions and ideas for improvements on our instructions by email to: feedback@maco.eu

#### **Material notes**

- > The hardware parts described in this guide are made of stainless steel or galvanised passivated steel and sealed in accordance with DIN EN 12329. They must not be used in environments with aggressive, corrosive air content.
- > Do not use acid-curing sealants, as these can lead to corrosion of the hardware parts.
- > The window and casement door elements may only be surface-treated before the hardware is installed. Any subsequent surface treatment may restrict the functionality of the hardware. In this case, no warranty claims can be made against the hardware manufacturer.

#### System descriptions

- > DT > Dual-drillhole version
- > AS > Surface-mounted fittings

# General processing instructions

Intended Use

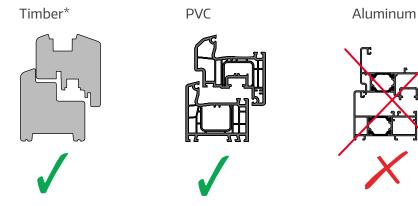
These assembly instructions for the hinge side Multi Power in thresholds are binding. The use and assembly of the components is only permitted in the manner listed below. Any other use is not provided for and therefore does not correspond to the intended use. The following points also need to be considered:

- > Information on application areas, sash weights and fabrication guidelines from profile manufacturers or system providers must be considered in a binding manner!
- > The centre of gravity or position of the glass pane can affect application areas and max. weights and must be requested if necessary!

In the event of non-compliance, no claims will be considered!

#### Application notes

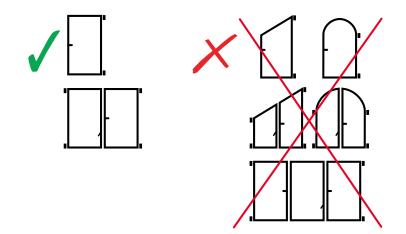




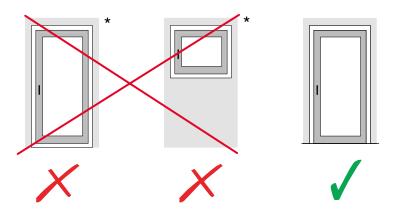
\* only Transit threshold



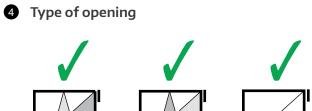
### **2** Applications / Sash version

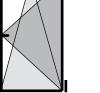


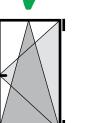
**3** Window design

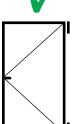


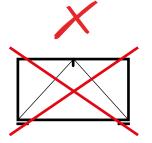
\* see assembly instructions Order Number 757332







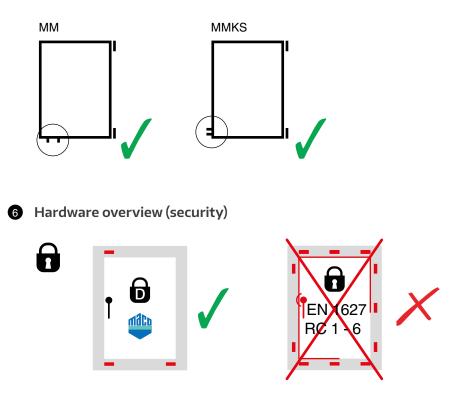




Opening distance ≤ 100°



**5** Hardware program



#### 7 Fitting groove

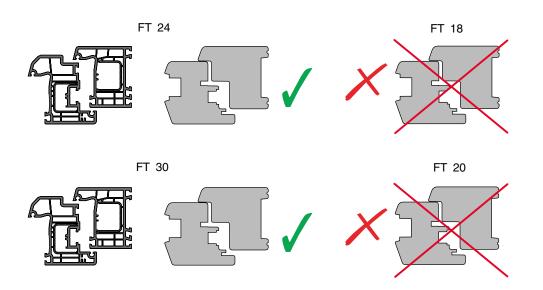
The fitting groove must be implemented according to the information in our Print and Online Catalogues!

#### 8 Frame rebate



TIMBER:

The pivot post must be fully flat! Glue grooves in frame!





#### **9** Screw dimension

For fixing the corner support and scissor stay support in timber and PVC profiles, a special screw Ø 4.5 x 38 mm, Article No. 362918 (Phillips) or 367828 (TX 20) must be used. Use a Ø 3.9 x 25 mm screw for fixing in aluminum.

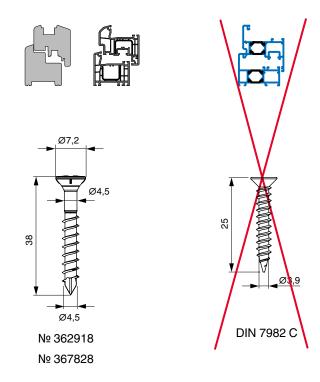
# DANGER!

The fixing of the bearing parts must meet the requirements of the TBDK guidelines (quality association for locks and hardware www.schlossindustrie.de) or comply with EN 13126-8!



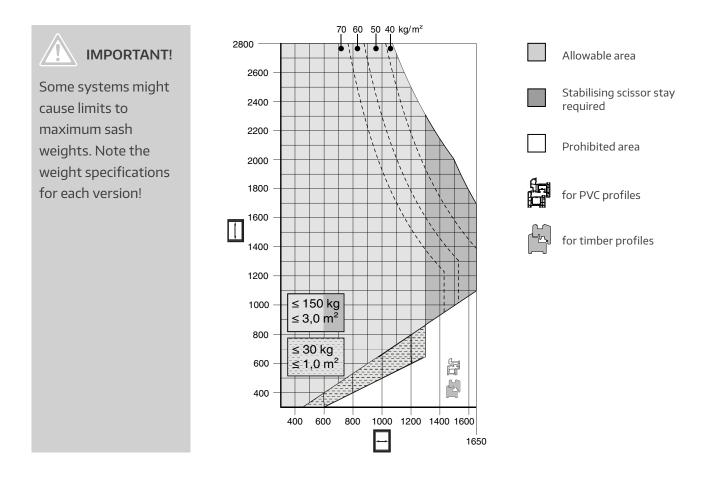
### IMPORTANT!

Use screws as long as possible to fix the rebated corner support. At least Ø 4.0 x 30 mm!



With PVC, the fixing with screws must be done in the steel reinforcement! Any other case must be consulted with us!

#### Application diagram



All notes on the use of application diagrams in our print and online catalogues must be considered!



# Threshold TRANSIT PERSONAL

Basic processing instructions

#### 1 Maximum sash weight



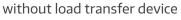
#### **IMPORTANT**!

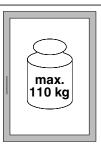
The threshold must be packed along the entire length in the hinge area. The load must be carried by the packer profile!



## WARNING!

From a sash weight of 80 kg, the packer Article No. 473860 must be used!





The application diagram applies to Multi Power with a maximum sash weight of 110 kg!

with load transfer device



# The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

The possible application and the application areas for the different versions of the TRANSIT PERSONAL must be taken from the assembly instructions for the Transit Personal threshold (Order No. 757214).

#### **3** Threshold parts list

The list of all required parts (threshold, adjustment piece, cover profile, gasket, etc.) and all accessories are subject to the assembly instructions for the Transit Personal threshold (Order No. 757214). These parts can also be found in the MACO Online Catalogue (TOM).

#### Processing and assembly instructions for thresholds / profile system

The processing guidelines of the profile manufacturer or system provider regarding the connecting of the threshold and frame profile must be observed in a binding manner!

#### Sash cross-section

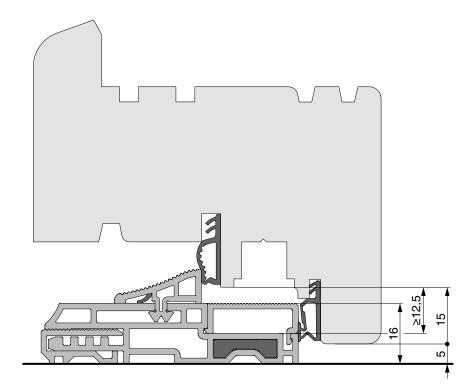


Profile with sash gasket

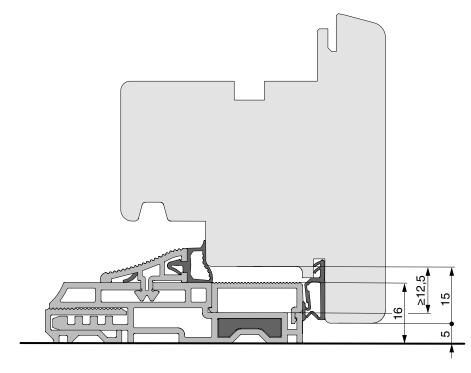
When using a cover cap for the Multi Power pivot post, the rebate gap must be a minimum of 13 mm (without cap profile)!

# ATTENTION!

The distance of the sash to the floor should be a minimum of 5 mm, to prevent small items on the floor causing damage.



#### Profile with frame gasket





#### Packer profile cross-section



#### Examples

The threshold with frame must be packed along the entire length. The load must be carried by the packer profile!

### IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.



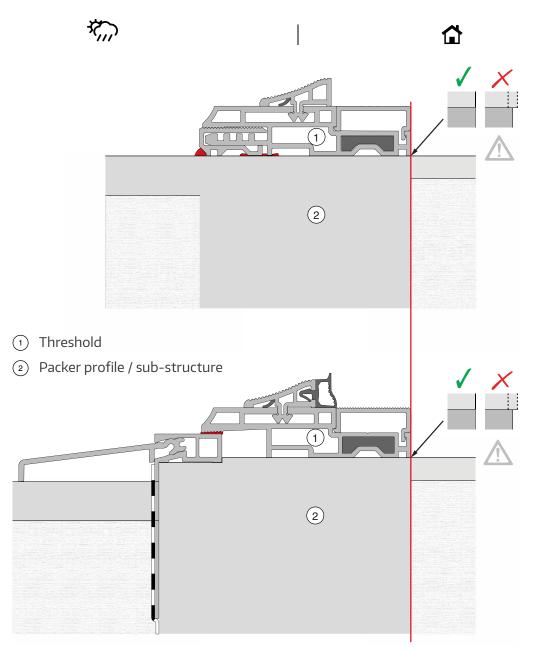
## IMPORTANT!

The inner edge of the threshold must be flush with the packer profile.



# IMPORTANT!

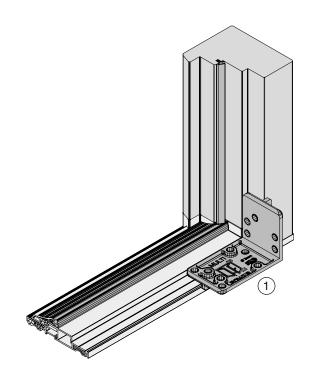
Country specific requirements and guidelines for floor construction must be considered.



- 1 Threshold
- (2) Packer profile / sub-structure

Hardware installation on the frame





() Insert drill jig Article No. 217092 (right) or 217093 (left) as shown and pre-drill with Ø 3 mm drill.



Insert pivot post (Article No. 215812, FT24 9V right bzw. 215813, FT24 9V left) or 215810 (FT24 13V right) or 215811 (FT24 13V left) and fix in position.



#### **IMPORTANT!**

Maximum sash weight 130 kg. From a sash weight of 80 kg, the packer (B) Article No. 473890 must be used (lower diagram).



#### **IMPORTANT!**

Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!



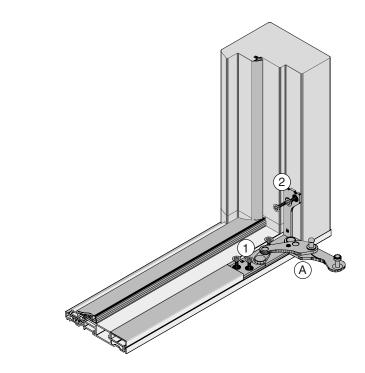
#### IMPORTANT!

Fixing screws for the pivot post must not be over-tightened!



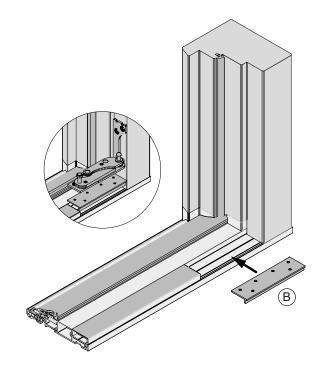
#### IMPORTANT!

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!

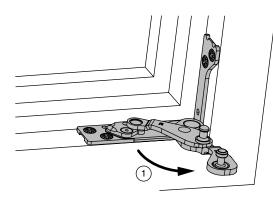


- Horizontal: Hardware screw Ø 4 × 13 mm
- 2 Vertical:

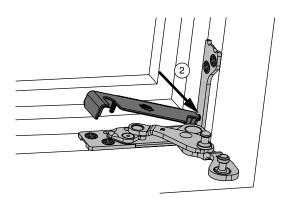
Special drilling screw Ø 4.5 x 38 mm (Article No. 362918 or 367828)



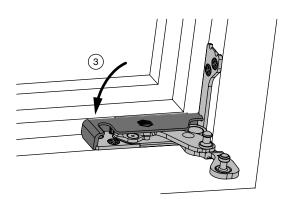
3 Apply cover cap Article No. 364498 (right) or 364499 (left).



① Open pivot post fully.



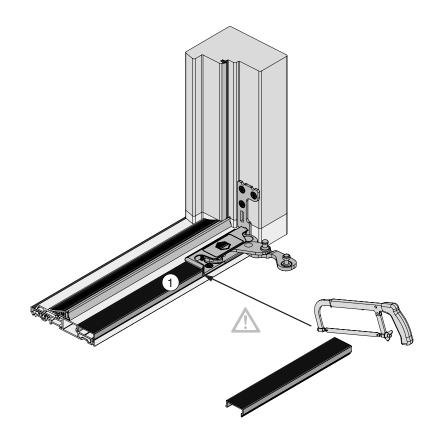
(2) Hang the cover cap into the corner area.



③ Clip the cover cap into the baseplate. Rebate gap lower horizontal minimum 13 mm!



4 Cover profile

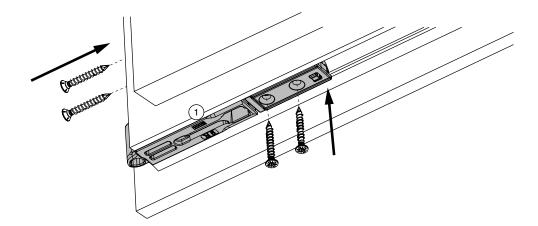


1 Cut the rest profile to length with the cover cap and insert it into the threshold.

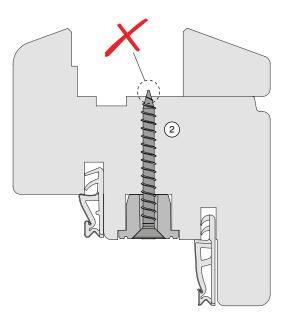
To remove the cover cap, the rest profile must be removed beforehand!

Hardware installation on the sash





(1) Insert corner support Article No. 215804 (right) or 215805 (left) insert into fitting groove and fix with Ø 4 x 30 mm screws.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

2 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer's instructions.



# TRANSIT threshold extendable with strip gasket

Basic processing instructions

#### 1 Maximum sash weight

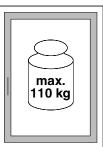


DANGER!

The threshold must be packed along the entire length in the hinge area.

The load must be carried by the packer profile!

#### without load transfer device



The application diagram applies to Multi Power with a maximum sash weight of 110 kg!

#### with load transfer device



# The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

The possible application and the application areas for the different versions of the extendable TRANSIT threshold must be taken from the assembly instructions for the extendable Transit threshold (Order No. 750097).

#### **3** Threshold parts list

The list of all required parts (threshold, adjustment piece, cover profile, gasket, etc.) and all accessories are subject to the assembly instructions for the Transit threshold (Order No. 750097). These parts can also be found in the MACO Online Catalogue (TOM).

#### Processing and assembly instructions for thresholds / profile system

The processing guidelines of the profile manufacturer or system provider regarding the connecting of the threshold and frame profile must be observed in a binding manner!

The general connection of the threshold and frame profile is subject to the assembly instructions for the extendable Transit threshold (Order No. 750097).

#### Sash cross-section



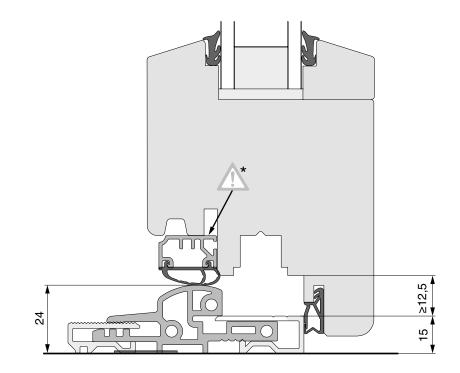
When using a cover cap for the Multi Power pivot post, the rebate gap must be a minimum of 13 mm (without cap profile)!



The distance of the sash to the floor should be a minimum of 5 mm, to prevent small items on the floor causing damage.

# NOTE!

Only the threshold with a construction height of 24 mm is permitted in the assembly of the Multi Power pivot post!



\*Gasket track must be flush sideways with the sash rebate!



#### Packer profile cross-section



Example

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

**IMPORTANT!** 

The length of the packer profile must be flush on both sides with the frame outer edge.

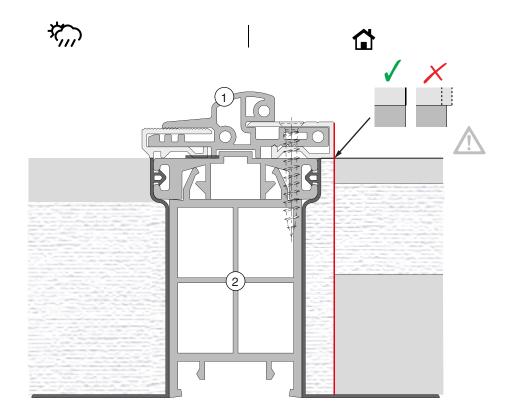
#### **IMPORTANT!**

Further information on the Transit threshold can be found in the assembly instructions Order No. 750097.



IMPORTANT!

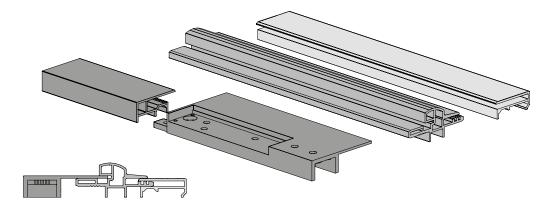
Country specific requirements and guidelines for floor construction must be considered.



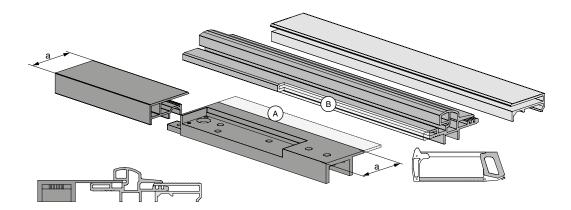
- 1 Threshold
- Packer profile / sub-structure

#### Adjusting the threshold for Multi Power

1 Set the width of the rail (see also assembly instructions for Transit threshold Order No. 750097).

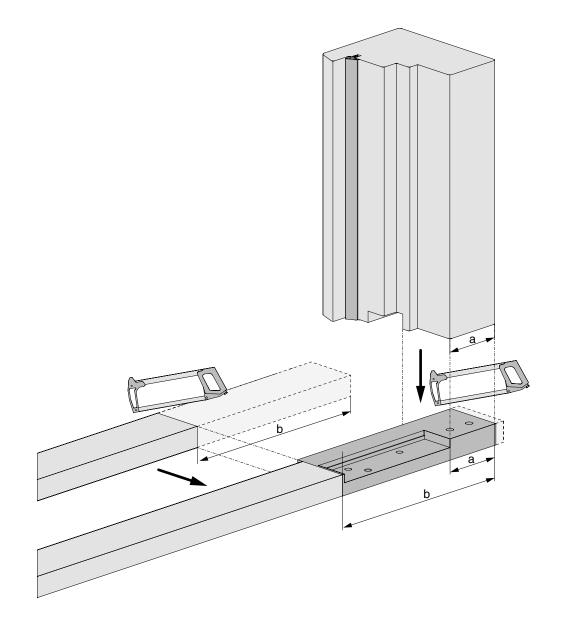


2 Depending on the rebate depth, shorten the width of the adapter (A); with ← a → rebate depth less than 42 mm, the thermal isolation (B) must also be milled down.

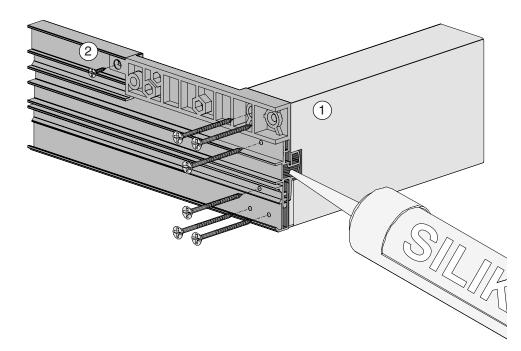




Adjust the adapter to the width of the frame ← a →; shorten the aluminium profile to the length of the adapter ← b →.



• Screw the adapter onto the frame and onto the threshold and seal the joints of the threshold with silicone.



- Frame profile: Vertical screw Ø 2.9 x 9.5 mm
- (2) Threshold:Vertical screw Ø 5.0 × 50 mm



#### Hardware installation on the frame

1 Insert pivot post Article No. 215812 (FT24 9V right) or 215813 (FT24 9V left) or 215810 (FT24 13V right) or 215811 (FT24 13V left) and fix in the open state.



IMPORTANT!

Maximum sash weight 130 kg.



### IMPORTANT!

Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!

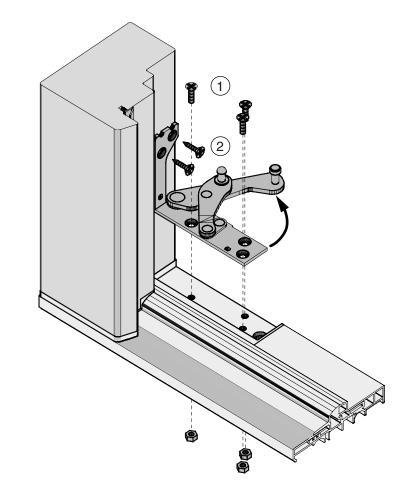
#### **IMPORTANT!**

Fixing screws for the pivot post must not be over-tightened!



### IMPORTANT!

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



1 Horizontal:

Screw M4 x 10 mm

2 Vertical:

Special drilling screw Ø 4.5 x 38 mm (Article No. 362918 or 367828)

#### 2 Fix threshold with packer

# IMPORTANT!

Maximum sash weight 130 kg.

### IMPORTANT!

Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!

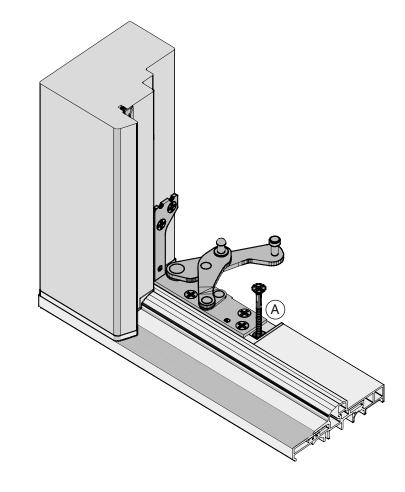
#### **IMPORTANT!**

Fixing screws for the pivot post must not be over-tightened!



#### IMPORTANT!

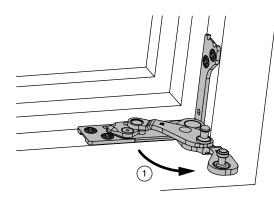
General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



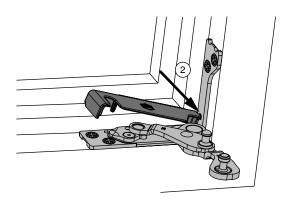
(1) When drilling (A), fix the packer with the adapter using the longest possible screws.



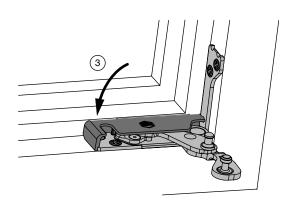
3 Apply cover cap Article No. 364498 (right) or 364499 (left).



① Open pivot post fully.

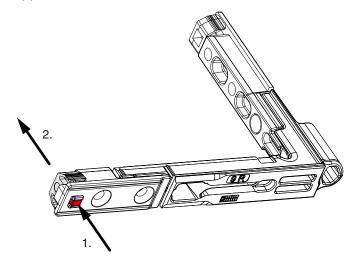


(2) Hang the cover cap into the corner area.

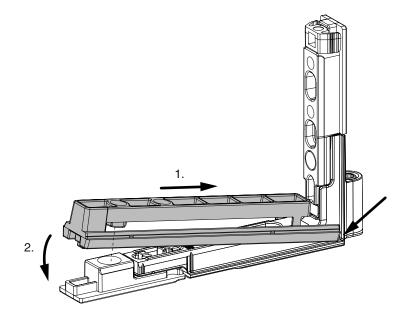


③ Clip the cover cap into the baseplate. Rebate gap lower horizontal minimum 13 mm! Hardware installation on the sash

1 Attachment for corner support



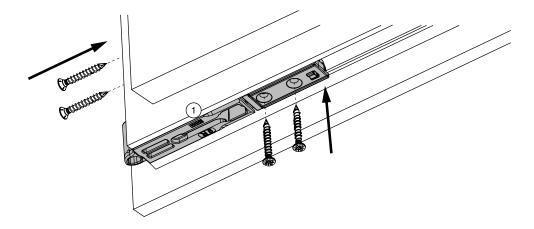
(1) Remove fixing part by pushing the wedge (1.) and lifting upwards (2.).



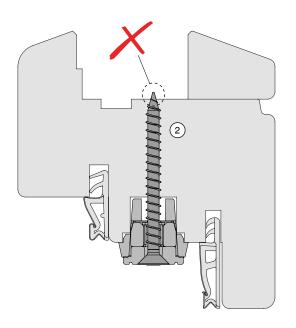
(2) Insert attachment Article No. 368390 into the corner of the corner support (1.) and then press into the recess (2.).



### 2 Corner support



(1) Insert corner support Article No. 215804 (right) or 215805 (left) in the fitting groove and fix with Ø 4 x 30 mm screws.



# Threshold GRUNDMEIER "COMBI"

Basic processing instructions

#### 1 Maximum sash weight



### DANGER!

These assembly instructions are only valid for the Aluminium version, not for the PVC version!

Explicitly excluded are also retrofitted and similar threshold profiles that do not have exactly the same profile geometry and material thicknesses as the Grundmeier Combi threshold!

Similar threshold profiles and retrofits are not covered by these instructions and are also not approved!



## DANGER!

The threshold must be packed along the entire length in the hinge area.

The load must be carried by the packer profile!

#### without load transfer device



The application diagram applies to Multi Power with a maximum sash weight of 110 kg!

#### with load transfer device



# The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

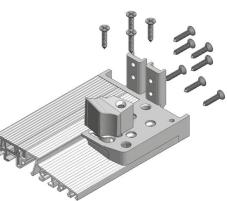
The possible application and the scope of the different versions of the "COMBI" threshold can be found in the documents of the Grundmeier KG company.

#### **3** Threshold parts list

The list of all required parts (threshold, threshold holders, gaskets, etc.) and all accessories can be found in the documents of the Grundmeier KG company.

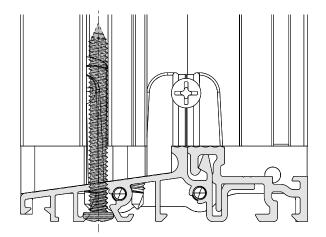
#### Processing and assembly instructions for thresholds / profile system

The processing guidelines of the profile manufacturer or system provider regarding the connecting of the threshold and frame profile or profile system must be observed in a binding manner! For the connecting element, only the implementation shown here is permitted!





Frame cross-section



"Alternative fixing"



This **"alternative fixing**" processing guideline from Grundmeier KG **must always be performed in a binding manner**!

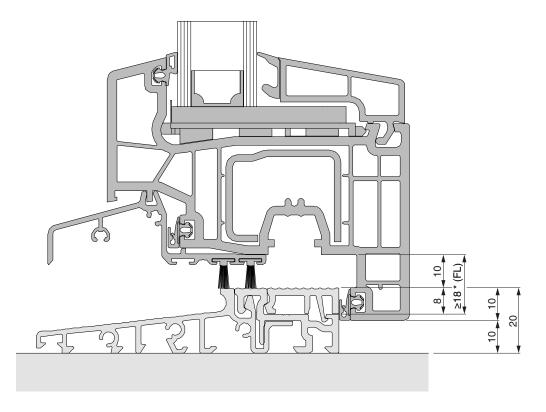
Otherwise, our data regarding weight etc. cannot be adhered to!

With the **"alternative fixing"**, the screw connection is done from below through the threshold into the PVC frame profile.

If the **"alternative fixing"** version in the profile channels of the plastic profile is not possible and the use of a filler core is considered, it is imperative to contact us beforehand for advice!

This version of the connection with a filler core is not approved by us!

Sash cross-section



\*When using a cover cap with the Multi Power pivot post, the rebate gap must be at least 18.5 mm (without cover cap profile)!



#### Packer profile cross-section



#### Example

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.

## IMPORTANT!

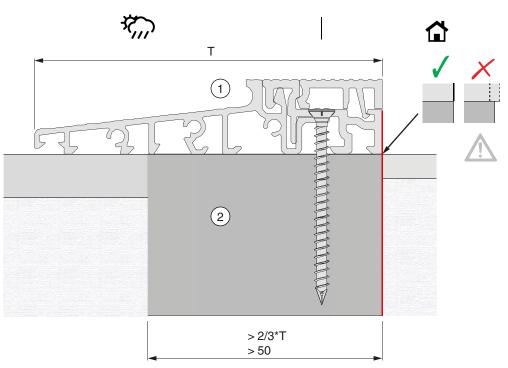
The width of the packer profile must be a minimum of 2/3 of the threshold depth, but no less than 50 mm.

The inner edge of the threshold must be flush with the packer profile.



#### **IMPORTANT!**

Country specific requirements and guidelines for floor construction must be considered.



- 1 Threshold
- 2 Packer profile / sub-structure



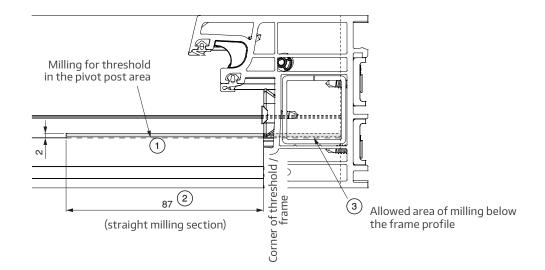
The fixing must be done through the aluminium area of the threshold!

Hardware installation on the frame

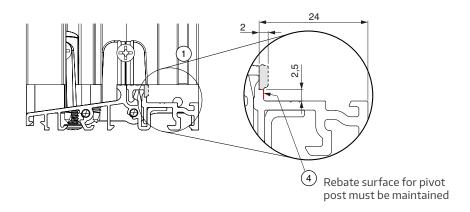
1 Cut the threshold to length (observe the manufacturer's instructions).

#### 2 Mill out the pivot post recess.

I For depth, see point 3 - cross-section representation



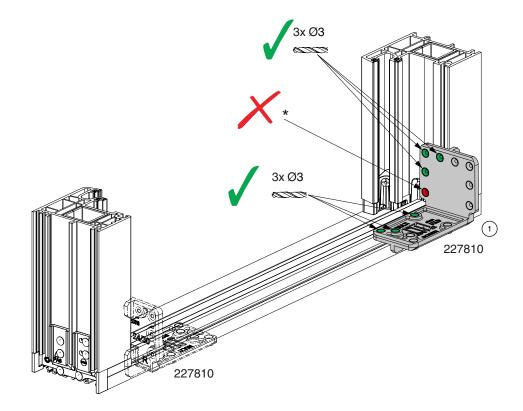
3 Connect the threshold and threshold holder with the frame according to the specifications of Grundmeier KG.



The base plate of the pivot post must be attached flush to the rebate surface at the rear to accommodate the maximum sash weight.

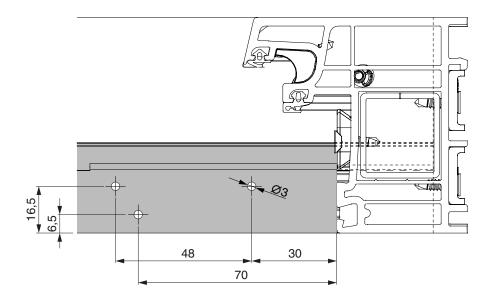


• Pre-drilling for pivot post

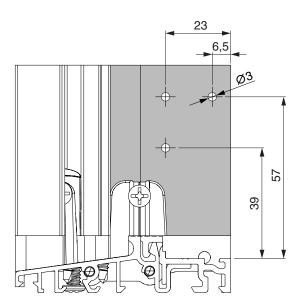


() Insert drilling jig Article No. 227810 as shown and pre-drill with Ø 3 mm drill.

\* Do not use a hole (no bush)!



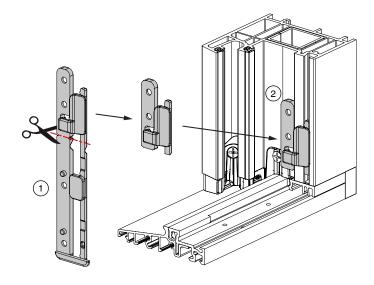
**4** Drilling pattern vertical





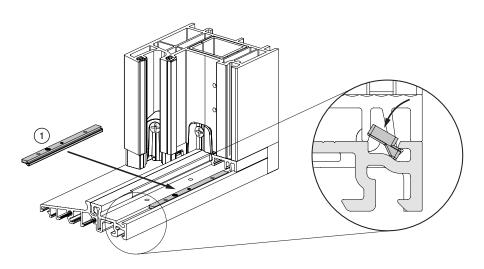
### IMPORTANT!

Observe Multi Power fixing instructions for single PVC profile systems (756991)! (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement.) 5 Vertical packer for profile adjustment (see catalogue 12.14 for list of profile adjustments)



- Separate the vertical part of the packer and cut to length in such a way that the packer does not collide with the threshold holder. The drill holes of the packer must be aligned with the drill holes of the frame profile.
- Insert the vertical part of the packer in the profile (horizontal part is not required), but do not yet fix it in place.

#### 6 Horizontal packer for threshold adjustment



Push the packer for the threshold adjustment into the groove, Article No. 369939.
The drill holes of the packer must be aligned with the drill holes of the threshold.

#### IMPORTANT!

Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!

IMPORTANT!

Fixing screws for the pivot post must not be over-tightened!



## IMPORTANT!

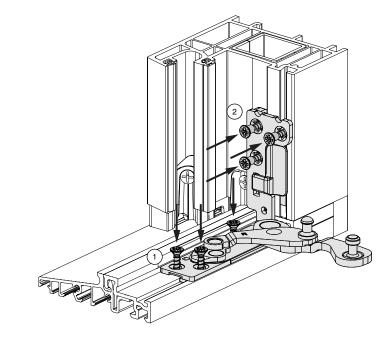
General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



### IMPORTANT!

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement) or contact our customer service.





1 Horizontal:

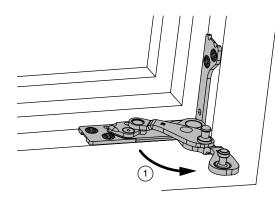
Fitting screw Ø 4 x 16 mm (full thread).

2 Vertical:

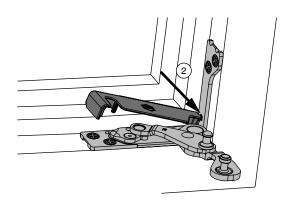
Special drilling screw Ø 4.5 x 38 mm (Article No. 362918 or 367828).



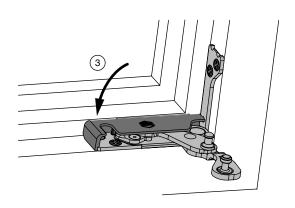
8 Apply cover cap Article No. 364498 (right) or 364499 (left).



① Open pivot post fully.

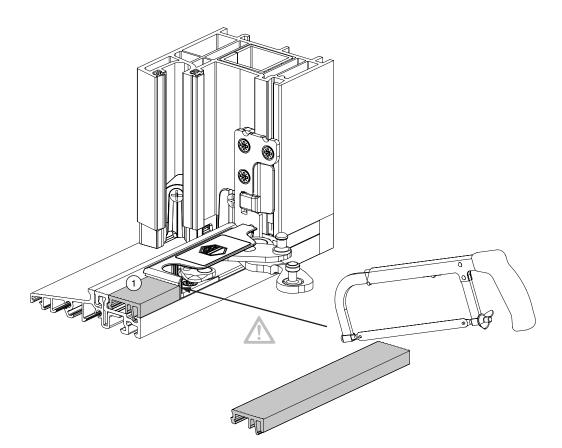


(2) Hang the cover cap into the corner area.



③ Clip the cover cap into the baseplate. Rebate gap below horizontal at least 12.5 mm!



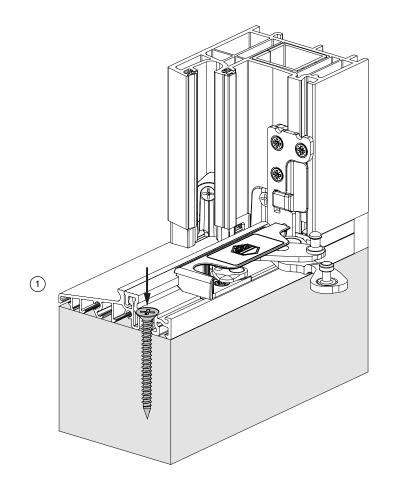


① Cut the rest profile to length with the cover cap and insert it into the threshold.

To remove the cover cap, the rest profile must be removed beforehand!



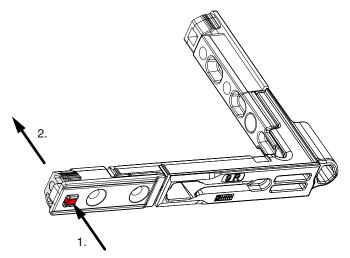
**1** Fix the threshold with the packer.



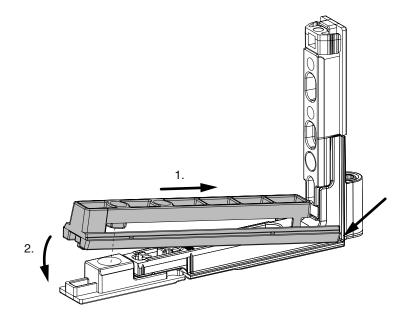
1 Pre-drill the threshold in the pivot post area, lower it in and fix into the packer with the longest possible screws! The screws must not be smaller than Ø 5 x 50 mm.

Hardware installation on the sash





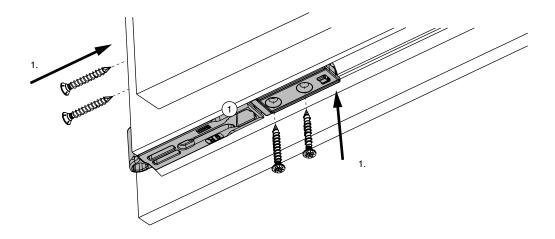
(1) Remove fixing part by pushing the wedge (1.) and lifting upwards (2.).



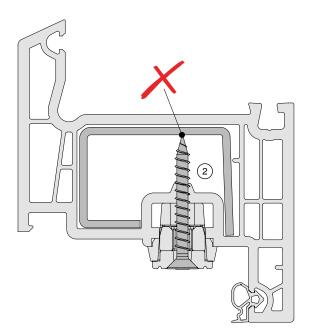
(2) Insert attachment Article No. 368390 into the corner of the corner support (1.) and then press into the recess (2.).



#### 2 Corner support



1 Insert corner support Article No. 215804 (right) or 215805 (left) in the fitting groove and fix with Ø 4 x 30 mm screws.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

3 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer instructions.

# Threshold TROCAL Z029

Basic processing instructions

All subsequent data refer to the TROCAL Z029 threshold regardless of the material (aluminium and glass fibre reinforced PVC GRP).

#### 1 Maximum sash weight



#### IMPORTANT!

The threshold with frame must be packed along the entire length.

length. The load must be carried by the packer profile!



without load transfer device

The application diagram applies to Multi Power with a maximum sash weight of 130 kg!

with load transfer device



# The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

The possible application and the scope of the different versions of the Trocal threshold can be found in the documents of the Trocal GmbH (Profine Group) company.

#### **3** Threshold parts list

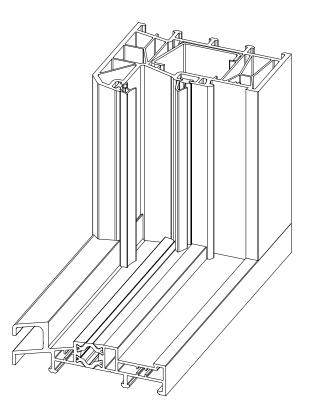
The list of all required parts (threshold, threshold holders, gaskets, etc.) and all accessories can be found in the documents of the Trocal GmbH (Profine Group) company.

#### **4** Processing and assembly instructions for thresholds / profile system

The processing guidelines relating to the connection of the threshold and profile systems must be observed in a binding manner!



Cross-section Frame



The processing guidelines of Trocal GmbH (Profine Group) must always be adhered to in a binding manner!

Otherwise, our data regarding weight etc. cannot be adhered to!

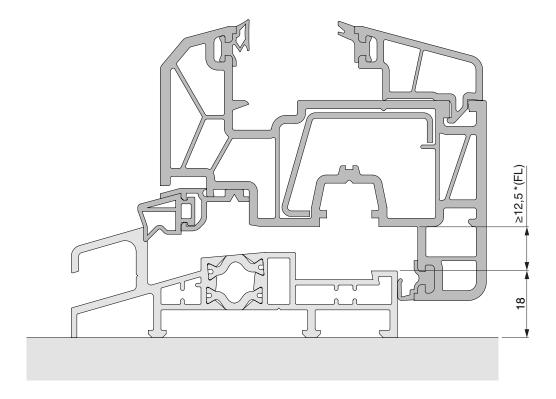
 $\land$ 

The connection of the frame profile and the threshold must be carried out exactly according to the specifications of Trocal GmbH. The standard version of the connection of the frame and threshold by means of a filler core has been tested by us and is approved for the specified formats and weights.

#### All other versions are not approved by us!

Any other case must be consulted with us!

#### Sash cross-section



 $\sum$  \*When using a cover cap for the Multi Power pivot post, the rebate gap must be at least 13 mm!

Depending on the weather bar used, the gasket may collide with the hardware. To avoid this, the bottom rebate gap must be increased!



#### Packer profile cross-section

**IMPORTANT!** 



#### Example

The threshold with frame must be packed along the entire length. The load must be carried by the packer profile!

## IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.

### IMPORTANT!

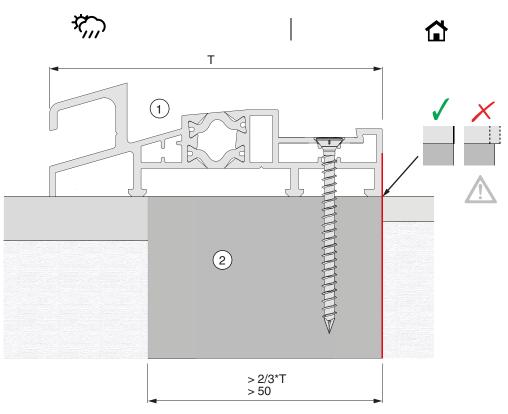
The width of the packer profile must be a minimum of 2/3 of the threshold depth, but no less than 50 mm.

The inner edge of the threshold must be flush with the packer profile.



#### **IMPORTANT!**

Country specific requirements and guidelines for floor construction must be considered.



1 Threshold

(2) Packer profile / sub-structure

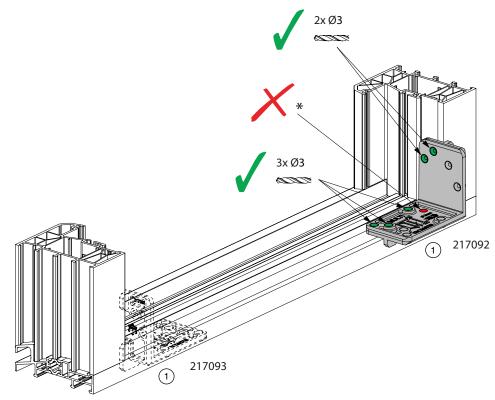
Hardware installation on the frame



1 Cut the threshold to length (observe the manufacturer's instructions).

2 Connect the threshold and frame with milling contour according to the specifications of Trocal GmbH (Profine Group).

3 Pre-drilling for pivot post.

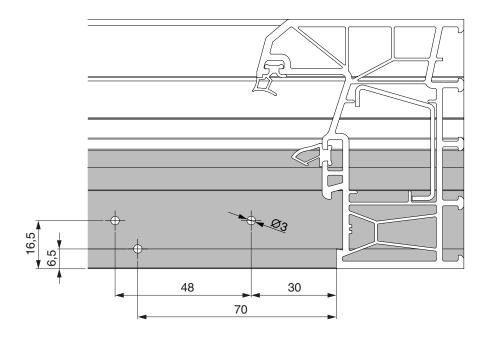


1 Insert drill jig Article No. 217092 (right) or 217093 (left) as shown and pre-drill with Ø 3 mm drill.

\* Do not use a hole (no bush)!

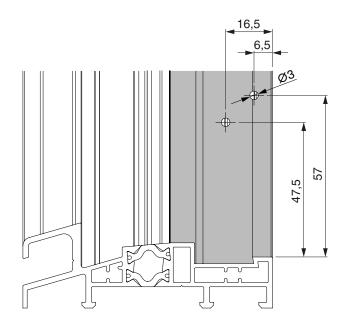


## 4a Drilling pattern horizontal



Drilling pattern vertical

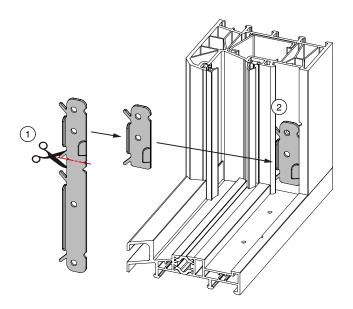
4b



**5** Vertical packer for profile adjustment



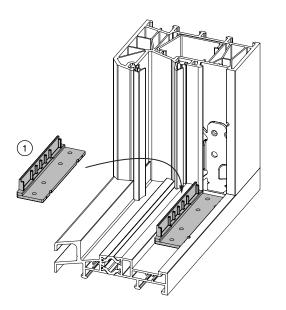
Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991). (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement).



- ① Separate vertical part of the packer Article No. 364174 or 364175.
- (2) Insert the vertical part of the packer in the profile (horizontal part is not required).

The drill holes of the packer must be aligned with the drill holes of the frame profile.

6 Horizontal packer for threshold adjustment



 Insert the base for the threshold adjustment Article No. 369945 into the recess, this clamps slightly in the contour.

The drill holes of the packer must be aligned with the drill holes of the threshold.



### 7 Insert pivot post Article No. 215810 (right) or 215811 (left) and fix in place.



Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!



IMPORTANT!

Fixing screws for the pivot post must not be over-tightened!

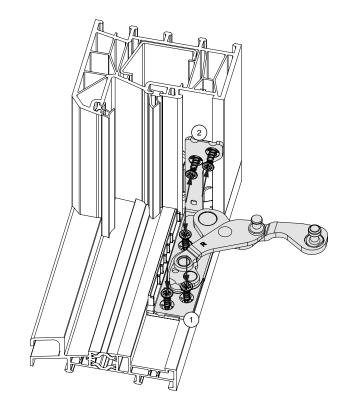
### IMPORTANT!

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



### IMPORTANT!

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement) or contact our customer service.

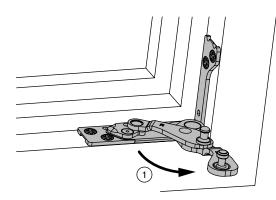


1 Horizontal:

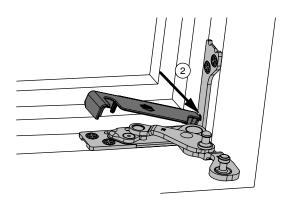
Fitting screw Ø 4 x 16 mm (full thread).

2 Vertical:Special drilling screw Ø 4 x 30 mm (full thread).

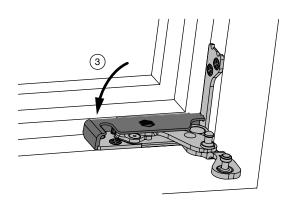
8 Apply cover cap Article No. 365224 (right) or 365225 (left).



① Open pivot post fully.



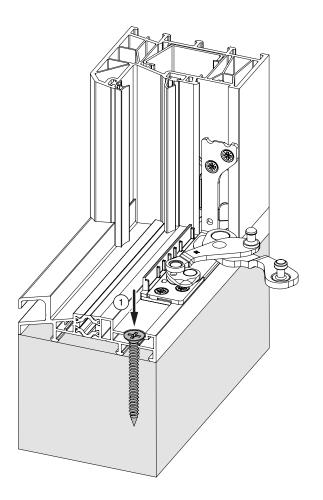
(2) Hang the cover cap into the corner area.



③ Clip the cover cap into the baseplate. Rebate gap below horizontal at least 13 mm!



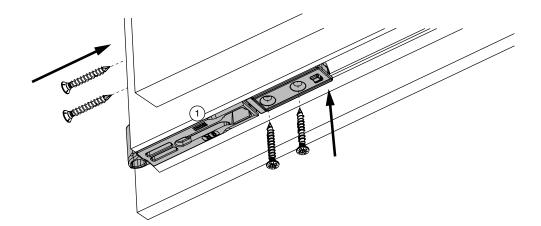
**9** Fix the threshold with the packer.



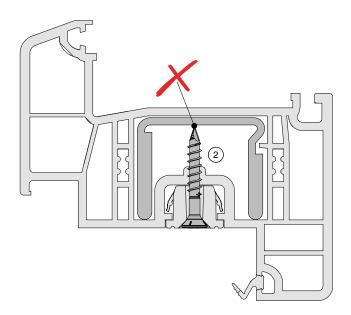
1 Pre-drill the threshold in the pivot post area, lower it in and fix into the packer with the longest possible screws! The screws must not be smaller than Ø 5 x 50 mm.

Hardware installation on the sash

#### 1 Corner support



1 Insert corner support Article No. 215804 (right) or 215805 (left) insert into fitting groove and fix with Ø 4 x 30 mm screws.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

2 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer's instructions.



# Threshold VEKA

Basic processing instructions

All of the following information relates to the VEKA threshold system.

#### 1 Maximum sash weight



### IMPORTANT!

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile! without load transfer device



The application diagram applies to Multi Power with a maximum sash weight of 110 kg!

#### with load transfer device



# The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### **2** Threshold application area

The possible application and the scope of the different versions of the VEKA threshold can be found in the documents of the VEKA AG company.

#### **3** Threshold parts list

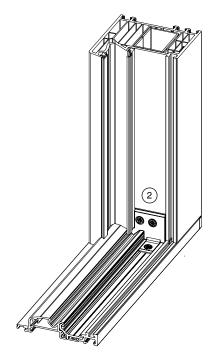
The list of all required parts (threshold, weather bars, gaskets, etc.) and all accessories can be found in the documents of the VEKA AG company.

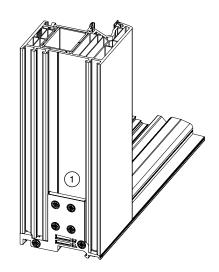
#### **4** Processing and assembly instructions for thresholds / profile system

The processing guidelines relating to the connection of the threshold and profile systems must be observed in a binding manner!

VEKA recommends the use of the special gasket 112.444!

#### Frame cross-section





The processing guidelines of VEKA AG must always be adhered to in a binding manner!

Otherwise, our data regarding weight etc. cannot be adhered to!

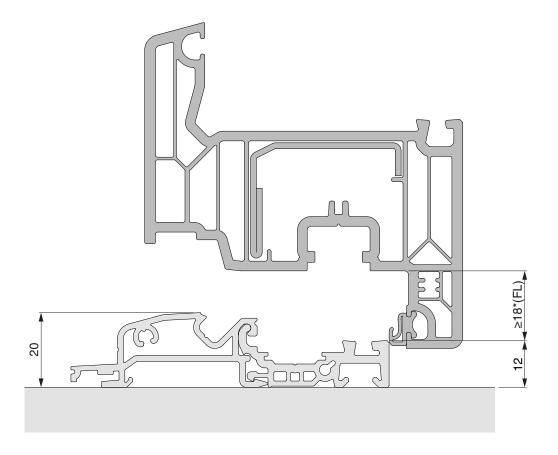
 $\wedge$ 

The connection of the frame profile and the threshold must be carried out exactly according to the specifications of VEKA AG. The above-shown connection of the frame and threshold by means of flange connectors (1), foldable connectors (2) and contour milling on the frame has been tested by us and is approved for the specified formats and weights. It should be noted that the reinforcement in the frame profile reaches all the way down.

All other versions are not approved by us! Any other case must be consulted with us!



Sash cross-section



 $\triangle$ 

\*When using a cover cap for the Multi Power pivot post, the rebate gap must be at least 19 mm (without cover cap profile)!

#### Packer profile cross-section



Example

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

## IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.

### IMPORTANT!

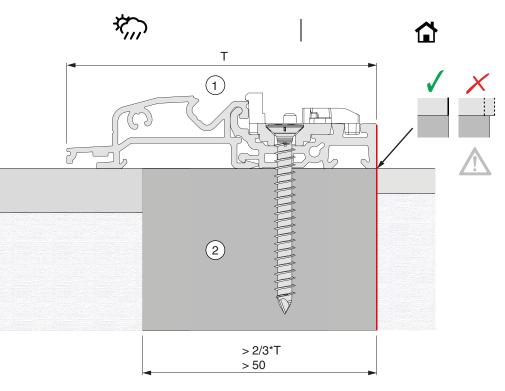
The width of the packer profile must be a minimum of 2/3 of the threshold depth, but no less than 50 mm.

The inner edge of the threshold must be flush with the packer profile.



**IMPORTANT**!

Country specific requirements and guidelines for floor construction must be considered.



- 1 Threshold
- 2 Packer profile / sub-structure

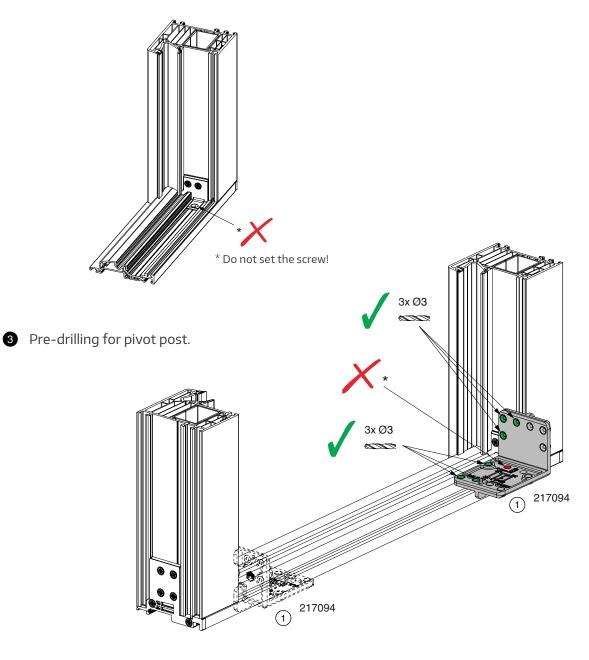


Hardware installation on the frame



Cut the threshold to length (observe the manufacturer's instructions).

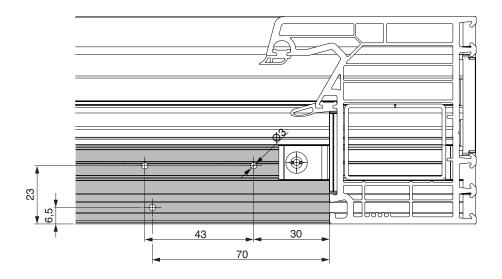
2 Connect the threshold and frame with milling contour according to the specifications of VEKA AG.



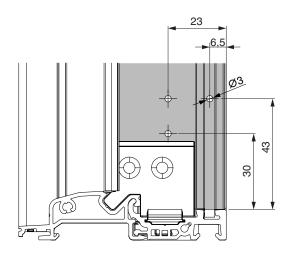
() Insert drill jig Article No. 217094 as shown and pre-drill with Ø 3 mm drill.

\* Do not use a hole (no bush)!

## 4a Drilling pattern horizontal

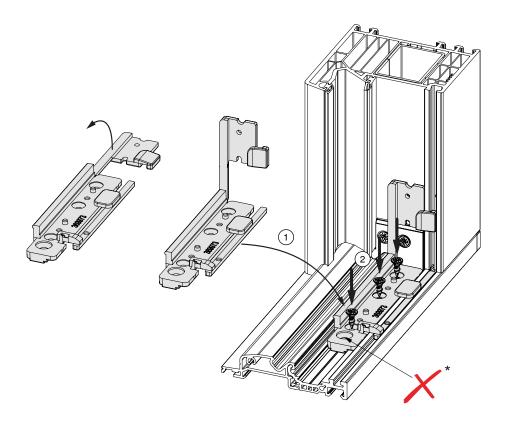


**4b** Drilling pattern vertical





5 Packer for threshold



- (1) Insert packer for threshold Article No. 369973 (right) or 369974 (left) in the frame rebate corner.
- (2) Fix the packer horizontally with three Ø 4.3 x 13 mm screws. Do not fix the large screw hole at the front (\* = fixing in the packer) yet!

#### 6 Insert pivot post Article No. 215814 (right) or 215815 (left) and fix in place.



Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!



**IMPORTANT!** 

Fixing screws for the pivot post must not be over-tightened!

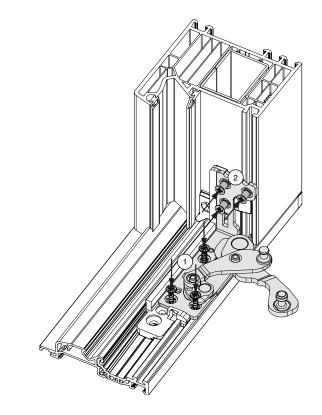
### IMPORTANT!

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



### IMPORTANT!

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement) or contact our customer service.



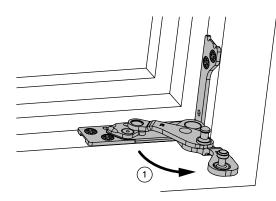
1 Horizontal:

Fitting screw Ø 4 x 16 mm (full thread).

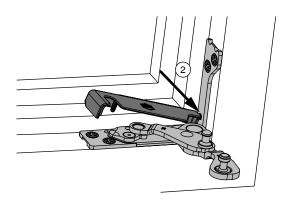
Vertical:
Special drilling screw Ø 4.5 x 38 mm Article No. 362918 or 267828.



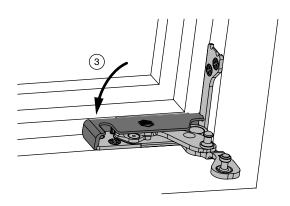
Apply cover cap Article No. 365224 (right) or 365225 (left).



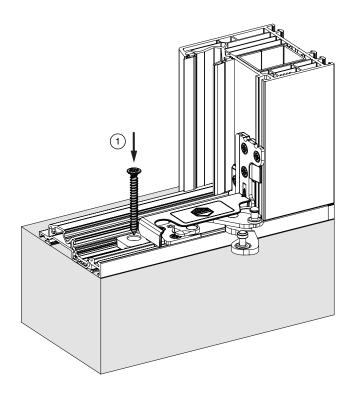
① Open pivot post fully.



(2) Hang the cover cap into the corner area.



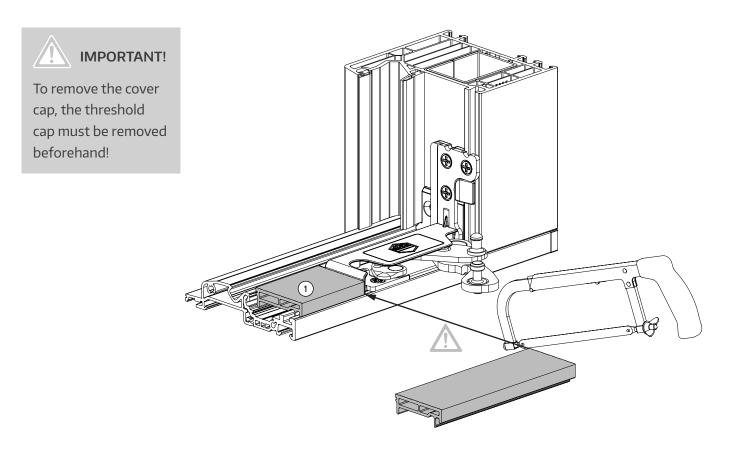
③ Clip the cover cap into the baseplate. Rebate gap below horizontal at least 19 mm! 8 Fix the threshold with the packer.



1 Pre-drill the threshold at the front screw hole of the packer and fix it into the packer with the longest possible screws. The screws must not be smaller than Ø 5 x 50 mm.



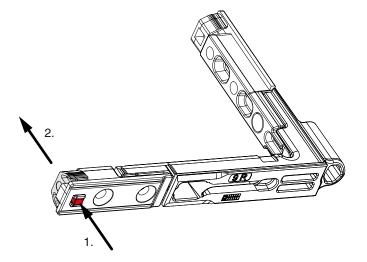
#### 9 Cap



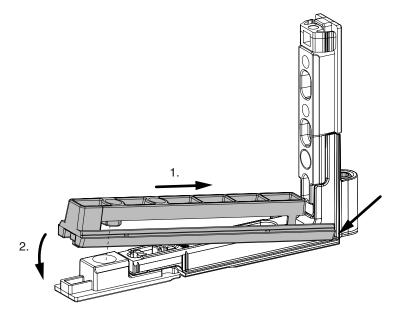
① Cut the cap to length with the cover cap and insert it into the threshold.

Hardware installation on the sash

1 Attachment for corner support



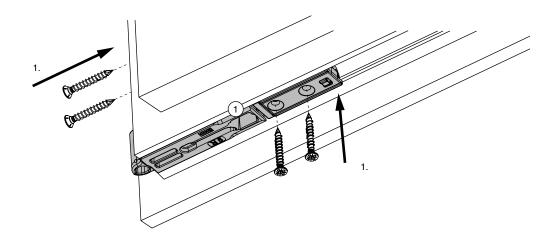
① Remove fixing part by pushing the wedge (1.) and lifting upwards (2.).



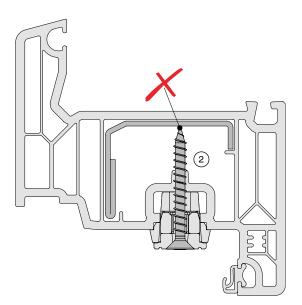
(2) Insert attachment Article No. 368390 into the corner of the corner support (1.) and then press into the recess (2.).



2 Corner support



1 Insert corner support Article No. 215804 (right) or 215805 (left) in the fitting groove and fix with Ø 4 x 30 mm screws.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

3 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer's instructions.

# Threshold Roto Eifel TB

Basic processing instructions

#### **1** Maximum sash weight



#### DANGER!

The threshold must be packed along the entire length in the hinge area. The load must be carried by the packer profile!

	$\wedge$	
	$\Lambda$	
//		

#### **DANGER!**

The use of an original support profile from the profile manufacturer or threshold manufacturer, along with a steel reinforcement in a size of 24 x 15 x 2 mm is mandatory to carry the 110 kg load.

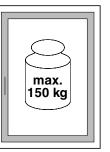


max.

110 kg

without load transfer device

#### with load transfer device



#### The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

The application diagram applies to Multi Power with

a maximum sash weight of 110 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

The possible application and the scope of the different versions of the Roto Eifel TB threshold can be found in the documents of the Roto Frank AG company.

#### **3** Threshold parts list

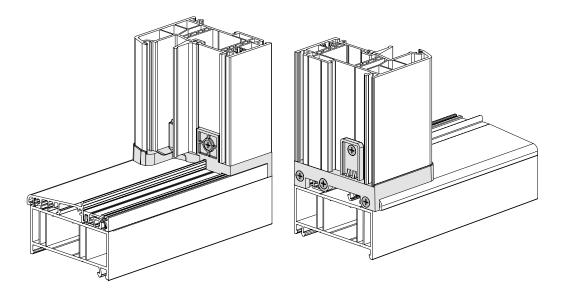
The list of all required parts (threshold, weather bars, gaskets, etc.) and all accessories can be found in the documents of the Roto Frank AG company.

#### 4 Processing and assembly instructions for thresholds / profile system

The processing guidelines relating to the connection of the threshold and profile systems must be observed in a binding manner!



#### Frame cross-section





The processing guidelines of Roto Frank AG must always be adhered to in a binding manner!

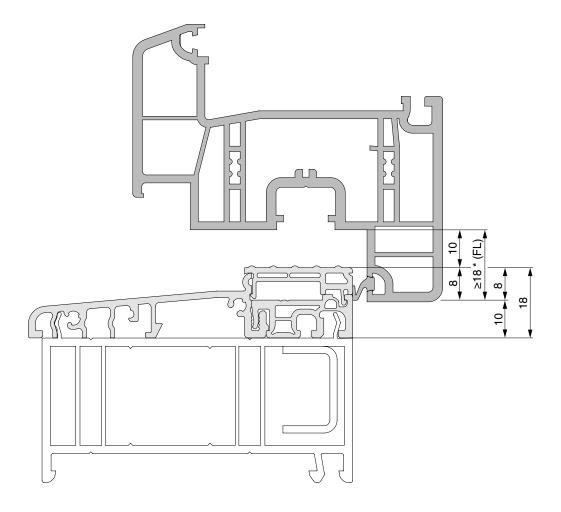
Otherwise, our data regarding weight etc. cannot be adhered to!



The connection of the frame profile and the threshold must be carried out exactly according to the specifications of the profile manufacturer and in combination with Roto Frank AG. The standard version of the connection of the frame and threshold using a threshold holder with screw fixing in the profile channel has been tested by us and is approved for the specified formats and weights.

All other versions (e.g. alternative fixing in the filler core) are not approved by us! Any other case must be consulted with us.

### Sash cross-section



 $\triangle$ 

\*When using a cover cap with the Multi Power pivot post, the rebate gap must be at least 18.5 mm (without cover cap profile)!



#### Packer profile cross-section



#### Example

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

### IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.



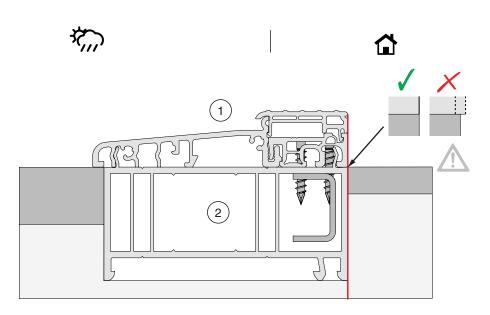
#### IMPORTANT!

To support 110 kg sash weight, the use of a sub-structure with suitable reinforcement is mandatory. The reinforcement must be positioned to ensure all fixing screws of the Multi Power pivot post are fixed in the reinforcement.



#### **IMPORTANT!**

Country specific requirements and guidelines for floor construction must be considered.



- 1 Threshold
- 2 Packer profile / sub-structure

Hardware installation on the frame

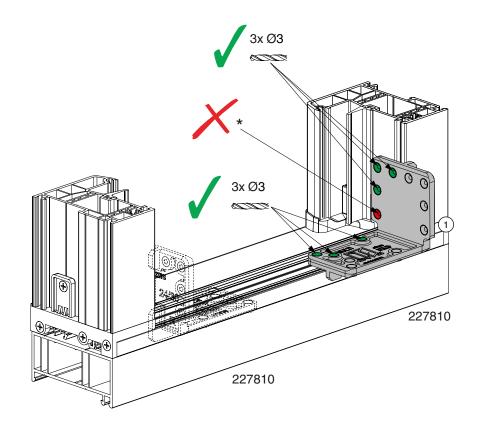


1 Cut the threshold to length (observe the manufacturer's instructions).

2 Connect the floor threshold and threshold connector with the frame according to the specifications of the profile manufacturer and the threshold manufacturer.

3 Pre-drilling for pivot post.

4 Screw on the steel reinforcement in the substructure profile and then connect the substructure profile to the threshold.

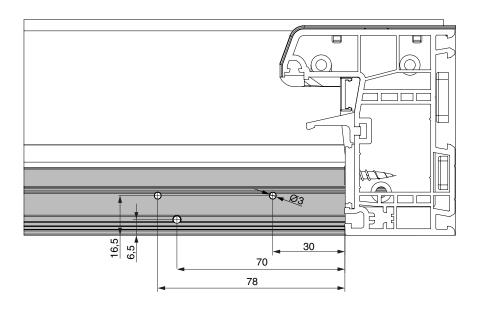


(1) Insert drill jig Article No. 227810 as shown and pre-drill with Ø 3 mm drill.

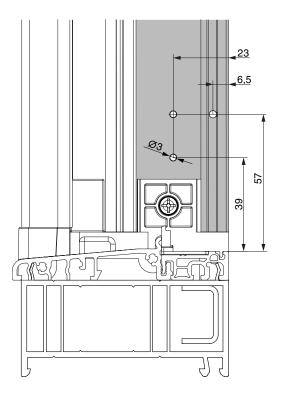
\* Do not use a hole (no bush)!



#### **4a** Drilling pattern horizontal



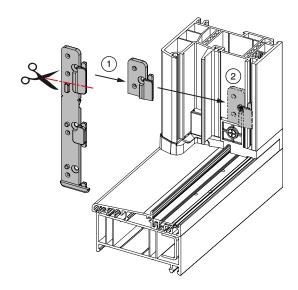
**4** Drilling pattern vertical



**5** Vertical packer for profile adjustment

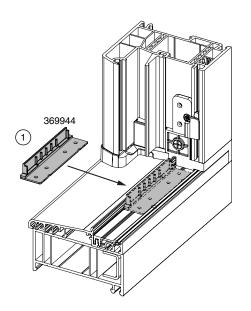
#### **IMPORTANT**!

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement).



- Separate the vertical part of the packer Article no. 364076 or 364077 and cut to length in such a way that the packer does not collide with the threshold holder. The drill holes of the packer must be aligned with the drill holes of the frame profile.
- (2) Insert the vertical part of the packer in the profile (horizontal part is not required).

#### 6 Horizontal packer for threshold adjustment



 Insert the packer for the threshold adjustment Article No. 369944 into the recess, this clamps slightly in the contour. The drill holes of the packer must be aligned with the drill holes of the threshold.



Insert pivot post Article No. 227286 (right) or 227287 (left) and fix in place.



Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!



IMPORTANT!

Fixing screws for the pivot post must not be over-tightened!

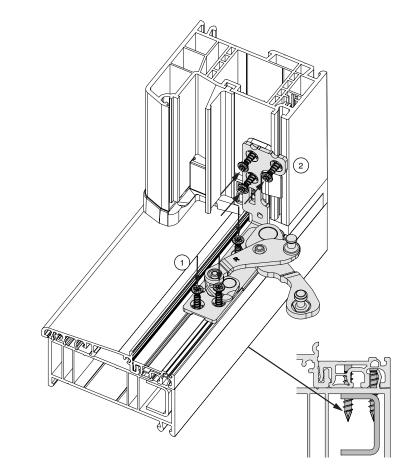
## **IMPORTANT!**

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



#### **IMPORTANT!**

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement) or contact our customer service.



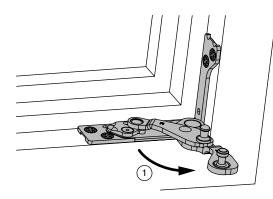
1 Horizontal:

Fitting screw Ø 4 x 16 mm (full thread).

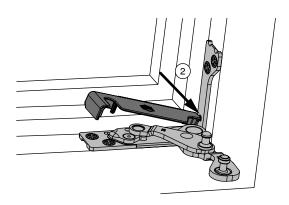
Vertical:

Special drilling screw Ø 4.5 x 38 mm Article No. 362918 or 267828.

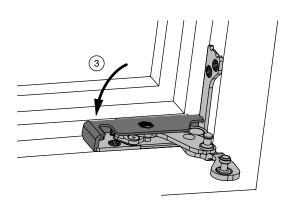
8 Apply cover cap Article No. 364498 (right) or 364499 (left).



① Open pivot post fully.



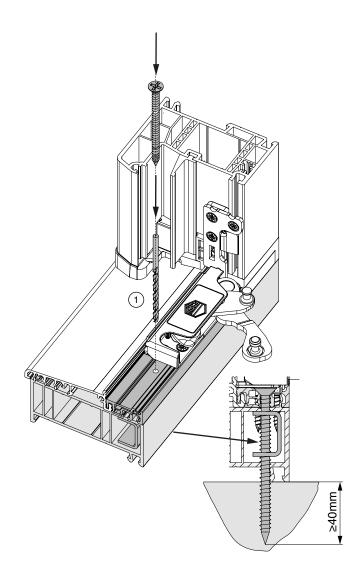
(2) Hang the cover cap into the corner area.



③ Clip the cover cap into the baseplate. Rebate gap below horizontal at least 13 mm!



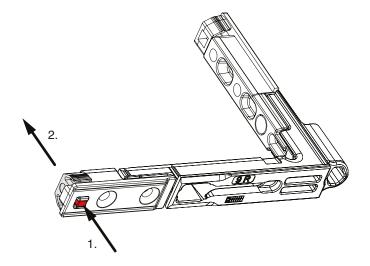
9 Fix the threshold with the packer.



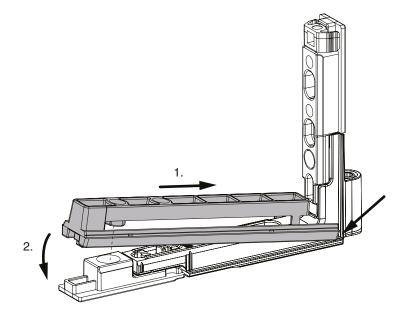
(1) Pre-drill the threshold and packer in the pivot post area, lower it in and fix into the sub-structure with the longest possible screws! The screw must protrude at least 40 mm into the sub-structure.

Hardware installation on the sash

1 Attachment for corner support



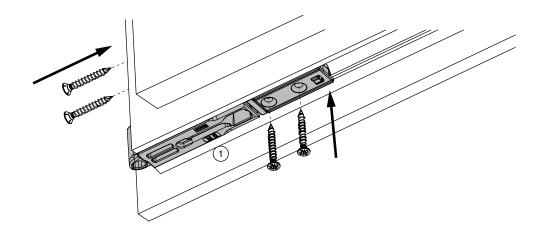
Remove fixing part by pushing the wedge (1.) and lifting upwards (2.).



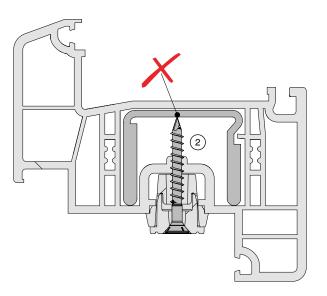
Insert attachment Article No. 368390 into the corner of the corner support (1.) and then press into the recess (2.).



2 Corner support



(1) Insert corner support Article No. 215804 (right) or 215805 (left) in the fitting groove and screw in place.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

3 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer's instructions.

# Threshold Profine A075 and A076

Basic processing instructions

#### **1** Maximum sash weight



**IMPORTANT!** 

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

#### without load transfer device



The application diagram applies to Multi Power with a maximum sash weight of 100 kg!

#### with load transfer device



#### The application diagram applies to Multi Power with a maximum sash weight of 150 kg!

If a load transfer device is additionally installed, the processing instructions for load transfer devices contained within the Multi Power timber and PVC assembly instructions (Order No. 757808) must be followed!

#### 2 Threshold application area

The possible application and the scope of the different versions of the Profine A075 and A076 threshold can be found in the documents of the Profine GmbH company.

#### **3** Threshold parts list

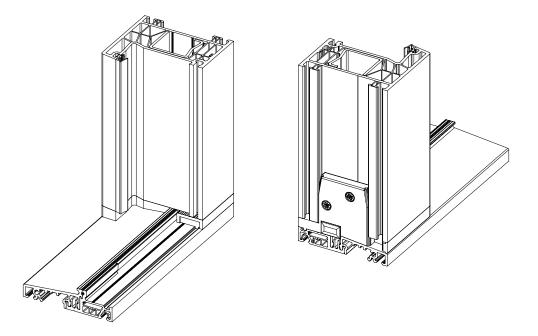
The list of all required parts (threshold, weather bars, gaskets, etc.) and all accessories can be found in the documents of the Profine GmbH company.

#### Processing and assembly instructions for thresholds / profile system

The processing guidelines of Profine GmbH regarding the connection of thresholds and profile system must be observed in a binding manner!



#### Frame cross-section



 $\land$ 

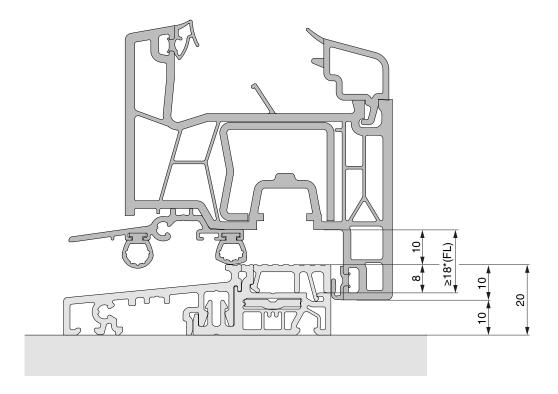
The processing guidelines of Profine GmbH must **always be adhered to in a binding manner!** 

Otherwise, our data regarding weight etc. cannot be adhered to!

The connection of the frame profile and the threshold must be carried out exactly according to the specifications of Profine GmbH. The above shown connection with threshold holder has been tested by us and is approved for the specified formats and weights.

All other versions (e.g. alternative fixing in the filler core) are not approved by us! Any other case must be consulted with us!

#### Sash cross-section





\*When using a cover cap for the Multi Power pivot post, the rebate gap must be at least 18.5 mm (without cover profile)!



#### Packer profile cross-section



Example

The threshold with frame must be packed along the entire length.

The load must be carried by the packer profile!

## IMPORTANT!

The length of the packer profile must be flush on both sides with the frame outer edge.

## IMPORTANT!

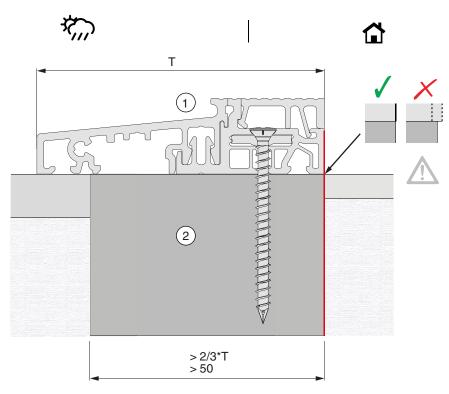
The width of the packer profile must be a minimum of 2/3 of the threshold depth, but no less than 50 mm.

The inner edge of the threshold must be flush with the packer profile.



#### **IMPORTANT!**

Country specific requirements and guidelines for floor construction must be considered.



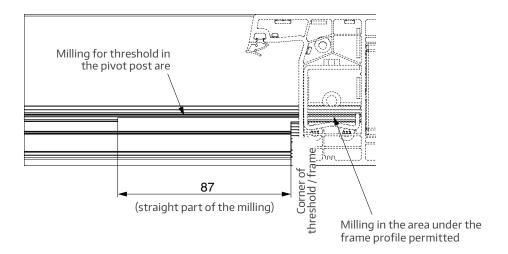
- 1 Threshold
- (2) Packer profile / sub-structure

Hardware installation on the frame

1 Cut the threshold to length (observe the manufacturer's instructions).

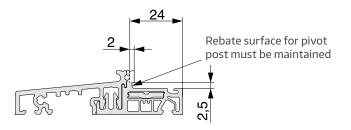
#### 2 Mill out the pivot post recess.

for depth, see point 3 - cross-section representation



3 Connect the threshold and threshold holder with the frame according to the specifications of Profine GmbH.

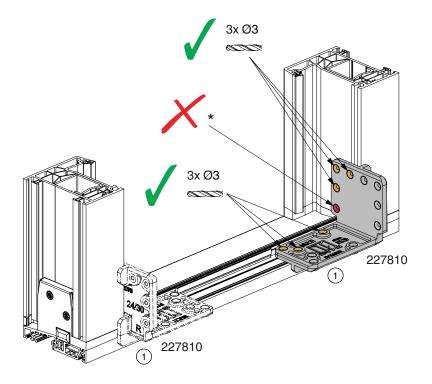
The base plate of the pivot post must be attached flush to the rebate surface at the rear to accommodate the maximum sash weight.





• Slide the faceplate into the threshold chamber.

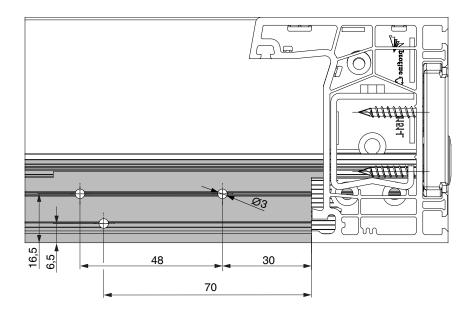
**5** Pre-drilling for pivot post



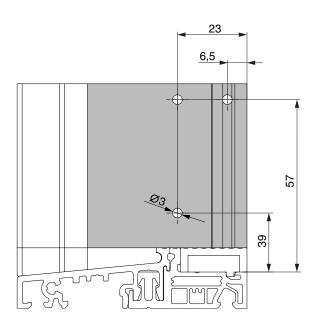
1 Insert drill jig Article No. 227810 as shown and pre-drill with Ø 3 mm drill.

\* Do not use a hole (no bush)!

## 5a Drilling pattern horizontal



**5** Drilling pattern vertical

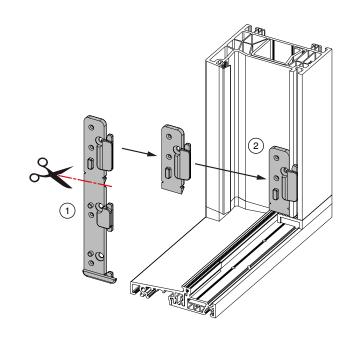




6 Vertical packer for profile adjustment.

## IMPORTANT!

Observe Multi Power fixing instructions for single PVC profile systems (756991)! (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement.)



- Separate the vertical part of the packer Article no. 367262 or 367263 and cut to length in such a way that the packer does not collide with the threshold holder. The drill holes of the packer must be aligned with the drill holes of the frame profile.
- (2) Insert the vertical part of the packer in the profile (horizontal part is not required), but do not yet fix it in place.

#### Insert pivot post Article No. 227286 (right) or 227287 (left) and fix in place.



Fixing screws must be chosen in such a way that the screw heads are no more than 7.2 mm in diameter. They must not protrude above the base plate!



IMPORTANT!

Fixing screws for the pivot post must not be over-tightened!



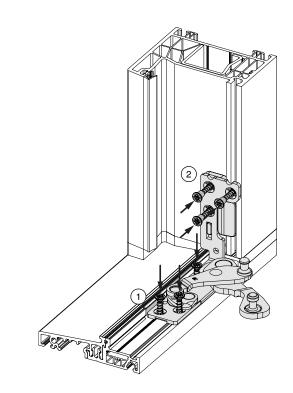
#### IMPORTANT!

General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



#### **IMPORTANT!**

Pay attention to Multi Power screw fixing instructions for single PVC profile systems (756991) (applies to profiles without reinforcement and profiles with fixing outside of the reinforcement) or contact our customer service.



1 Horizontal:

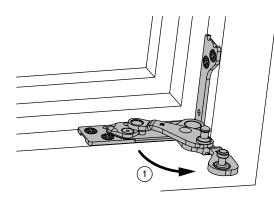
Fitting screw Ø 4 x 16 mm (full thread).

2 Vertical:

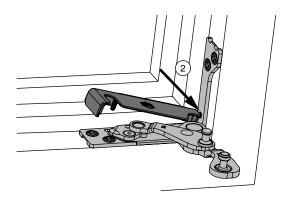
Special drilling screw Ø 4.5 x 38 mm Article No. 362918 or 267828.



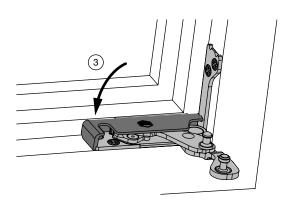
8 Apply cover cap Article No. 364498 (right) or 364499 (left).



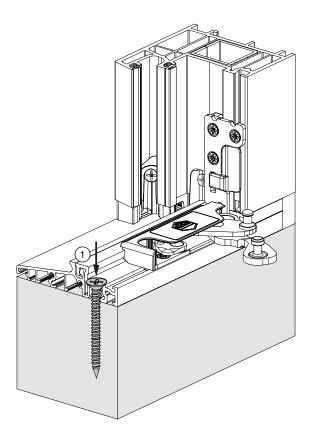
① Open pivot post fully.



(2) Hang the cover cap into the corner area.



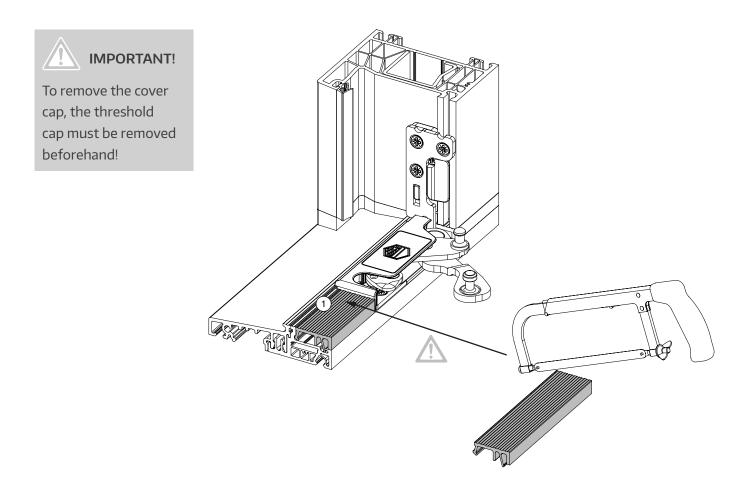
③ Clip the cover cap into the baseplate. Rebate gap below horizontal at least 12.5 mm! **9** Fix the threshold with the packer.



1 Pre-drill the threshold in the pivot post area, lower it in and fix into the packer with the longest possible screws! The screws must not be smaller than Ø 5 x 50 mm.



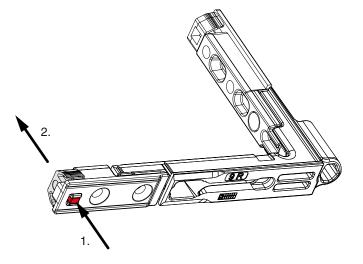
Threshold cover



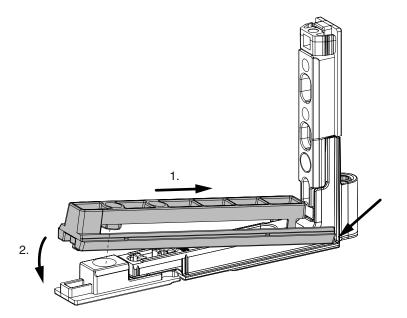
① Cut the threshold cap to length with the cover cap and insert it into the threshold.

Hardware installation on the sash

#### • Attachment for corner support



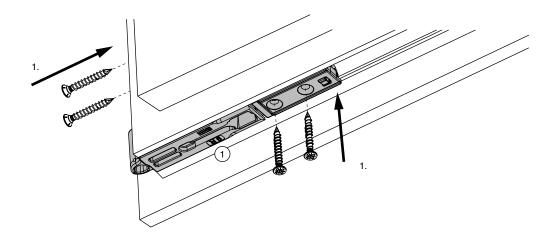
Remove fixing part by pushing the wedge (1.) and lifting upwards (2.).



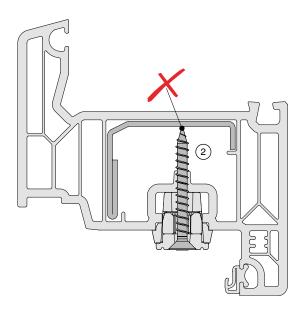
Insert attachment Article No. 368390 into the corner of the corner support (1.) and then press into the recess (2.).



2 Corner support



(1) Insert corner support Article No. 215804 (right) or 215805 (left) in the fitting groove and screw in place.



(2) The screw length must be chosen in such a way that it protrudes sufficiently through the fitting groove base. However, it must not collide with the steel reinforcement.

3 Assemble weather bar profile with gaskets and lateral end caps according to manufacturer's instructions.

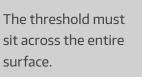
# Threshold Schüco 20 mm

Basic fabrication instructions

#### 1 Maximum sash weight



without load transfer device



The load must be transferred into the ground!

max. 110 kg
----------------

The application diagram for Multi Power applies, but with a maximum sash weight of 110 kg!

#### 2 Threshold application area

The possible application and the scope of application of the different versions of the Schüco threshold can be found in the documents of Schüco International KG.



#### **3** Threshold parts list

The list of all necessary parts (threshold, threshold holder, weather bar, seals, etc.) and all accessories can be found in the documents of Schüco International KG.

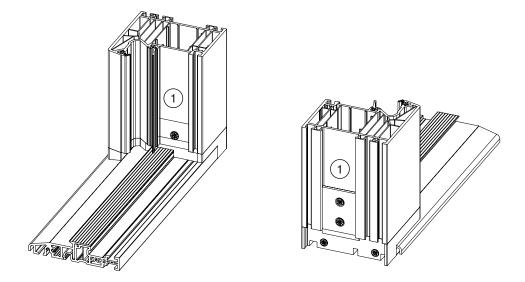


#### 4 Fabrication and assembly instructions for threshold / profile system

The fabrication guidelines relating to the connection of the threshold and profile systems must be observed in a binding manner!



#### Cross-section Frame





The fabrication guidelines of Schüco International KG must always be adhered to bindingly!

Otherwise, our information regarding weight etc. cannot be not adhered to!

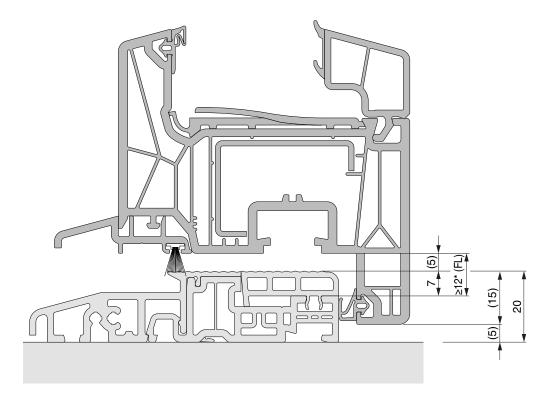


The connection of frame profile and threshold must be carried out exactly according to the specifications of Schüco International KG. The connection of frame and threshold by means of threshold holder ① shown above has been tested by us and is approved for the specified formats and weights.

#### All other versions are not approved by us!

In case of doubt, we must be consulted.

#### Cross-section sash



\*The use of a cover cap for the Multi Power pivot post is not possible because of the wiper seal!



#### Cross-section threshold



#### Example

The threshold must sit across the entire surface.

The load must be transferred into the ground!

## WARNING!

The length of the packer must be flush with the outer edge of the frame on both sides.

#### WARNING!

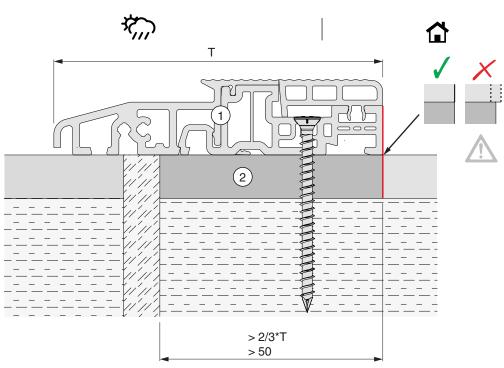
The width of the underlining profile must be at least 2/3 of the threshold depth, but must not fall below 50 mm.

The inner edge of the threshold must be flush with the lining profile.



WARNING!

Country-specific specifications and guidelines for floor construction must be taken into account.



- 1 Threshold
- (2) Packer/substructure threshold

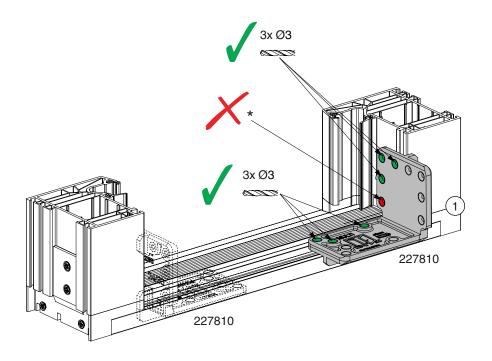
Hardware installation on the frame



1 Lengthen the threshold (observe the manufacturer's specifications).

2 Connect the threshold and threshold holder with the frame according to the specifications of the profile manufacturer and the threshold manufacturer.

3 Pre-drill for pivot posts.

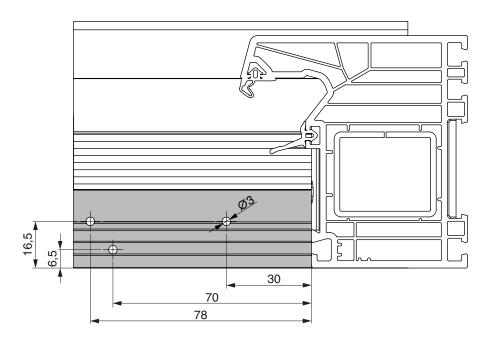


1 Insert drilling jig Article No. 227810 as shown and pre-drill with 3 mm drill.

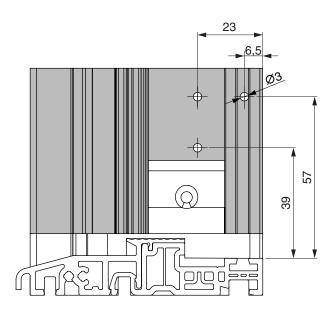
\* Do not use drill hole (no drill bush)!



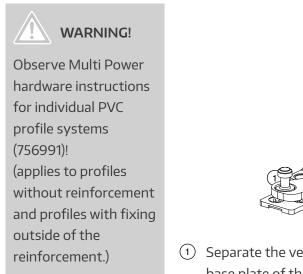
#### 4a Horizontal drill pattern

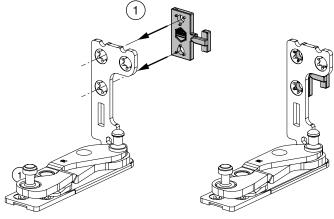


4 Vertical drill pattern



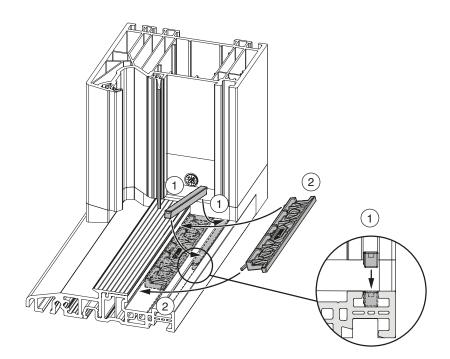
#### **5** Vertical packer for profile adjustment





① Separate the vertical part of the base and attach it to the vertical part of the base plate of the pivot post on the inner holes.

6 Horizontal packer for threshold adjustment



- ① Push in the small part of the packer Art. No. 372969 into the front groove. The packer must be located in the very corner.
- Insert the large part of the packer Art. No. 372969 into the rear groove (the screw holes must point forward to the smaller part). The packer must be located in the very corner.



#### Attach the pivot post Article No. 227286 (right) or 227287 (left) and screw it down.



Fixing screws must be chosen in such a way that the screw heads have a diameter of no more than 7.2 mm. They must not protrude over the base plate!



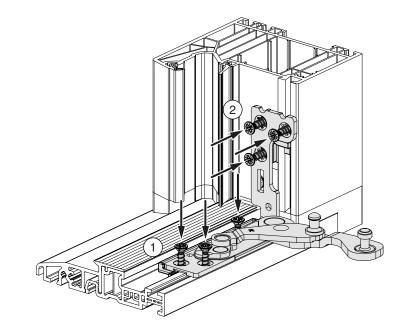
WARNING!

Screws for fastening the pivot post must not be overtightened!



WARNING!

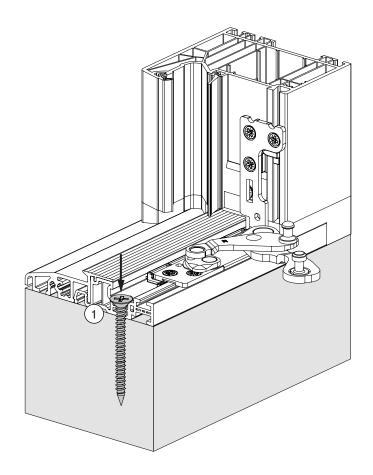
General Multi Power assembly instructions and supplied package leaflets must be observed in a binding manner!



- Horizontal hardware bolt Ø 4 x 16 mm (full thread).
- 2 Vertical:

Special drill screw Ø 4.5 x 38 mm (Art. No. 362918 or 367828).

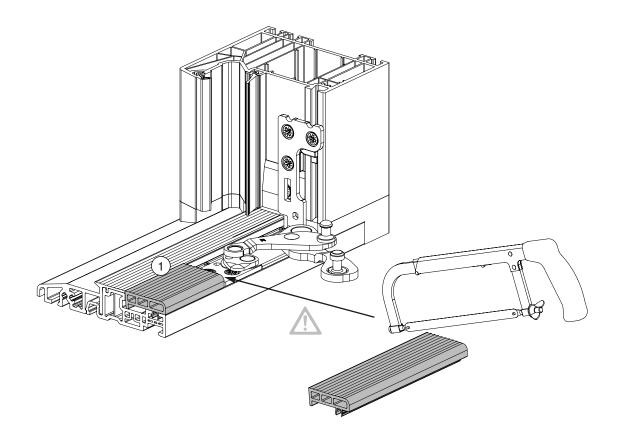
8 Screw down the threshold.



1 Pre-drill the threshold in the area of the pivot post, lower it and screw it into the floor with the longest possible screw. The screw must not be less than the dimension Ø 5 x 60 mm.



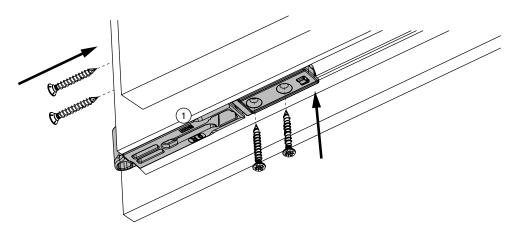
9 Kick plate



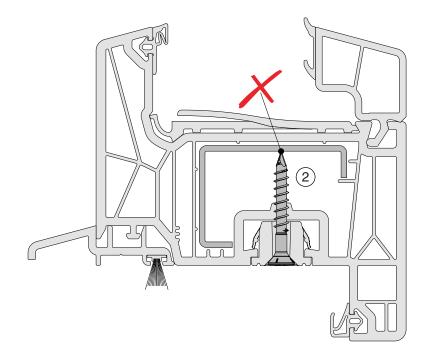
① Lengthen the kick plate profile flush with the pivot posts and insert into the threshold.

Hardware installation on the sash





(1) Insert corner support Article No. 215804 (right) or 215805 (left) into the fitting groove and fix with Ø 4 x 30 mm screws.



(2) The screws length must be chosen in such a way that they protrude sufficiently through the Eurogroove base. However, they must not collide with the steel reinforcement.

2 Assemble the weather bar profile with seals and side end caps as per manufacturer's instructions.



# Additional information

Hinging and unhinging of the sash

Information on the hinging and unhinging of the sash can be found in the assembly instructions Order No. 757332.

Adjusting of pivot post and scissor stay hinge All adjustment information can be found in the maintenance and adjustment instructions Order No. 757070EN.

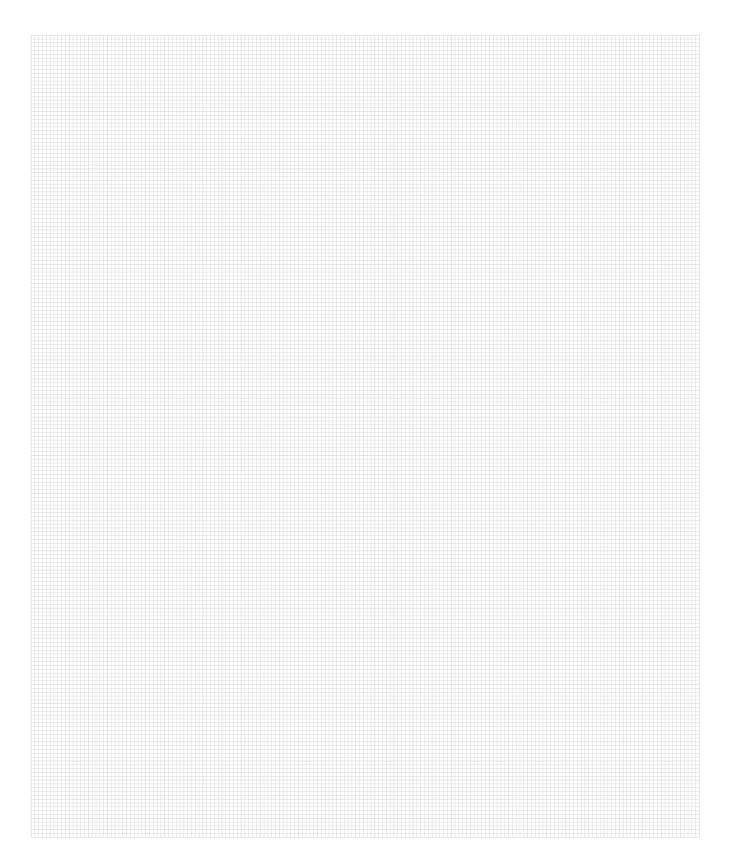
Maintenance Information

All maintenance information can be found in the maintenance and adjustment instructions Order No. 757070EN.

Notes for security windows according to EN 1627

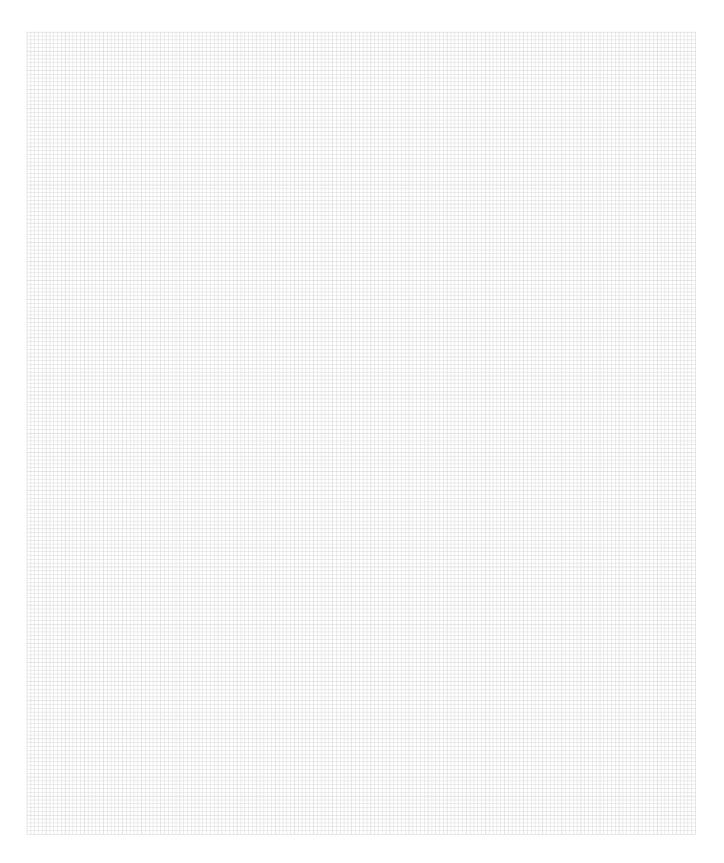
The construction of security windows in accordance with the European Standard must be carried out according to precisely defined guidelines. More information can be found on our website (www.maco.eu) or from our specialist partners.

# Notes





# Notes



# You want everything from a single source

We provide you with complete solutions for sliding doors, windows and doors - for timber, PVC and aluminium. Experience our versatile system offer, comprehensive service included. Discover more of this on our website **www.maco.eu** or contact your MACO representative.





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TECHNOLOGY IN MOTION



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